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COMPILATION OF SPACE LAW U.S. & INTERNATIONAL SPACE LAW, DOCUMENTS AND AGREEMENTS

PREPARED AT THE REQUEST OF

HON. EDDIE BERNICE JOHNSON, CHAIRWOMAN

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY UNITED STATES HOUSE OF REPRESENTATIVES

OCTOBER 2019

Printed for the use of the Committee on Science, Space, and Technology

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FOREWORD BY THE HON. EDDIE BERNICE JOHNSON, CHAIRWOMAN

On October 4, 1957, the Soviet Union shocked the world by launching the first artificial satellite into space. Prior to this date, outer space had largely been the realm of science fiction. Occurring at the height of the Cold War, the launch of Sputnik made the use of outer space a reality overnight. The United States was motivated to respond with unprecedented speed. Less than a year later, in 1958, Congress created the National Aeronautics and Space Administration as well as the predecessor of the Committee on Science, Space, and Technology. Efforts to support the nation's scientific enterprise were also pushed through. A generation of engineers and scientists were born of this effort, and the lasting result has been measured not just in achievements in spaceflight, but also by a technological revolution that has driven the American economy for a half century.

1958 was also the year that the National Aeronautics and Space Act was enacted. This legislation was likely the first major national effort to create a body of space law. As the Space Race sped forward, it soon became clear that the nature of space travel required more than national laws to govern its conduct. In 1967 the world came together to create the Outer Space Treaty. Both the United States and the Soviet Union ratified this treaty in 1967, which was a notable legal and diplomatic achievement during the Cold War.

Since the early days of the Space Race, progress in the exploration and utilization of outer space has come in leaps and bounds. Modern society interacts in countless (and frequently unnoticed) ways with our space economy every day. The body of space law has also grown and changed along with these developments.

Today, we stand at a crossroads in the use of outer space. Commercial entities are poised to begin operating in unprecedented ways, including introducing regular travel to space. As commercial space activities begin to outpace the space activities of nation-states, new challenges to our space law regimes will present themselves. It is my hope that this compilation will provide the Members of the Committee on Science, Space, and Technology with a comprehensive resource as our Committee moves to address these modern challenges to space law.

EDDIE BERNICE JOHNSON,
Chairwoman, Committee on Science, Space, and Technology.

ACKNOWLEDGMENTS

This publication could not have been possible without the time and effort put in by numerous people.

Interns play an enormous role in the daily operations of the Committee, performing tasks such as providing support for hearings, being 'the face' of the Committee through greeting visitors, answering phones, relaying messages. Interns also provide research assistance, draft memorandums, and field questions for hearings. John Bergstresser, a legal intern from Creighton University School of Law, spent part of his internship compiling federal and international space law documents for this publication, formatted, edited, and provided commentary throughout this publication. I recognize him for his hard work and time spent.

I recognize and thank the assistance of several offices and government departments. Without the Government Printing Office and the hard work of Natalie Shattuck this publication would never have left the press. Additionally, I would like to recognize the Office of Law Revision Counsel and the United Nations office for Outer Space Affairs for providing to the public the federal laws and treaties which are used in this publication. The Department of State has also provided to the public current treaties and agreements which the United States is a party to and are used in this publication.

I would be remiss if I did not single out Rob Sukol of the Office of Law Revision Counsel. Rob led the Title 51 codification efforts for his office. Through his hard work over many years, space law as a distinct body of law in U.S. jurisprudence has been greatly advanced.

JOHN PIAZZA,
Chief Counsel, Committee on Science, Space, and Technology.

PART 1

FEDERAL SPACE LAW

Part 1 focuses on federal laws that are specific to space activities. This part details the substance of federal law on government and commercial space activities. Laws related specifically to the radio spectrum and telecommunication satellites have been omitted.

Most federal space law is concentrated in Title 51 of the U.S. Code. Title 51 was enacted as positive law in 2010 as a part of the regular recodification efforts of the Office of Law Revision Counsel. This effort consolidated various scattered elements of space law, including the Space Act and the Commercial Space Launch Act, into a comprehensive title of the U.S. Code.

Public Law 111–267, the National Aeronautics and Space Administration Act of 2010, was not incorporated into Title 51 because Title 51 was enacted as positive law by the 111th Congress at nearly the same time as P.L. 111–267 was enacted. For that reason, the elements of P.L. 111–267 (as amended by subsequent laws) are included in this volume as Title 42, Chapter 159 of the U.S. Code. Please note that this title of the Code is not positive law. Rather, Title 42 is a restatement of the law. However, the decision was made to include Title 42, rather than the source law, due to the very helpful annotations included by the Office of Law Revision Counsel. Moreover, these annotations include the source history of the material. The Office of Law Revision Counsel continues their efforts to clean up the U.S. Code, and it is expected at some point that these provisions will eventually be incorporated into Title 51. For more information about the difference between positive law titles versus non-positive law titles, readers can visit the website of the Office of Law Revision Counsel at: https://uscode.house.gov.

Part 1 is divided into two sections. Section 1 contains Title 51—National and Commercial Space Programs, as annotated by the Office of Law Revision Counsel. Section 2 contains Title 42, Chapter 159—Science, Space, and Technology, as annotated. For the sake of brevity, Part 1 does not include any federal regulations promogulated by any federal oversight agencies such as the FCC, FAA, or NOAA. Those regulations can be found on the Federal Register.

SECTION 1

TITLE 51 UNITED STATES CODE

(Release Point 116–56)

TITLE 51—NATIONAL AND COMMERCIAL SPACE PROGRAMS

This title was enacted by Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3328

Subtitle I—General

Chap. Sec.
101. Definitions 10101

Subtitle II—General Program and Policy Provisions

201. National Aeronautics and Space Program 20101
203. Responsibilities and Vision 20301

Subtitle III—Administrative Provisions

301. Appropriations, Budgets, and Accounting 30101
303. Contracting and Procurement 30301
305. Management and Review 30501
307. International Cooperation and Competition 30701
309. Awards 30901
311. Safety 31101
313. Healthcare 31301
315. Miscellaneous 31501

Subtitle IV—Aeronautics and Space Research and Education

401. Aeronautics 40101
403. National Space Grant College and Fellowship Program 40301
405. Biomedical Research in Space 40501
407. Environmentally Friendly Aircraft 40701
409. Miscellaneous 40901

Subtitle V—Programs Targeting Commercial Opportunities

501. Space Commerce 50101
503. Commercial Reusable In-Space Transportation 50301
505. Commercial Space Competitiveness 50501
507. Office of Space Commerce 50701
509. Commercial Space Launch Activities 50901
511. Space Transportation Infrastructure Matching Grants 51101
513. Space resource commercial exploration and utilization 51301
515. Office of Spaceports 51501

Subtitle VI—Earth Observations

601. Land Remote Sensing Policy 60101
603. Remote Sensing 60301
605. Earth Science 60501

Subtitle VII—Access to Space

701. Use of space launch system or alternatives 70101
703. [Repealed]
705. Exploration Initiatives 70501
707. Human Space Flight Independent Investigation Commission 70701
709. International Space Station 70901
711. Near-Earth Objects 71101
713. Cooperation for Safety Among Spacefaring Nations 71301

AMENDMENTS

2018—Pub. L. 115–254, div. B, title V, § 580(b)(2), Oct. 5, 2018, 132 Stat. 3396, added item 515.

2017—Pub. L. 115–10, title IV, § 416(b), Mar. 21, 2017, 131 Stat. 35, struck out item for chapter 703 "Shuttle Pricing Policy for Commercial and Foreign Users".

2015—Pub. L. 114–90, title I, § 117(b)(1), title III, § 301(a)(2), title IV, § 402(b), Nov. 25, 2015, 129 Stat. 718, 720, 722, added item 513 and substituted "Commerce" for "Commercialization" in item 507 and "Use of space launch system or alternatives" for "Use of Space Shuttle or Alternatives" in item 701.

2010—Pub. L. 111–314, § 4(d)(7), Dec. 18, 2010, 124 Stat. 3443, added items 509 and 511.

Subtitle I—General

CHAPTER 101—DEFINITIONS

Sec.
10101. Definitions.

§ 10101. Definitions

In this title:

(1) ADMINISTRATION.—The term "Administration" means the National Aeronautics and Space Administration.

(2) ADMINISTRATOR.—The term "Administrator" means the Administrator of the National Aeronautics and Space Administration.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3329.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
10101	(no source)	

Title-wide definitions for the terms "Administration" and "Administrator" are added for clarity and convenience.

SHORT TITLE OF 2018 AMENDMENT

Pub. L. 115–403, § 1, Dec. 31, 2018, 132 Stat. 5348, provided that: "This Act [amending section 20145 of this title] may be cited as the 'NASA Enhanced Use Leasing Extension Act of 2018'."

SHORT TITLE OF 2017 AMENDMENT

Pub. L. 115-10, § 1(a), Mar. 21, 2017, 131 Stat. 18, provided that: "This Act [see Tables for classification] may be cited as the 'National Aeronautics and Space Administration Transition Authorization Act of 2017'." Pub. L. 115–10, title IV, § 441, Mar. 21, 2017, 131 Stat. 44, provided that: "This subtitle [subtitle D (§§ 441–443) of title IV of Pub. L. 115–10, enacting section 20149 of this title and provisions set out as notes under section 20149 of this title] may be cited as the 'To Research, Evaluate, Assess, and Treat Astronauts Act' or the 'TREAT Astronauts Act'."

SHORT TITLE OF 2015 AMENDMENT

Pub. L. 114–90, § 1(a), Nov. 25, 2015, 129 Stat. 704, provided that: "This Act [enacting chapter 513 and sections 60126 and 70104 of this title, amending sections 20113, 50131, 50701, 50702, 50901, 50902, 50904 to 50908, 50914, 50915, 50919, 70101 to 70103, and 70907 of this title and sections 18351, 18353, and 18354 of Title

42, The Public Health and Welfare, and enacting provisions set out as notes under this section and sections 20113 and 50918 of this title] may be cited as the 'U.S. Commercial Space Launch Competitiveness Act'."

Pub. L. 114–90, title I, § 101, Nov. 25, 2015, 129 Stat. 705, provided that: "This title [enacting section 70104 of this title, amending sections 20113, 50131, 50901, 50902, 50904 to 50908, 50914, 50915, 50919, 70101 to 70103, and 70907 of this title and sections 18351, 18353, and 18354 of Title 42, The Public Health and Welfare, and enacting provisions set out as notes under sections 20113 and 50918 of this title] may be cited as the 'Spurring Private Aerospace Competitiveness and Entrepreneurship Act of 2015' or 'SPACE Act of 2015'."

Pub. L. 114–90, title IV, § 401, Nov. 25, 2015, 129 Stat. 720, provided that: "This title [enacting chapter 513 of this title] may be cited as the 'Space Resource Exploration and Utilization Act of 2015'."

SHORT TITLE OF 2013 AMENDMENT

Pub. L. 112–273, § 1, Jan. 14, 2013, 126 Stat. 2454, provided that: "This Act [amending section 50915 of this title, section 18313 of Title 42, The Public Health and Welfare, and provisions set out as a note under section 1701 of Title 50, War and National Defense] may be cited as the 'Space Exploration Sustainability Act'."

SHORT TITLE OF 2008 ACT

Pub. L. 110–422, § 1(a), Oct. 15, 2008, 122 Stat. 4779, provided that: "This Act [see Tables for classification] may be cited as the 'National Aeronautics and Space Administration Authorization Act of 2008'."

SHORT TITLE OF 2005 ACT

Pub. L. 109–155, § 1(a), Dec. 30, 2005, 119 Stat. 2895, provided that: "This Act [see Tables for classification] may be cited as the 'National Aeronautics and Space Administration Authorization Act of 2005'."

SHORT TITLE OF 2004 ACT

Pub. L. 108–492, § 1, Dec. 23, 2004, 118 Stat. 3974, provided that: "This Act [see Tables for classification] may be cited as the 'Commercial Space Launch Amendments Act of 2004'."

SHORT TITLE OF 2002 ACT

Pub. L. 107–248, title IX, § 901, Oct. 23, 2002, 116 Stat. 1573, provided that: "This title [see Tables for classification] may be cited as the 'Commercial Reusable In-Space Transportation Act of 2002'."

SHORT TITLE OF 2000 ACT

Pub. L. 106–405, § 1, Nov. 1, 2000, 114 Stat. 1751, provided that: "This Act [see Tables for classification] may be cited as the 'Commercial Space Transportation Competitiveness Act of 2000'."

SHORT TITLE OF 1998 ACT

Pub. L. 105–303, § 1(a), Oct. 28, 1998, 112 Stat. 2843, provided that: "This Act [see Tables for classification] may be cited as the 'Commercial Space Act of 1998'."

SHORT TITLE OF 1992 ACT

Pub. L. 102–555, § 1, Oct. 28, 1992, 106 Stat. 4163, provided that: "This Act [see Tables for classification] may be cited as the 'Land Remote Sensing Policy Act of 1992'."

SHORT TITLE OF 1990 ACT

Pub. L. 101–611, title II, § 201, Nov. 16, 1990, 104 Stat. 3205, provided that: "This title [see Tables for classification] may be cited as the 'Launch Services Purchase Act of 1990'."

SHORT TITLE OF 1987 ACT

Pub. L. 100–147, title II, § 201, Oct. 30, 1987, 101 Stat. 869, provided that: "This title [see Tables for classification] may be cited as the 'National Space Grant College and Fellowship Act'."

SHORT TITLE OF 1958 ACT

Pub. L. 85–568, title I, § 101, July 29, 1958, 72 Stat. 426, provided that: "This Act [see Tables for classification] may be cited as the 'National Aeronautics and Space Act of 1958'."

DEFINITIONS

Pub. L. 115–10, § 2, Mar. 21, 2017, 131 Stat. 19, provided that: "In this Act [see Tables for classification]:

"(1) ADMINISTRATION.—The term 'Administration' means the National Aeronautics and Space Administration.

"(2) ADMINISTRATOR.—The term 'Administrator' means the Administrator of the National Aeronautics and Space Administration.

"(3) APPROPRIATE COMMITTEES OF CONGRESS.—The term 'appropriate committees of Congress' means—

"(A) the Committee on Commerce, Science, and Transportation of the Senate; and

"(B) the Committee on Science, Space, and Technology of the House of Representatives.

"(4) CIS-LUNAR SPACE.—The term 'cis-lunar space' means the region of space from the Earth out to and including the region around the surface of the Moon.

"(5) DEEP SPACE.—The term 'deep space' means the region of space beyond low-Earth orbit, to include cis-lunar space.

"(6) GOVERNMENT ASTRONAUT.—The term 'government astronaut' has the meaning given the term in section 50902 of title 51, United States Code.

"(7) ISS.—The term 'ISS' means the International Space Station.

"(8) ISS MANAGEMENT ENTITY.—The term 'ISS management entity' means the organization with which the Administrator

has a cooperative agreement under section 504(a) of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18354(a)).

"(9) NASA.—The term 'NASA' means the National Aeronautics and Space Administration.

"(10) ORION.—The term 'Orion' means the multipurpose crew vehicle described under section 303 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18323).

"(11) SPACE LAUNCH SYSTEM.—The term 'Space Launch System' has the meaning given the term in section 3 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18302).

"(12) UNITED STATES GOVERNMENT ASTRONAUT.—The term 'United States government astronaut' has the meaning given the term 'government astronaut' in section 50902 of title 51, United States Code, except it does not include an individual who is an international partner astronaut."

Pub. L. 111–358, title II, § 206, Jan. 4, 2011, 124 Stat. 3996, provided that: "In this title [amending section 18421 of Title 42, The Public Health and Welfare, and enacting provisions set out as notes under section 20303 of this title, preceding sections 30501 and 40901 of this title, and under section 18421 of Title 42]:

"(1) ADMINISTRATOR.—The term 'Administrator' means the Administrator of NASA.

"(2) NASA.—The term 'NASA' means the National Aeronautics and Space Administration."

Pub. L. 110–422, § 3, Oct. 15, 2008, 122 Stat. 4782, provided that: "In this Act [see Short Title of 2008 Act note above]:

"(1) ADMINISTRATOR.—The term 'Administrator' means the Administrator of NASA.

"(2) NASA.—The term 'NASA' means the National Aeronautics and Space Administration.

"(3) NOAA.—The term 'NOAA' means the National Oceanic and Atmospheric Administration.

"(4) OSTP.—The term 'OSTP' means the Office of Science and Technology Policy."

Pub. L. 109–155, § 2, Dec. 30, 2005, 119 Stat. 2897, provided that: "In this Act [see Short Title of 2005 Act note above]:

"(1) ADMINISTRATOR.—The term 'Administrator' means the Administrator of the National Aeronautics and Space Administration.

"(2) ISS.—The term 'ISS' means the International Space Station.

"(3) NASA.—The term 'NASA' means the National Aeronautics and Space Administration."

Pub. L. 106–391, § 3, Oct. 30, 2000, 114 Stat. 1579, provided that: "For purposes of this Act [see Tables for classification]—

"(1) the term 'Administrator' means the Administrator of the National Aeronautics and Space Administration;

"(2) the term 'commercial provider' means any person providing space transportation services or other space-related activities, the primary control of which is held by persons other than a Federal, State, local, or foreign government;

"(3) the term 'critical path' means the sequence of events of a schedule of events under which a delay in any event causes a delay in the overall schedule;

"(4) the term 'grant agreement' has the meaning given that term in section 6302(2) of title 31, United States Code;

"(5) the term 'institution of higher education' has the meaning given such term in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001);

"(6) the term 'State' means each of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States; and

"(7) the term 'United States commercial provider' means a commercial provider, organized under the laws of the United States or of a State, which is—

"(A) more than 50 percent owned by United States nationals; or

"(B) a subsidiary of a foreign company and the Secretary of Commerce finds that—

"(i) such subsidiary has in the past evidenced a substantial commitment to the United States market through—

"(I) investments in the United States in long-term research, development, and manufacturing (including the manufacture of major components and subassemblies); and

"(II) significant contributions to employment in the United States; and

"(ii) the country or countries in which such foreign company is incorporated or organized, and, if appropriate, in which it principally conducts its business, affords reciprocal treatment to companies described in subparagraph (A) comparable to that afforded to such foreign company's subsidiary in the United States, as evidenced by—

"(I) providing comparable opportunities for companies described in subparagraph (A) to participate in Government sponsored research and development similar to that authorized under this Act;

"(II) providing no barriers to companies described in subparagraph (A) with respect to local investment opportunities that are not provided to foreign companies in the United States; and

"(III) providing adequate and effective protection for the intellectual property rights of companies described in subparagraph (A)."

Subtitle II—General Program and Policy Provisions

CHAPTER 201—NATIONAL AERONAUTICS AND SPACE PROGRAM

Subchapter I—Short Title, Declaration of Policy, and Definitions

Sec.
20101. Short title.
20102. Congressional declaration of policy and purpose.
20103. Definitions.

Subchapter II—Coordination of Aeronautical and Space Activities

20111. National Aeronautics and Space Administration.
20112. Functions of the Administration.
20113. Powers of the Administration in performance of functions.
20114. Administration and Department of Defense coordination.
20115. International cooperation.
20116. Reports to Congress.
20117. Disposal of excess land.

Subchapter III—General Administrative Provisions

20131. Public access to information.
20132. Security requirements.
20133. Permission to carry firearms.
20134. Arrest authority.
20135. Property rights in inventions.
20136. Contributions awards.
20137. Malpractice and negligence suits against United States.
20138. Insurance and indemnification.
20139. Insurance for experimental aerospace vehicles.
20140. Appropriations.
20141. Misuse of agency name and initials.
20142. Contracts regarding expendable launch vehicles.
20143. Full cost appropriations account structure.
20144. Prize authority.
20145. Lease of non-excess property.
20146. Retrocession of jurisdiction.
20147. Recovery and disposition authority.
20148. Indemnification; NASA launch services and reentry services.
20149. Medical monitoring and research relating to human space flight.

Subchapter IV—Upper Atmosphere Research

20161. Congressional declaration of purpose and policy.
20162. Definition of upper atmosphere.
20163. Program authorized.
20164. International cooperation.

AMENDMENTS

2017—Pub. L. 115–10, title III, § 305(b), title IV, § 443(b), Mar. 21, 2017, 131 Stat. 32, 47, added items 20148 and 20149.

Subchapter I—Short Title, Declaration of Policy, and Definitions

§ 20101. Short title

This chapter may be cited as the "National Aeronautics and Space Act".

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3330.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20101	(no source)	

Chapter 201 of title 51 restates the National Aeronautics and Space Act of 1958. Although short titles are generally eliminated as unnecessary in positive law titles of the United States Code, in this case it was suggested that the short title "National Aeronautics and Space Act" be provided for convenience.

§ 20102. Congressional declaration of policy and purpose

(a) DEVOTION OF SPACE ACTIVITIES TO PEACEFUL PURPOSES FOR BENEFIT OF ALL HUMANKIND.—Congress declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all humankind.

(b) AERONAUTICAL AND SPACE ACTIVITIES FOR WELFARE AND SECURITY OF UNITED STATES.—Congress declares that the general welfare and security of the United States require that adequate provision be made for aeronautical and space activities. Congress further declares that such activities shall be the responsibility of, and shall be directed by, a civilian agency exercising control over aeronautical and space activities sponsored by the United States, except that activities peculiar to or primarily associated with the development of weapons systems, military operations, or the defense of the United States (including the research and development necessary to make effective provision for the defense of the United States) shall be the responsibility of, and shall be directed by, the Department of Defense; and that determination as to which agency has responsibility for and direction of any such activity shall be made by the President.

(c) COMMERCIAL USE OF SPACE.—Congress declares that the general welfare of the United States requires that the Administration seek and encourage, to the maximum extent possible, the fullest commercial use of space.

(d) OBJECTIVES OF AERONAUTICAL AND SPACE ACTIVITIES.—The aeronautical and space activities of the United States shall be conducted so as to contribute materially to one or more of the following objectives:

(1) The expansion of human knowledge of the Earth and of phenomena in the atmosphere and space.

(2) The improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical and space vehicles.

(3) The development and operation of vehicles capable of carrying instruments, equipment, supplies, and living organisms through space.

(4) The establishment of long-range studies of the potential benefits to be gained from, the opportunities for, and the problems involved in the utilization of aeronautical and space activities for peaceful and scientific purposes.

(5) The preservation of the role of the United States as a leader in aeronautical and space science and technology and in the application thereof to the conduct of peaceful activities within and outside the atmosphere.

(6) The making available to agencies directly concerned with national defense of discoveries that have military value or significance, and the furnishing by such agencies, to the civilian agency established to direct and control nonmilitary aeronautical and space activities, of information as to discoveries which have value or significance to that agency.

(7) Cooperation by the United States with other nations and groups of nations in work done pursuant to this chapter and in the peaceful application of the results thereof.

(8) The most effective utilization of the scientific and engineering resources of the United States, with close cooperation among all interested agencies of the United States in order to avoid unnecessary duplication of effort, facilities, and equipment.

(9) The preservation of the United States preeminent position in aeronautics and space through research and technology development related to associated manufacturing processes.

(10) The search for life's origin, evolution, distribution, and future in the universe.

(e) GROUND PROPULSION SYSTEMS RESEARCH AND DEVELOPMENT.—Congress declares that the general welfare of the United States requires that the unique competence in scientific and engineering systems of the Administration also be directed toward ground propulsion systems research and development. Such development shall be conducted so as to contribute to the objectives of developing energy and petroleum-conserving ground propulsion systems, and of minimizing the environmental degradation caused by such systems.

(f) BIOENGINEERING RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAMS.—Congress declares that the general welfare of the United States requires that the unique competence of the Administration in science and engineering systems be directed to assisting in bioengineering research, development, and demonstration programs designed to alleviate and minimize the effects of disability.

(g) WARNING AND MITIGATION OF POTENTIAL HAZARDS OF NEAR-EARTH OBJECTS.—Congress declares that the general welfare and security of the United States require that the unique competence of the Administration be directed to detecting, tracking, cataloguing, and characterizing near-Earth asteroids and comets in order to provide warning and mitigation of the potential hazard of such near-Earth objects to the Earth.

(h) PURPOSE OF CHAPTER.—It is the purpose of this chapter to carry out and effectuate the policies declared in subsections (a) to (g).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3330; Pub. L. 115–10, title V, § 507, Mar. 21, 2017, 131 Stat. 50.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20102	42 U.S.C. 2451.	Pub. L. 85–568, title I, § 102, July 29, 1958, 72 Stat. 426; Pub. L. 94–413, § 15(a), (b), Sept. 17, 1976, 90 Stat. 1270; Pub. L. 95–238, title III, § 311, Feb. 25, 1978, 92 Stat. 83; Pub. L. 95–401, § 7, Sept. 30, 1978, 92 Stat. 860; Pub. L. 98–361, title I, § 110, July 16, 1984, 98 Stat. 426; Pub. L. 100–685, title II, § 214, Nov. 17, 1988, 102 Stat. 4093; Pub. L. 106–391, title III, § 302(a), Oct. 30, 2000, 114 Stat. 1591; Pub. L. 109–155, title III, § 321(d)(2), Dec. 30, 2005, 119 Stat. 2923.

In subsection (b), the words "in conformity with section 201(e)", which appeared at the end of the subsection, are omitted as obsolete. Section 201 of Public Law 85–568, which was classified to former section 2471 of title 42 (last appearing in the 1970 edition of the United States Code), established the National Aeronautics and Space Council, with the functions of the Council specified in section 201(e). Those functions included advising the President "as he may request" with respect to promoting cooperation and resolving differences among agencies of the United States engaged in aeronautical and space activities. The words are obsolete because section 3(a)(4) of Reorganization Plan No. 1 of 1973 (5 App. U.S.C.), abolished the National Aeronautics and Space Council, including the office of Executive Secretary of the Council, together with its functions.

In subsection (c), the words "(as established by title II of this Act)", which appeared after "Administration", are omitted as unnecessary.

In subsection (d), the word "and", appearing at the end of paragraph (8), is omitted as unnecessary because of the introductory words "one or more of the following".

AMENDMENTS

2017—Subsec. (d)(10). Pub. L. 115–10 added par. (10).

CONGRESSIONAL FINDINGS AND POLICY

Pub. L. 110–422, § 2, Oct. 15, 2008, 122 Stat. 4781, provided that: "The Congress finds, on this, the 50th anniversary of the establishment of the National Aeronautics and Space Administration, the following:

"(1) NASA [National Aeronautics and Space Administration] is and should remain a multimission agency with a balanced and robust set of core missions in science, aeronautics, and human space flight and exploration.

"(2) Investment in NASA's programs will promote innovation through research and development, and will improve the competitiveness of the United States.

"(3) Investment in NASA's programs, like investments in other Federal science and technology activities, is an investment in our future.

"(4) Properly structured, NASA's activities can contribute to an improved quality of life, economic vitality, United States leadership in peaceful cooperation with other nations on challenging undertakings in science and technology, national security, and the advancement of knowledge.

"(5) NASA should assume a leadership role in a cooperative international Earth observations and research effort to address key research issues associated with climate change and its impacts on the Earth system.

"(6) NASA should undertake a program of aeronautical research, development, and where appropriate demonstration activities with the overarching goals of—

"(A) ensuring that the Nation's future air transportation system can handle up to 3 times the current travel demand and incorporate new vehicle types with no degradation in safety or adverse environmental impact on local communities;

"(B) protecting the environment;

"(C) promoting the security of the Nation; and

"(D) retaining the leadership of the United States in global aviation.

"(7) Human and robotic exploration of the solar system will be a significant long-term undertaking of humanity in the 21st century and beyond, and it is in the national interest that the United States should assume a leadership role in a cooperative international exploration initiative.

"(8) Developing United States human space flight capabilities to allow independent American access to the International Space Station, and to explore beyond low Earth orbit, is a strategically important national imperative, and all prudent steps should thus be taken to bring the Orion Crew Exploration Vehicle and Ares I Crew Launch Vehicle to full operational capability as soon as possible and to ensure the effective development of a United States heavy lift launch capability for missions beyond low Earth orbit.

"(9) NASA's scientific research activities have contributed much to the advancement of knowledge, provided societal benefits, and helped train the next generation of scientists and engineers, and those activities should continue to be an important priority.

"(10) NASA should make a sustained commitment to a robust long-term technology development activity. Such investments represent the critically important 'seed corn' on which NASA's ability to carry out challenging and productive missions in the future will depend.

"(11) NASA, through its pursuit of challenging and relevant activities, can provide an important stimulus to the next generation to pursue careers in science, technology, engineering, and mathematics.

"(12) Commercial activities have substantially contributed to the strength of both the United States space program and the national economy, and the development of a healthy and robust United States commercial space sector should continue to be encouraged.

"(13) It is in the national interest for the United States to have an export control policy that protects the national security while also enabling the United States aerospace industry to compete effectively in the global market place and the United States to undertake cooperative programs in science and human space flight in an effective and efficient manner."

Pub. L. 102–195, §§ 2, 3, Dec. 9, 1991, 105 Stat. 1605, 1606, provided that:

"SEC. 2. FINDINGS.

"Congress finds that—

"(1) the report of the Advisory Committee on the Future of the United States Space Program has provided a framework within which a consensus on the goals of the space program can be developed;

"(2) a balanced civil space science program should be funded at a level of at least 20 percent of the aggregate amount in the budget of the National Aeronautics and Space Administration for 'Research and development' and 'Space flight, control, and data communications';

"(3) development of an adequate data base for life sciences in space will be greatly enhanced through closer scientific cooperation with the Soviet Union, including active use of manned Soviet space stations;

"(4) the space program can make substantial contributions to health-related research and should be an integral part of the Nation's health research and development program;

"(5) Landsat data and the continuation of the Landsat system beyond Landsat 6 are essential to the Mission to Planet Earth and other long-term environmental research programs;

"(6) increased use of defense-related remote sensing data and data technology by civilian agencies and the scientific community can benefit national environmental study and monitoring programs;

"(7) the generation of trained scientists and engineers through educational initiatives and academic research programs outside of the National Aeronautics and Space Administration is essential to the future of the United States civil space program;

"(8) the strengthening and expansion of the Nation's space transportation infrastructure, including the enhancement of launch sites and launch site support facilities, are essential to support the full range of the Nation's space-related activities;

"(9) the aeronautical program contributes to the Nation's technological competitive advantage, and it has been a key factor in maintaining preeminence in aviation over many decades; and

"(10) the National Aero Space Plane program can have benefits to the military and civilian aviation programs from the new and innovative technologies developed in propulsion systems, aerodynamics, and control systems that could be enormous, especially for high-speed aeronautical and space flight.

"SEC. 3. POLICY.

"It is the policy of the United States that—

"(1) the Administrator of the National Aeronautics and Space Administration (hereinafter referred to as the 'Administrator'), in planning for national programs in environmental study and human space flight and exploration, should ensure the resiliency of the space infrastructure;

"(2) a stable and balanced program of civil space science should be planned to minimize future year funding requirements in order to accommodate a steady stream of new initiatives;

"(3) any new launch system undertaken or jointly undertaken by the National Aeronautics and Space Administration should be based on defined mission and program requirements or national policies established by Congress;

"(4) in fulfilling the mission of the National Aeronautics and Space Administration to improve the usefulness, performance, speed, safety, and efficiency of space vehicles, the Administrator should establish a program of research and development to enhance the competitiveness and cost effectiveness of commercial expendable launch vehicles; and

"(5) the National Aeronautics and Space Administration should promote and support efforts to advance scientific understanding by conducting or otherwise providing for research on environmental problems, including global change, ozone depletion, acid precipitation, deforestation, and smog."

Pub. L. 101–611, title I, §§ 101, 102, Nov. 16, 1990, 104 Stat. 3188, 3189, provided that:

"SEC. 101. FINDINGS.

"The Congress finds that—

"(1) over the next decade, the United States aeronautics and space program will be directed toward major national priorities of understanding, preserving, and enhancing our global environment, hypersonic transportation, human exploration, and emerging technology commercialization;

"(2) the United States aeronautics and space program is supported by an overwhelming majority of the American people;

"(3) the United States aeronautics and space program genuinely reflects our Nation's pioneer heritage and demonstrates our quest for leadership, economic growth, and human understanding;

"(4) the United States space program is based on a solid record of achievement and continues to promote the objective of international cooperation in the exploration of the planets and the universe;

"(5) the United States aeronautics and space program generates critical technology breakthroughs that benefit our economy through new products and processes that significantly improve our standard of living;

"(6) the United States aeronautics and space program excites the imagination of every generation and can stimulate the youth of our Nation toward the pursuit of excellence in the fields of science, engineering, and mathematics;

"(7) the United States aeronautics and space program contributes to the Nation's technological competitive advantage;

"(8) the United States aeronautics and space program requires a sustained commitment of financial and human resources as a share of the Nation's Gross National Product;

"(9) the United States space transportation system will depend upon a robust fleet of space shuttle orbiters and expendable and reusable launch vehicles and services;

"(10) the United States space program will be advanced with an assured funding stream for the development of a permanently manned space station with research, experimentation, observation, servicing, manufacturing, and staging capabilities for lunar and Mars missions;

"(11) the United States aeronautics program has been a key factor in maintaining preeminence in aviation over many decades;

"(12) the United States needs to maintain a strong program with respect to transatmospheric research and technology by developing and demonstrating National Aero-Space Plane technology by a mid-decade date certain;

"(13) the National Aeronautics and Space Administration is primarily responsible for formulating and implementing policy that supports and encourages civil aeronautics and space activities in the United States; and

"(14) commercial activities of the private sector will substantially and increasingly contribute to the strength of both the United States space program and the national economy.

"SEC. 102. POLICY.

"It is declared to be national policy that the United States should—

"(1) rededicate itself to the goal of leadership in critical areas of space science, space exploration, and space commercialization;

"(2) increase its commitment of budgetary resources for the space program to reverse the dramatic decline in real spending for such program since the achievements of the Apollo moon program;

"(3) ensure that the long-range environmental impact of all activities carried out under this title [see Tables for classification] are fully understood and considered;

"(4) promote and support efforts to advance scientific understanding by conducting or otherwise providing for research on environmental problems, including global change, ozone depletion, acid precipitation, deforestation, and smog;

"(5) forge a robust national space program that maintains a healthy balance between manned and unmanned space activities and recognizes the mutually reinforcing benefits of both;

"(6) maintain an active fleet of space shuttle orbiters, including an adequate provision of structural spare parts, and evolve the orbiter design to improve safety and performance, and reduce operational costs;

"(7) sustain a mixed fleet by utilizing commercial expendable launch vehicle services to the fullest extent practicable;

"(8) support an aggressive program of research and development designed to enhance the United States preeminence in launch vehicles;

"(9) continue and complete on schedule the development and deployment of a permanently manned, fully capable, space station;

"(10) develop an advanced, high pressure space suit to support extravehicular activity that will be required for Space Station Freedom when Assembly Complete is reached;

"(11) establish a dual capability for logistics and resupply of the space station utilizing the space shuttle and expendable launch vehicles, including commercial services if available;

"(12) continue to seek opportunities for international cooperation in space and fully support international cooperative agreements;

"(13) maintain an aggressive program of aeronautical research and technology development designed to enhance the United States preeminence in civil and military aviation and improve the safety and efficiency of the United States air transportation system;

"(14) conduct a program of technology maturation, including flight demonstration in 1997, to prove the feasibility of an air-breathing, hypersonic aerospace plane capable of single-stage-to-orbit operation and hypersonic cruise in the atmosphere;

"(15) seek innovative technologies that will make possible advanced human exploration initiatives, such as the establishment of a lunar base and the succeeding mission to Mars, and provide high yield technology advancements for the national economy; and

"(16) enhance the human resources of the Nation and the quality of education."

NATIONAL AERONAUTICS AND SPACE CAPITAL DEVELOPMENT PROGRAM

Pub. L. 100–685, title I, § 101, Nov. 17, 1988, 102 Stat 4083, provided that: "Congress finds that—

"(1) in accordance with section 106 of the National Aeronautics and Space Administration Authorization Act of 1988 (Public Law 100–147) [set out as a note under section 70901 of this title], a space station, hereafter referred to as the United States International Space Station, shall be constructed in order to establish a permanent presence for man in space for the following purposes—

"(A) the conduct of scientific experiments, applications experiments, and engineering experiments;

"(B) the servicing, rehabilitation, and construction of satellites and space vehicles;

"(C) the development and demonstration of commercial products and processes; and

"(D) the establishment of a space base for other civilian and commercial space activities including an outpost for further exploration of the solar system;

"(2) expendable launch vehicles should be used to launch those payloads that do not require the presence of man;

"(3) the space shuttle launches should be used to fulfill the Nation's needs for manned access to space;

"(4) preeminence in space and aeronautics is key to the national security and economic well being of the United States;

"(5) United States space policy needs long-range goals and direction in order to provide understanding for near-term space projects and programs;

"(6) over the next five years the National Aeronautics and Space Administration, hereafter referred to as the 'Administration', should pursue leadership in science through an aggressive set of major and moderate missions while maintaining a robust series of cost effective missions that can provide frequent flight opportunities to the scientific community[;]

"(7) over the next five years the Administration should prepare for the transition to the United States International Space Station of those science and technology programs that can be most efficiently and effectively conducted on that facility;

"(8) the Administration should encourage the United States private sector investment in space and, to the maximum extent practicable provide frequent flight opportunities for the development of technologies, processes and products that benefit from the space environment;

"(9) the Administration should enhance the existing space transportation capability through a robust mixed fleet of manned and unmanned vehicles in order to increase the reliability, productivity, and efficiency and reduce the cost of the Nation's access to space;

"(10) the United States faces an increasingly successful foreign challenge to its traditional preeminent position in aeronautics which is rapidly reducing its lead in both civil and military aircraft;

"(11) NASA's personnel are an integral component and resource for the Nation's space program, and an innovative personnel system should be developed;

"(12) the establishment of a permanent presence in space leading ultimately to space settlements is fully consistent with the goals of the National Aeronautics and Space Act of 1958 [see 51 U.S.C. 20101 et seq.];

"(13) the United States civil space activities should contribute significantly to enhancing the Nation's scientific and technological leadership, economy, pride, and sense of well-being, as well as United States world prestige and leadership;

"(14) civil sector activities should be comprised of a balanced strategy of research, development, operations, and technology for science, exploration, and appropriate applications;

"(15) assured access to space, sufficient to achieve all United States space goals, is an essential element of United States space policy, and the United States space transportation systems must provide a balanced, robust, and flexible capability with sufficient resiliency to allow continued operation despite failures in any single system;

"(16) the goals of the United States space transportation system are—

"(A) to achieve and maintain safe and reliable access to, transportation in, and return from, space;

"(B) to exploit the unique attributes of manned and unmanned launch and recovery systems;

"(C) to encourage, to the maximum extent feasible, the development and use of United States private sector space transportation capabilities; and

"(D) to reduce the costs of space transportation and related services;

"(17) recognizing that communications advancements are critical to all United States space activities, the Administration should continue research and development efforts for future advances in space communications technologies;

"(18) the goal of aeronautical research and technology development and validation activities should be to contribute to a national technology base that will enhance United States preeminence in civil and military aviation and improve the safety and efficiency of the United States air transportation system; and

"(19) aeronautical research and technology development and validation activities should—

"(A) emphasize emerging technologies with potential for breakthrough advances;

"(B) consist of—

"(i) fundamental research in all aeronautical disciplines, aimed at greater understanding of aeronautical phenomena and development of new aeronautical concepts; and

"(ii) technology development and validation activities aimed at laboratory-scale development and proof-of-concept demonstration of selected concepts with high payoff potential;

"(C) assure maintenance of robust aeronautical laboratories, including a first-rate technical staff and modern national facilities for the conduct of research and testing activities;

"(D) be conducted with the close, active participation of the United States aircraft industry so as to accelerate the transfer of research results to aviation products;

"(E) include providing technical assistance and facility support to other government agencies and United States industry;

"(F) include conducting joint projects with other government agencies where such projects contribute materially to the goals set forth in this section;

"(G) assure strong participation of United States universities both in carrying out aeronautical research and training future aeronautical research personnel; and

"(H) be conducted, where practical, so that United States industry receives research results before foreign competitors."

§ 20103. Definitions

In this chapter:

(1) AERONAUTICAL AND SPACE ACTIVITIES.—The term "aeronautical and space activities" means—

(A) research into, and the solution of, problems of flight within and outside the Earth's atmosphere;

(B) the development, construction, testing, and operation for research purposes of aeronautical and space vehicles;

(C) the operation of a space transportation system including the space shuttle, upper stages, space platforms, and related equipment; and

(D) such other activities as may be required for the exploration of space.

(2) AERONAUTICAL AND SPACE VEHICLES.—The term "aeronautical and space vehicles" means aircraft, missiles, satellites, and other space vehicles, manned and unmanned, together with related equipment, devices, components, and parts.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3332.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20103	42 U.S.C. 2452.	Pub. L. 85–568, title I, § 103, July 29, 1958, 72 Stat. 427; Pub. L. 98–52, title I, § 108, July 15, 1983, 97 Stat. 285.

In paragraph (1)(A), the word "Earth's" is capitalized for consistency in title 51.

Subchapter II—Coordination of Aeronautical and Space Activities

§ 20111. National Aeronautics and Space Administration

(a) ESTABLISHMENT AND APPOINTMENT OF ADMINISTRATOR.—There is established the National Aeronautics and Space Administration. The Administration shall be headed by an Administrator, who shall be appointed from civilian life by the President by and with the advice and consent of the Senate. Under the supervision and direction of the President, the Administrator shall be responsible for the exercise of all powers and the discharge of all duties of the Administration and shall have authority and control over all personnel and activities thereof.

(b) DEPUTY ADMINISTRATOR.—There shall be in the Administration a Deputy Administrator, who shall be appointed from civilian life by the President by and with the advice and consent of the Senate. The Deputy Administrator shall perform such duties and exercise such powers as the Administrator may prescribe. The Deputy Administrator shall act for, and exercise the powers of, the Administrator during the Administrator's absence or disability.

(c) RESTRICTION ON OTHER BUSINESS OR EMPLOYMENT.—The Administrator and the Deputy Administrator shall not engage in any other business, vocation, or employment while serving as such.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3332.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20111	42 U.S.C. 2472.	Pub. L. 85–568, title II, § 202, July 29, 1958, 72 Stat. 429; Pub. L. 88–426, title III, § 305(12), Aug. 14, 1964, 78 Stat. 423.

AGENCY INFORMATION TECHNOLOGY AND CYBERSECURITY

Pub. L. 115–10, title VIII, §§ 811–813, Mar. 21, 2017, 131 Stat. 58–60, provided that:

"SEC. 811. INFORMATION TECHNOLOGY GOVERNANCE.

"(a) IN GENERAL.—The Administrator [of the National Aeronautics and Space Administration] shall, in a manner that reflects the unique nature of NASA [National Aeronautics and Space Administration]'s mission and expertise—

"(1) ensure the NASA Chief Information Officer, Mission Directorates, and Centers have appropriate roles in the management, governance, and oversight processes related to information technology operations and investments and information security programs for the protection of NASA systems;

"(2) ensure the NASA Chief Information Officer has the appropriate resources and insight to oversee NASA information technology and information security operations and investments;

"(3) provide an information technology program management framework to increase the efficiency and effectiveness of information technology investments, including relying on metrics for identifying and reducing potential duplication, waste, and cost;

"(4) improve the operational linkage between the NASA Chief Information Officer and each NASA mission directorate, center, and mission support office to ensure both agency and mission needs are considered in agency-wide information technology and information security management and oversight;

"(5) review the portfolio of information technology investments and spending, including information technology-related investments included as part of activities within NASA mission directorates that may not be considered information technology, to ensure investments are recognized and reported appropriately based on guidance from the Office of Management and Budget;

"(6) consider appropriate revisions to the charters of information technology boards and councils that inform information technology investment and operation decisions; and

"(7) consider whether the NASA Chief Information Officer should have a seat on any boards or councils described in paragraph (6).

"(b) GAO STUDY.—

"(1) STUDY.—The Comptroller General of the United States shall conduct a study of the effectiveness of the Administration's Information Technology Governance in ensuring informa-

tion technology resources are aligned with agency missions and are cost effective and secure.

"(2) CONTENTS.—The study shall include an assessment of—

"(A) the resources available for overseeing Administration-wide information technology operations, investments, and security measures and the NASA Chief Information Officer's visibility and involvement into information technology oversight and access to those resources;

"(B) the effectiveness and challenges of the Administration's information technology structure, decision making processes and authorities, including impacts on its ability to implement information security; and

"(C) the impact of NASA Chief Information Officer approval authority over information technology investments that exceed a defined monetary threshold, including any potential impacts of such authority on the Administration's missions, flights programs and projects, research activities, and Center operations.

"(3) REPORT.—Not later than 1 year after the date of enactment of this Act [Mar. 21, 2017], the Comptroller General shall submit to the appropriate committees of Congress [Committee on Science, Space, and Technology of the House of Representatives and Committee on Commerce, Science, and Transportation of the Senate] a report detailing the results of the study under paragraph (1), including any recommendations.

"SEC. 812. INFORMATION TECHNOLOGY STRATEGIC PLAN.

"(a) IN GENERAL.—Subject to subsection (b), the Administrator [of the National Aeronautics and Space Administration] shall develop an information technology strategic plan to guide NASA [National Aeronautics and Space Administration] information technology management and strategic objectives.

"(b) REQUIREMENTS.—In developing the strategic plan, the Administrator shall ensure that the strategic plan addresses—

"(1) the deadline under section 306(a) of title 5, United States Code; and

"(2) the requirements under section 3506 of title 44, United States Code.

"(c) CONTENTS.—The strategic plan shall address, in a manner that reflects the unique nature of NASA's mission and expertise—

"(1) near and long-term goals and objectives for leveraging information technology;

"(2) a plan for how NASA will submit to Congress of [sic] a list of information technology projects, including completion dates and risk level in accordance with guidance from the Office of Management and Budget;

"(3) an implementation overview for an agency-wide approach to information technology investments and operations, including reducing barriers to cross-center collaboration;

"(4) coordination by the NASA Chief Information Officer with centers and mission directorates to ensure that information technology policies are effectively and efficiently implemented across the agency;

"(5) a plan to increase the efficiency and effectiveness of information technology investments, including a description of how unnecessarily duplicative, wasteful, legacy, or outdated information technology across NASA will be identified and eliminated, and a schedule for the identification and elimination of such information technology;

"(6) a plan for improving the information security of agency information and agency information systems, including improving security control assessments and role-based security training of employees; and

"(7) submission by NASA to Congress of information regarding high risk projects and cybersecurity risks.

"(d) CONGRESSIONAL OVERSIGHT.—The Administrator shall submit to the appropriate committees of Congress [Committee on Science, Space, and Technology of the House of Representatives and Committee on Commerce, Science, and Transportation of the Senate] the strategic plan under subsection (a) and any updates thereto.

"SEC. 813. CYBERSECURITY.

"(a) FINDING.—Congress finds that the security of NASA [National Aeronautics and Space Administration] information and information systems is vital to the success of the mission of the agency.

"(b) INFORMATION SECURITY PLAN.—

"(1) IN GENERAL.—Not later than 1 year after the date of enactment of this Act [Mar. 21, 2017], the Administrator [of the National Aeronautics and Space Administration] shall implement the information security plan developed under paragraph (2) and take such further actions as the Administrator considers necessary to improve the information security system in accordance with this section.

"(2) INFORMATION SECURITY PLAN.—Subject to paragraphs (3) and (4), the Administrator shall develop an agency-wide information security plan to enhance information security for NASA information and information infrastructure.

"(3) REQUIREMENTS.—In developing the plan under paragraph (2), the Administrator shall ensure that the plan—

"(A) reflects the unique nature of NASA's mission and expertise;

"(B) is informed by policies, standards, guidelines, and directives on information security required for Federal agencies;

"(C) is consistent with the standards and guidelines under section 11331 of title 40, United States Code; and

"(D) meets applicable National Institute of Standards and Technology information security standards and guidelines.

"(4) CONTENTS.—The plan shall address—

"(A) an overview of the requirements of the information security system;

"(B) an agency-wide risk management framework for information security;

"(C) a description of the information security system management controls and common controls that are necessary to ensure compliance with information security-related requirements;

"(D) an identification and assignment of roles, responsibilities, and management commitment for information security at the agency;

"(E) coordination among organizational entities, including between each center, facility, mission directorate, and mission support office, and among agency entities responsible for different aspects of information security;

"(F) the need to protect the information security of mission-critical systems and activities and high-impact and moderate-impact information systems; and

"(G) a schedule of frequent reviews and updates, as necessary, of the plan."

COLLABORATION AMONG MISSION DIRECTORATES

Pub. L. 115–10, title VIII, 821, Mar. 21, 2017, 131 Stat. 61, provided that:

The Administrator [of the National Aeronautics and Space Administration] shall encourage an interdisciplinary approach among all NASA [National Aeronautics and Space Administration] mission directorates and divisions, whenever appropriate, for projects or missions—

(1) to improve coordination, and encourage collaboration and early planning on scope;

(2) to determine areas of overlap or alignment;

(3) to find ways to leverage across divisional perspectives to maximize outcomes; and

(4) to be more efficient with resources and funds.

USERS' ADVISORY GROUP

Pub. L. 101–611, title I, § 121, Nov. 16, 1990, 104 Stat. 3204, provided that:

"(a) ESTABLISHMENT.—

"(1) The National Space Council shall establish a Users' Advisory Group composed of non-Federal representatives of industries and other persons involved in aeronautical and space activities.

"(2) The Vice President shall name a chairman of the Users' Advisory Group.

"(3) The National Space Council shall from time to time, but not less than once a year, meet with the Users' Advisory Group.

"(4) The function of the Users' Advisory Group shall be to ensure that the interests of industries and other non-Federal entities involved in space activities, including in particular commercial entities, are adequately represented in the National Space Council.

"(5) The Users' Advisory Group may be assisted by personnel detailed to the National Space Council.

"(b) EXEMPTION.—The Users' Advisory Group shall not be subject to section 14(a)(2) of the Federal Advisory Committee Act [5 U.S.C. App.]."

NATIONAL SPACE COUNCIL

Pub. L. 101–328, § 3(a), July 8, 1990, 104 Stat. 308, provided that: "Not more than six individuals may be employed by the National Space Council without regard to any provision of law regulating the employment or compensation of persons in the Government service, at rates not to exceed the rate of pay for level VI of the Senior Executive Schedule as provided pursuant to section 5382 of title 5, United States Code."

Pub. L. 101–328, § 4, July 8, 1990, 104 Stat. 308, provided that: "The National Space Council may, for purposes of carrying out its functions, employ experts and consultants in accordance with section 3109 of title 5, United States Code, and may compensate individuals so employed for each day they are involved in a business of the National Space Council (including travel time) at rates not in excess of the daily equivalent of the maximum rate of pay for grade GS–18 as provided pursuant to section 5332 of title 5, United States Code."

[References in laws to the rates of pay for GS–16, 17, or 18, or to maximum rates of pay under the General Schedule, to be considered references to rates payable under specified sections of Title 5, Government Organization and Employees, see section 529 [title I, 101(c)(1)] of Pub. L. § 101–509, set out in a note under section 5376 of Title 5.]

Pub. L. 100–685, title V, § 501, Nov. 17, 1988, 102 Stat. 4102, provided that:

"(a) Effective February 1, 1989, there is established in the Executive Office of the President the National Space Council, which shall be chaired by the Vice President.

"(b) By March 1, 1989, the President shall submit to the Congress a report that outlines the composition and functions of the National Space Council.

"(c) The Council may employ a staff of not more than seven persons, which is to be headed by a civilian executive secretary, who shall be appointed by the President."

EX. ORD. NO. 10849. ESTABLISHMENT OF SEAL FOR NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Ex. Ord. No. 10849, Nov. 27, 1959, 24 F.R. 9559, as amended by Ex. Ord. No. 10942, May 19, 1961, 26 F.R. 4419, provided:

WHEREAS the Administrator of the National Aeronautics and Space Administration has caused to be made, and has recommended that I approve, a seal for the National Aeronautics and Space Administration, the design of which accompanies and is hereby made a part of this order, and which is described as follows:

On a disc of the blue sky strewn with white stars, to dexter a larger yellow sphere bearing a red flight symbol apex in upper sinister and wings enveloping and casting a brown shadow upon the sphere, all partially encircled with a horizontal white orbit, in sinister a small light-blue sphere; circumscribing the disc a white

band edged gold inscribed "National Aeronautics and Space Administration U.S.A." in red letters.

AND WHEREAS it appears that such seal is of suitable design and appropriate for establishment as the official seal of the National Aeronautics and Space Administration:

NOW, THEREFORE, by virtue of the authority vested in me as President of the United States, I hereby approve such seal as the official seal of the National Aeronautics and Space Administration.

EX. ORD. NO. 12675

Ex. Ord. No. 12675, Apr. 20, 1989, 54 F.R. 17691, as amended by Ex. Ord. No. 12712, Apr. 26, 1990, 55 F.R. 18095; Ex. Ord. No. 12869, § 4(F), Sept. 30, 1993, 58 F.R. 51752, which established the National Space Council, was superseded by Ex. Ord. No. 13803, § 9(a), June 30, 2017, 82 F.R. 31431, set out below.

EX. ORD. NO. 13803. REVIVING THE NATIONAL SPACE COUNCIL

Ex. Ord. No. 13803, June 30, 2017, 82 F.R. 31429, provided:

By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to provide a coordinated process for developing and monitoring the implementation of national space policy and strategy, it is hereby ordered as follows:

SECTION 1. *Purpose.* The National Space Council (Council) was established by Title V of Public Law 100-685 and Executive Order 12675 of April 20, 1989 (Establishing the National Space Council). The Council was tasked with advising and assisting the President regarding national space policy and strategy. The Council was never formally disestablished, but it effectively ceased operation in 1993. This order revives the Council and provides additional details regarding its duties and responsibilities.

SEC. 2. *Revival and Composition of the National Space Council.* (a) The Council is hereby revived and shall resume operations.

(b) The Council shall be composed of the following members:

(i) The Vice President, who shall be Chair of the Council;

(ii) The Secretary of State;

(iii) The Secretary of Defense;

(iv) The Secretary of Commerce;

(v) The Secretary of Transportation;

(vi) The Secretary of Homeland Security;

(vii) The Director of National Intelligence;

(viii) The Director of the Office of Management and Budget;

(ix) The Assistant to the President for National Security Affairs;

(x) The Administrator of the National Aeronautics and Space Administration;

(xi) The Director of the Office of Science and Technology Policy;

(xii) The Assistant to the President for Homeland Security and Counterterrorism;

(xiii) The Chairman of the Joint Chiefs of Staff; and

(xiv) The heads of other executive departments and agencies (agencies) and other senior officials within the Executive Office of the President, as determined by the Chair.

SEC. 3. *Functions of the Council.*

(a) The Council shall advise and assist the President regarding national space policy and strategy, and perform such other duties as the President may, from time to time, prescribe.

(b) In particular, the Council is directed to:

(i) review United States Government space policy, including long-range goals, and develop a strategy for national space activities;

(ii) develop recommendations for the President on space policy and space-related issues;

(iii) monitor and coordinate implementation of the objectives of the President's national space policy and strategy;

(iv) foster close coordination, cooperation, and technology and information exchange among the civil, national security, and commercial space sectors;

(v) advise on participation in international space activities conducted by the United States Government; and

(vi) facilitate the resolution of differences concerning major space and space-related policy matters.

(c) The Council shall meet at least annually.

(d) The revival and operation of the Council shall not interfere with the existing lines of authority in or responsibilities of any agencies.

(e) The Council shall have a staff, headed by a civilian Executive Secretary appointed by the President.

SEC. 4. *Responsibilities of the Chair.*

(a) The Chair shall serve as the President's principal advisor on national space policy and strategy.

(b) The Chair shall, in consultation with the members of the Council, establish procedures for the Council and establish the agenda for Council activities.

(c) The Chair shall report to the President quarterly on the Council's activities and recommendations. The Chair shall advise the Council, as appropriate, regarding the President's directions with respect to the Council's activities and national space policy and strategy.

(d) The Chair may recommend to the President candidates for the position of Executive Secretary.

(e) The Chair, or upon the Chair's direction, the Executive Secretary, may invite the heads of other agencies, other senior officials in the Executive Office of the President, or other Federal employees to participate in Council meetings.

(f) The Chair shall authorize the establishment of committees of the Council, including an executive committee, and of working groups, composed of senior designees of the Council members and of other Federal officials invited to participate in Council meetings, as he deems necessary or appropriate for the efficient conduct of Council functions.

SEC. 5. *National Space Policy and Strategy Planning Process.*

(a) Each agency represented on the Council shall provide such information to the Chair regarding its current and planned space activities as the Chair shall request.

(b) The head of each agency that conducts space-related activities shall, to the extent permitted by law, conform such activities to the President's national space policy and strategy.

(c) On space policy and strategy matters relating primarily to national security, the Council shall coordinate with the National Security Council (NSC) to create policies and procedures for the Council that respect the responsibilities and authorities of the NSC under existing law.

SEC. 6. *Users' Advisory Group.*

(a) The Council shall convene a Users' Advisory Group (Group) pursuant to Public Law 101–611, section 121, composed of non-Federal representatives of industries and other persons involved in aeronautical and space activities.

(b) Members of the Group shall serve without any compensation for their work for the Group. Members of the Group, while engaged in the work of the Group, may be allowed travel expenses, including per diem in lieu of subsistence, to the extent permitted by law for persons serving intermittently in Government service (5 U.S.C. 5701–5707), consistent with the availability of funds.

(c) The Group shall report directly to the Council and shall provide advice or work product solely to the Council.

SEC. 7. *Administrative Provisions.*

(a) To aid in the performance of the functions of the Council:

(i) The Office of Administration in the Executive Office of the President shall provide the Council with administrative support on a reimbursable basis; and

(ii) Legal advice to the Council itself with respect to its work and functions shall be provided exclusively by the Office of the Counsel to the President.

(b) To the extent practicable and permitted by law, including the Economy Act, and within existing appropriations, agencies serving on the Council and interagency councils and committees that affect space policy or strategy shall make resources, including, but not limited to, personnel, office support, and printing, available to the Council as reasonably requested by the Chair or, upon the Chair's direction, the Executive Secretary.

(c) Agencies shall cooperate with the Council and provide such information and advice to the Council as it may reasonably request, to the extent permitted by law.

SEC. 8. *Report.* Within 1 year of the date of this order, and annually thereafter, the Council shall submit a report to the President setting forth its assessment of, and recommendations for, the space policy and strategy of the United States Government.

SEC. 9. *General Provisions.*

(a) This order supersedes Executive Order 12675 of April 20, 1989 (Establishing the National Space Council). To the extent this order is inconsistent with any provision of any earlier Executive Order or Presidential Memorandum, this order shall control.

(b) If any provision of this order or the application of such provision is held to be invalid, the remainder of this order and other dissimilar applications of such provision shall not be affected.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

(d) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(e) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

DONALD J. TRUMP.

§ 20112. Functions of the Administration

(a) PLANNING, DIRECTING, AND CONDUCTING AERONAUTICAL AND SPACE ACTIVITIES.—The Administration, in order to carry out the purpose of this chapter, shall—

(1) plan, direct, and conduct aeronautical and space activities;

(2) arrange for participation by the scientific community in planning scientific measurements and observations to be made through use of aeronautical and space vehicles, and conduct or arrange for the conduct of such measurements and observations;

(3) provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof;

(4) seek and encourage, to the maximum extent possible, the fullest commercial use of space; and

(5) encourage and provide for Federal Government use of commercially provided space services and hardware, consistent with the requirements of the Federal Government.

(b) RESEARCH AND DEVELOPMENT IN CERTAIN TECHNOLOGIES.—

(1) GROUND PROPULSION TECHNOLOGIES.—The Administration shall, to the extent of appropriated funds, initiate, support, and carry out such research, development, demonstration, and other related activities in ground propulsion technologies as are provided for in sections 4 to 10 of the Electric and Hybrid Vehicle Research, Development, and Demonstration Act of 1976 (15 U.S.C. 2503 to 2509).

(2) SOLAR HEATING AND COOLING TECHNOLOGIES.—The Administration shall initiate, support, and carry out such research, development, demonstrations, and other related activities in solar heating and cooling technologies (to the extent that funds are appropriated therefor) as are provided for in sections 5, 6, and 9 of the Solar Heating and Cooling Demonstration Act of 1974 (42 U.S.C. 5503, 5504, 5507).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3333.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20112	42 U.S.C. 2473(a), (b).	Pub. L. 85–568, title II, § 203(a), (b), July 29, 1958, 72 Stat. 429; Pub. L. 93–409, § 4 Sept. 3, 1974, 88 Stat. 1070; Pub. L. 94–413, § 15(c), Sept. 17, 1976, 90 Stat. 1270; Pub. L. 95–401, § 6, Sept. 30, 1978, 92 Stat. 860; Pub. L. 101–611, title I, § 107, Nov. 16, 1990, 104 Stat. 3197.

§ 20113. Powers of the Administration in performance of functions

(a) RULES AND REGULATIONS.—In the performance of its functions, the Administration is authorized to make, promulgate, issue, rescind, and amend rules and regulations governing the manner of its operations and the exercise of the powers vested in it by law.

(b) OFFICERS AND EMPLOYEES.—In the performance of its functions, the Administration is authorized to appoint and fix the compensation of officers and employees as may be necessary to carry out such functions. The officers and employees shall be appointed in accordance with the civil service laws and their compensation fixed in accordance with chapter 51 and subchapter III of chapter 53 of title 5, except that—

(1) to the extent the Administrator deems such action necessary to the discharge of the Administrator's responsibilities, the Administrator may appoint not more than 425 of the scientific, engineering, and administrative personnel of the Administration without regard to such laws, and may fix the compensation of such personnel not in excess of the rate of basic pay payable for level III of the Executive Schedule; and

(2) to the extent the Administrator deems such action necessary to recruit specially qualified scientific and engineering talent, the Administrator may establish the entrance grade for scientific and engineering personnel without previous service in the Federal Government at a level up to 2 grades higher than the grade provided for such personnel under the General Schedule, and fix their compensation accordingly.

(c) PROPERTY.—In the performance of its functions, the Administration is authorized—

(1) to acquire (by purchase, lease, condemnation, or otherwise), construct, improve, repair, operate, and maintain laboratories, research and testing sites and facilities, aeronautical and space vehicles, quarters and related accommodations for employees and dependents of employees of the Administration, and such other real and personal property (including patents), or any interest therein, as the Administration deems necessary within and outside the continental United States;

(2) to acquire by lease or otherwise, through the Administrator of General Services, buildings or parts of buildings in the District of Columbia for the use of the Administration for a period not to exceed 10 years without regard to section 8141 of title 40;

(3) to lease to others such real and personal property;

(4) to sell and otherwise dispose of real and personal property (including patents and rights thereunder) in accordance with the provisions of chapters 1 to 11 of title 40 and in accordance with title III of the Federal Property and Administrative Services Act of 1949 (41 U.S.C. 251 et seq.); and

(5) to provide by contract or otherwise for cafeterias and other necessary facilities for the welfare of employees of the Administration at its installations and purchase and maintain equipment therefor.

(d) GIFTS.—In the performance of its functions, the Administration is authorized to accept unconditional gifts or donations of services, money, or property, real, personal, or mixed, tangible or intangible.

(e) CONTRACTS, LEASES, AND AGREEMENTS.—In the performance of its functions, the Administration is authorized, without regard to subsections (a) and (b) of section 3324 of title 31, to enter into and perform such contracts, leases, cooperative agreements, or other transactions as may be necessary in the conduct of its work and on such terms as it may deem appropriate, with any agency or instrumentality of the United States, or with any State, territory, or possession, or with any political subdivision thereof, or with any person, firm, association, corporation, or educational institution. To the maximum extent practicable and consistent with the accomplishment of the purpose of this chapter, such contracts, leases, agreements, and other transactions shall be allocated by the Administrator in a manner which will enable small-business concerns to participate equitably and proportionately in the conduct of the work of the Administration.

(f) COOPERATION WITH FEDERAL AGENCIES AND OTHERS.—In the performance of its functions, the Administration is authorized to use, with their consent, the services, equipment, personnel, and facilities of Federal and other agencies with or without reimbursement, and on a similar basis to cooperate with other public and private agencies and instrumentalities in the use of services, equipment, and facilities. Each department and agency of the Federal Government shall cooperate fully with the Administration in making its services, equipment, personnel, and facilities available to the Administration, and any such department or agency is authorized, notwithstanding any other provision of law, to transfer to or to receive from the Administration, without reimbursement, aeronautical and space vehicles, and supplies and equipment other than administrative supplies or equipment.

(g) ADVISORY COMMITTEES.—In the performance of its functions, the Administration is authorized to appoint such advisory committees as may be appropriate for purposes of consultation and advice to the Administration.

(h) OFFICES AND PROCEDURES.—In the performance of its functions, the Administration is authorized to establish within the Administration such offices and procedures as may be appropriate to provide for the greatest possible coordination of its activities under this chapter with related scientific and other activities being carried on by other public and private agencies and organizations.

(i) TEMPORARY OR INTERMITTENT SERVICES OF EXPERTS OR CONSULTANTS.—In the performance of its functions, the Administration

is authorized to obtain services as provided by section 3109 of title 5, but at rates for individuals not to exceed the per diem rate equivalent to the maximum rate payable under section 5376 of title 5.

(j) ALIENS.—In the performance of its functions, the Administration is authorized, when determined by the Administrator to be necessary, and subject to such security investigations as the Administrator may determine to be appropriate, to employ aliens without regard to statutory provisions prohibiting payment of compensation to aliens.

(k) CONCESSIONS FOR VISITORS' FACILITIES.—

(1) IN GENERAL.—In the performance of its functions, the Administration is authorized to provide by concession, without regard to section 1302 of title 40, on such terms as the Administrator may deem to be appropriate and necessary to protect the concessioner against loss of the concessioner's investment in property (but not anticipated profits) resulting from the Administration's discretionary acts and decisions, for the construction, maintenance, and operation of all manner of facilities and equipment for visitors to the several installations of the Administration and, in connection therewith, to provide services incident to the dissemination of information concerning its activities to such visitors, without charge or with a reasonable charge therefor (with this authority being in addition to any other authority that the Administration may have to provide facilities, equipment, and services for visitors to its installations).

(2) PUBLIC NOTICE AND DUE CONSIDERATION OF PROPOSALS.—A concession agreement under this subsection may be negotiated with any qualified proposer following due consideration of all proposals received after reasonable public notice of the intention to contract.

(3) REASONABLE OPPORTUNITY FOR PROFIT.—The concessioner shall be afforded a reasonable opportunity to make a profit commensurate with the capital invested and the obligations assumed. The consideration paid by the concessioner for the concession shall be based on the probable value of the opportunity and not on maximizing revenue to the United States.

(4) RECORDS AND ACCESS TO RECORDS.—Each concession agreement shall specify the manner in which the concessioner's records are to be maintained, and shall provide for access to the records by the Administration and the Comptroller General of the United States for a period of 5 years after the close of the business year to which the records relate.

(5) POSSESSORY INTERESTS.—A concessioner may be accorded a possessory interest, consisting of all incidents of ownership except legal title (which shall vest in the United States), in any structure, fixture, or improvement the concessioner constructs or locates upon land owned by the United States. With the approval of the Administration, such possessory interest may be assigned, transferred, encumbered, or relinquished by the concessioner, and, unless otherwise provided by contract, shall not be extinguished by the expiration or other termination of the

concession and may not be taken for public use without just compensation.

(l) DETAILING MEMBERS OF ARMED SERVICES.—In the performance of its functions, the Administration is authorized, with the approval of the President, to enter into cooperative agreements under which members of the Army, Navy, Air Force, and Marine Corps may be detailed by the appropriate Secretary for services in the performance of functions under this chapter to the same extent as that to which they might be lawfully assigned in the Department of Defense.

(m) CLAIMS AGAINST THE UNITED STATES.—In the performance of its functions, the Administration is authorized—

(1) to consider, ascertain, adjust, determine, settle, and pay, on behalf of the United States, in full satisfaction thereof, any claim for $25,000 or less against the United States for bodily injury, death, or damage to or loss of real or personal property resulting from the conduct of the Administration's functions as specified in section 20112(a) of this title, where such claim is presented to the Administration in writing within 2 years after the accident or incident out of which the claim arises; and

(2) if the Administration considers that a claim in excess of $25,000 is meritorious and would otherwise be covered by this subsection, to report the facts and circumstances to Congress for its consideration.

(n) IDENTIFICATION OF GOVERNMENT ASTRONAUTS.—For purposes of a license issued or transferred by the Secretary of Transportation under chapter 509 to launch a launch vehicle or to reenter a reentry vehicle carrying a government astronaut (as defined in section 50902), the Administration shall designate a government astronaut in accordance with requirements prescribed by the Administration.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3333; Pub. L. 114–90, title I, § 112(d), Nov. 25, 2015, 129 Stat. 712; Pub. L. 115–10, title VIII, § 835(d), Mar. 21, 2017, 131 Stat. 69.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20113	42 U.S.C. 2473(c).	Pub. L. 850–568, title II, § 203(c), formerly § 203(b), July 29, 1958, 72 Stat. 429; Pub. L. 86–20, May 13, 1959, 73 Stat. 21; Pub. L. 86–481, § 5, June 1, 1960, 74 Stat. 153; Pub. L. 87–367, title II, § 206(a), Oct. 4, 1961, 75 Stat. 791; Pub. L. 87–584, § 6, Aug. 14, 1962, 76 Stat. 384; Pub. L. 87–793, § 1001(f), Oct. 11, 1962, 76 Stat. 864; Pub. L. 88–426, title III, § 306(d), Aug. 14, 1964, 78 Stat. 429; Pub. L. 88–448, title IV, § 402(a)(34), Aug. 10, 1964, 78 Stat. 495; Pub. L. 91–646, title II, § 220(a)(2), Jan. 2, 1971, 84 Stat. 1903; Pub. L. 93–74, § 6, July 23, 1973, 87 Stat. 174; Pub. L. 93–316, § 6, June 22, 1974, 88 Stat. 243; renumbered § 203(c), Pub. L. 93–409, § 4, Sept. 3, 1974, 88 Stat. 1070; Pub. L. 96–48, § 6(a), Aug. 8, 1979, 93 Sat. 348; Pub. L. 108–201, § 2(a), Feb. 24 2004, 118 Stat. 461.

In subsection (b), in the matter before paragraph (1), the words "chapter 51 and subchapter III of chapter 53 of title 5" are substituted for "the Classification Act of 1949, as amended" on authority of section 7(b) of Public Law 89–554 (80 Stat. 631), the first section of which enacted Title 5, Government Organization and Employees.

In subsection (c)(2), the words "section 8141 of title 40" are substituted for "the Act of March 3, 1877 (40 U.S.C. 34)" on authority of section 5(c) of Public Law 107–217 (116 Stat. 1303), the first section of which enacted Title 40, Public Buildings, Property, and Works.

In subsection (c)(4), the words "in accordance with the provisions of chapters 1 to 11 of title 40 and in accordance with title III of the Federal Property and Administrative Services Act of 1949 (41 U.S.C. 251 et seq.)" are substituted for "in accordance with the provisions of the Federal Property and Administrative Services Act of 1949, as amended (40 U.S.C. 471 et seq.)" on authority of section 5(c) of Public Law 107–217 (116 Stat. 1303), the first section of which enacted Title 40, Public Buildings, Property, and Works.

In subsection (e), the words "subsections (a) and (b) of section 3324 of title 31" are substituted for "section 3648 of the Revised Statutes, as amended (31 U.S.C. 529)" on authority of section 4(b) of Public Law 97–258 (96 Stat. 1067), the first section of which enacted Title 31, Money and Finance.

In subsection (i), the words "maximum rate payable under section 5376 of title 5" are substituted for "rate for GS–18" because of section 101(c) of the Federal Employees Pay Comparability Act of 1990 (enacted by § 529 of Public Law 101–509, 5 U.S.C. 5376 note).

In subsection (k)(1), the words "section 1302 of title 40" are substituted for "section 321 of the Act of June 30, 1932 (47 Stat. 412; 40 U.S.C. 303b)" on authority of section 5(c) of Public Law 107–217 (116 Stat. 1303), the first section of which enacted Title 40, Public Buildings, Property, and Works.

REFERENCES IN TEXT

Level III of the Executive Schedule, referred to in subsec. (b)(1), is set out in section 5314 of Title 5, Government Organization and Employees.

The Federal Property and Administrative Services Act of 1949, referred to in subsec. (c)(4), is act June 30, 1949, ch. 288, 63 Stat. 377. Title III of the Act was classified generally to subchapter IV (§ 251 et seq.) of chapter 4 of former Title 41, Public Contracts, and was substantially repealed and restated in division C (§ 3101 et seq.) of subtitle I of Title 41, Public Contracts, by Pub. L. 111–350, §§ 3, 7(b), Jan. 4, 2011, 124 Stat. 3677, 3855. For complete classification of this Act to the Code, see Short Title of 1949 Act note set out under section 101 of Title 41 and Tables. For disposition of sections of former Title 41, see Disposition Table preceding section 101 of Title 41.

AMENDMENTS

2017—Subsec. (g). Pub. L. 115–10, § 835(d)(2), struck out "and Congress" after "advice to the Administration".

Pub. L. 115–10, 835(d)(1), inserted "and Congress" after "advice to the Administration". 2015—Subsec. (n). Pub. L. 114–90 added subsec. (n).

EFFECTIVE DATE OF 2017 AMENDMENT

Pub. L. 115–10, title VIII, § 835(d)(2), Mar. 21, 2017, 131 Stat. 69, provided that the amendment by section 835(d)(2) is effective Sept. 30, 2017.

COLLABORATION

Pub. L. 115–10, title V, § 517, Mar. 21, 2017, 131 Stat. 54, provided that: "The Administration [National Aeronautics and Space Administration] shall continue to develop first-of-a-kind instruments that, once proved, can be transitioned to other agencies for operations. Whenever responsibilities for the development of sensors or for measurements are transferred to the Administration from another agency, the Administration shall seek, to the extent possible, to be reimbursed for the assumption of such responsibilities."

SPACE ACT AGREEMENTS

Pub. L. 115–10, title VIII, § 841, Mar. 21, 2017, 131 Stat. 72, provided that:

"(a) SENSE OF CONGRESS.—It is the sense of Congress that, when used appropriately, Space Act Agreements can provide significant value in furtherance of NASA [National Aeronautics and Space Administration]'s mission.

"(b) FUNDED SPACE ACT AGREEMENTS.—To the extent appropriate, the Administrator [of the National Aeronautics and Space Administration] shall seek to maximize the value of contributions provided by other parties under a funded Space Act Agreement in order to advance NASA's mission.

"(c) NON-EXCLUSIVITY.—

"(1) IN GENERAL.—The Administrator shall, to the greatest extent practicable, issue each Space Act Agreement—

"(A) except as provided in paragraph (2), on a nonexclusive basis;

"(B) in a manner that ensures all non-government parties have equal access to NASA resources; and

"(C) exercising reasonable care not to reveal unique or proprietary information.

"(2) EXCLUSIVITY.—If the Administrator determines an exclusive arrangement is necessary, the Administrator shall, to the greatest extent practicable, issue the Space Act Agreement—

"(A) utilizing a competitive selection process when exclusive arrangements are necessary; and

"(B) pursuant to public announcements when exclusive arrangements are necessary.

"(d) TRANSPARENCY.—The Administrator shall publicly disclose on the Administration's website and make available in a searchable format each Space Act Agreement, including an estimate of committed NASA resources and the expected benefits to agency objectives for each agreement, with appropriate redactions for proprietary, sensitive, or classified information, not later than 60 days after such agreement is signed by the parties.

"(e) ANNUAL REPORTS.—

"(1) REQUIREMENT.—Not later than 90 days after the end of each fiscal year, the Administrator shall submit to the appropriate committees of Congress [Committee on Science, Space, and Technology of the House of Representatives and Committee on Commerce, Science, and Transportation of the Senate] a report on the use of Space Act Agreement authority by the Administration during the previous fiscal year.

"(2) CONTENTS.—The report shall include for each Space Act Agreement in effect at the time of the report—

"(A) an indication of whether the agreement is a reimbursable, non-reimbursable, or funded Space Act Agreement;

"(B) a description of—

"(i) the subject and terms;

"(ii) the parties;

"(iii) the responsible—

"(I) Mission Directorate;

"(II) Center; or

"(III) headquarters element;

"(iv) the value;

"(v) the extent of the cost sharing among Federal Government and non-Federal sources;

"(vi) the time period or schedule; and

"(vii) all milestones; and

"(C) an indication of whether the agreement was renewed during the previous fiscal year.

"(3) ANTICIPATED AGREEMENTS.—The report shall include a list of all anticipated reimbursable, non-reimbursable, and funded Space Act Agreements for the upcoming fiscal year.

"(4) CUMULATIVE PROGRAM BENEFITS.—The report shall include, with respect to each Space Act Agreement covered by the report, a summary of—

"(A) the technology areas in which research projects were conducted under that agreement;

"(B) the extent to which the use of that agreement—

"(i) has contributed to a broadening of the technology and industrial base available for meeting Administration needs; and

"(ii) has fostered within the technology and industrial base new relationships and practices that support the United States; and

"(C) the total amount of value received by the Federal Government during the fiscal year under that agreement."

SENSE OF CONGRESS

Pub. L. 114–90, title I, § 112(b), Nov. 25, 2015, 129 Stat. 711, provided that: "The National Aeronautics and Space Administration has a need to fly government astronauts (as defined in section 50902 of title 51, United States Code, as amended) within commercial launch vehicles and reentry vehicles under chapter 509 of that title. This need was identified by the Secretary of Transportation and the Administrator of the National Aeronautics and Space Administration due to the intended use of commercial launch vehicles and reentry vehicles developed under the Commercial Crew Development Program, authorized in section 402 of the National Aeronautics and Space Administration Authorization Act of 2010 (124 Stat. 2820; Public Law 111-267). It is the sense of Congress that the authority delegated to the Administration by the amendment made by subsection (d) of this section [amending this section] should be used for that purpose."

PURCHASE OF AMERICAN-MADE EQUIPMENT AND PRODUCTS

Pub. L. 106–391, title III, § 319, Oct. 30, 2000, 114 Stat. 1597, provided that:

"(a) PURCHASE OF AMERICAN-MADE EQUIPMENT AND PRODUCTS.—In the case of any equipment or products that may be authorized to be purchased with financial assistance provided under this Act [see Tables for classification], it is the sense of the Congress that entities receiving such assistance should, in expending the assistance, purchase only American-made equipment and products.

"(b) NOTICE TO RECIPIENTS OF ASSISTANCE.—In providing financial assistance under this Act, the Administrator [of the National Aeronautics and Space Administration] shall provide to each recipient of the assistance a notice describing the statement made in subsection (a) by the Congress."

ENHANCEMENT OF SCIENCE AND MATHEMATICS PROGRAMS

Pub. L. 106–391, title III, § 321, Oct. 30, 2000, 114 Stat. 1597, provided that:

"(a) DEFINITIONS.—In this section:

"(1) EDUCATIONALLY USEFUL FEDERAL EQUIPMENT.—The term 'educationally useful Federal equipment' means computers and related peripheral tools and research equipment that is appropriate for use in schools.

"(2) SCHOOL.—The term 'school' means a public or private educational institution that serves any of the grades of kindergarten through grade 12.

"(b) SENSE OF THE CONGRESS.—

"(1) IN GENERAL.—It is the sense of the Congress that the Administrator [of the National Aeronautics and Space Administration] should, to the greatest extent practicable and in a manner consistent with applicable Federal law (including Executive Order No. 12999 [40 U.S.C. 549 note]), donate educa-

tionally useful Federal equipment to schools in order to enhance the science and mathematics programs of those schools.

"(2) REPORTS.—Not later than 1 year after the date of the enactment of this Act [Oct. 30, 2000], and annually thereafter, the Administrator shall prepare and submit to Congress a report describing any donations of educationally useful Federal equipment to schools made during the period covered by the report."

§ 20114. Administration and Department of Defense coordination

(a) ADVISE AND CONSULT.—The Administration and the Department of Defense, through the President, shall advise and consult with each other on all matters within their respective jurisdictions related to aeronautical and space activities and shall keep each other fully and currently informed with respect to such activities.

(b) REFERRAL TO THE PRESIDENT.—If the Secretary of Defense concludes that any request, action, proposed action, or failure to act on the part of the Administrator is adverse to the responsibilities of the Department of Defense, or the Administrator concludes that any request, action, proposed action, or failure to act on the part of the Department of Defense is adverse to the responsibilities of the Administration, and the Administrator and the Secretary of Defense are unable to reach an agreement with respect to the matter, either the Administrator or the Secretary of Defense may refer the matter to the President for a decision (which shall be final).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3336.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20114(a)	42 U.S.C. 2474(b).	Pub. L. 85–568, title II, § 204(b), (c), July 29, 1958, 72 Stat. 431.
20114(b)	42 U.S.C. 2474(c).	

In subsection (a), the words "through the President" are substituted for "through the Liaison Committee" because the Civilian-Military Liaison Committee, which was established by section 204(a) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2474(a)), was abolished and its functions, together with the functions of its chairman and other officers, were transferred to the President by sections 1(e) and 3(a) of Reorganization Plan No. 4 of 1965 (5 App. U.S.C.).

In subsection (b), the words "as provided in section 201(e)", which appeared at the end of the subsection, are omitted as obsolete. Section 201 of Public Law 85-568, which was classified to former section 2471 of title 42 (last appearing in the 1970 edition of the United States Code), established the National Aeronautics and Space Council, with the functions of the Council specified in section 201(e). Those functions included advising the President "as he may request" with respect to promoting cooperation and resolving differences among agencies of the United States engaged in aeronautical and space activities. The words are obsolete because section 3(a)(4) of Reorganization Plan No. 1 of 1973 (5 App. U.S.C.),

abolished the National Aeronautics and Space Council, including the office of Executive Secretary of the Council, together with its functions.

§ 20115. International cooperation

The Administration, under the foreign policy guidance of the President, may engage in a program of international cooperation in work done pursuant to this chapter, and in the peaceful application of the results thereof, pursuant to agreements made by the President with the advice and consent of the Senate.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3337.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20115	42 U.S.C. 2475.	Pub. L. 85–568, title II, § 205, July 29, 1958, 72 Stat. 432.

DELEGATION OF AUTHORITY

Memorandum of President of the United States, Oct. 10, 1995, 60 F.R. 53251, provided:

Memorandum for the Administrator of the National and Aeronautics and Space Administration

By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to facilitate the efficient operations of the aeronautical and space programs of the National Aeronautics and Space Administration (NASA), it is hereby ordered as follows:

The authority conferred upon the President by the Constitution and the laws of the United States of America to executive mutual waivers of claims of liability on behalf of the United States for damages arising out of cooperative activities is hereby delegated to the Administrator of NASA for agreements with foreign governments and their agents regarding aeronautical, science, and space activities that are executed pursuant to the authority granted NASA by the National Aeronautics and Space Act of 1958, Public Law 85–568, as amended [see 51 U.S.C. 20101 et seq.]. All such agreements shall be subject to coordination with and the concurrence of the Department of State to the extent provided by applicable law, regulations, and procedures. All such waivers of liability entered into prior to the date of this memorandum are hereby ratified.

You are authorized and directed to publish this memorandum in the Federal Register.

WILLIAM J. CLINTON.

§ 20116. Reports to Congress

(a) PRESIDENTIAL REPORT.—The President shall transmit to Congress in May of each year a report, which shall include—

(1) a comprehensive description of the programmed activities and the accomplishments of all agencies of the United States in the field of aeronautics and space activities during the preceding fiscal year; and

(2) an evaluation of such activities and accomplishments in terms of the attainment of, or the failure to attain, the objectives described in section 20102(d) of this title.

(b) RECOMMENDATIONS FOR ADDITIONAL LEGISLATION.—Any report made under this section shall contain such recommendations for additional legislation as the Administrator or the President may consider necessary or desirable for the attainment of the objectives described in section 20102(d) of this title.

(c) CLASSIFIED INFORMATION.—No information that has been classified for reasons of national security shall be included in any report made under this section, unless the information has been declassified by, or pursuant to authorization given by, the President.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3337.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20116	42 U.S.C. 2476.	Pub. L. 85–568, title II, § 206, July 29, 1958, 72 Stat. 432; Pub. L. 92–68, § 7, Aug. 6, 1971, 85 Stat. 177; Pub. L. 106–391, title III, § 302(b), Oct. 30, 2000, 114 Stat. 1591.

In subsections (a)(2) and (b), the words "section 102(c) of this Act", which appear in section 206 of Public Law 85–568 (72 Stat. 432), are treated as referring to section 102(d), rather than section 102(c), of Public Law 85–568 because of the redesignation done by section 110(a)(2) of the National Aeronautics and Space Administration Authorization Act, 1985 (Public Law 98–361, 98 Stat. 426). Section 102(d) of Public Law 85–568 is restated as section 20102(d) of title 51.

DELEGATION OF CERTAIN REPORTING AUTHORITY

Memorandum of President of the United States, Mar. 5, 2004, 69 F.R. 11489, provided:

Memorandum for the Administrator of the National Aeronautics and Space Administration

By the authority vested in me as President by the Constitution and the laws of the United States, including section 301 of title 3, United States Code, I hereby delegate to you the functions conferred upon the President by section 206 of the National Aeronautics and Space Act of 1958, as amended ([former] 42 U.S.C. 2476) [now 51 U.S.C. 20116], to provide the specified report to the Congress. Nothing in this delegation shall be construed to impair or otherwise affect the authority of the Director of the Office of Management and Budget with respect to budget, administrative, and legislative proposals.

You are authorized and directed to publish this memorandum in the Federal Register.

GEORGE W. BUSH.

§ 20117. Disposal of excess land

Notwithstanding the provisions of this or any other law, the Administration may not report to a disposal agency as excess to the

needs of the Administration any land having an estimated value in excess of $50,000 that is owned by the United States and under the jurisdiction and control of the Administration, unless—

(1) a period of 30 days has passed after the receipt by the Speaker and the Committee on Science and Technology of the House of Representatives and the President and the Committee on Commerce, Science, and Transportation of the Senate of a report by the Administrator or the Administrator's designee containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such action; or

(2) each such committee before the expiration of that period has transmitted to the Administrator written notice to the effect that the committee has no objection to the proposed action.

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3337.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20117	42 U.S.C. 2476a.	Pub. L. 85–568, title II, § 207, as added Pub. L. 93–74, § 7, July 23, 1973, 87 Stat. 175; amended Pub. L. 103–437, § 15(j), Nov. 2, 1994, 108 Stat. 4593

In paragraph (1), the words "Committee on Science and Technology" are substituted for "Committee on Science, Space, and Technology" on authority of section 1(a)(10) of Public Law 104–14 (2 U.S.C. note prec. 21), Rule X(1)(n) of the Rules of the House of Representatives, adopted by House Resolution No. 5 (106th Congress, January 6, 1999), and Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

Subchapter III—General Administrative Provisions

§ 20131. Public access to information

(a) PUBLIC INSPECTION.—Information obtained or developed by the Administrator in the performance of the Administrator's functions under this chapter shall be made available for public inspection, except information—

(1) authorized or required by Federal statute to be withheld;

(2) classified to protect the national security; or

(3) described in subsection (b).

(b) SPECIAL HANDLING OF TRADE SECRET OR CONFIDENTIAL INFORMATION.—

(1) IN GENERAL.—The Administrator, for a period of up to 5 years after the development of information described in paragraph (2), may provide appropriate protections against the dis-

semination of such information, including exemption from subchapter II of chapter 5 of title 5.

(2) INFORMATION DESCRIBED.—Information referred to in paragraph (1) is information that results from activities conducted under an agreement entered into under subsections (e) and (f) of section 20113 of this title, and that would be a trade secret or commercial or financial information that is privileged or confidential under the meaning of section 552(b)(4) of title 5 if the information had been obtained from a non-Federal party participating in such an agreement.

(c) COMMITTEES OF CONGRESS.—Nothing in this chapter authorizes the withholding of information by the Administrator from the duly authorized committees of Congress.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3338.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20131(a)	42 U.S.C. 2454(a) (words before proviso).	Pub. L. 85–568, title III, § 303, July 29, 1958, 72 Stat. 433; Pub. L. 102–588, title V, § 509, Nov. 4, 1992, 106 Stat. 5129.
20131(b)	42 U.S.C. 2454(b).	
20131(c)	42 U.S.C. 2454(a) (proviso).	

§ 20132. Security requirements

The Administrator shall establish such security requirements, restrictions, and safeguards as the Administrator deems necessary in the interest of the national security. The Administrator may arrange with the Director of the Office of Personnel Management for the conduct of such security or other personnel investigations of the Administration's officers, employees, and consultants, and its contractors and subcontractors and their officers and employees, actual or prospective, as the Administrator deems appropriate. If any such investigation develops any data reflecting that the individual who is the subject of the investigation is of questionable loyalty, the matter shall be referred to the Federal Bureau of Investigation for the conduct of a full field investigation, the results of which shall be furnished to the Administrator. (Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3338.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20132	42 U.S.C. 2455(a).	Pub. L. 85–568, title III, § 304(a), July 29, 1958, 72 Stat. 433; 1978 Reorg. Plan No. 2, § 102, eff. Jan. 1, 1979, 43 F.R. 36037, 92 Stat. 3783.

The words "Director of the Office of Personnel Management" are substituted for "Civil Service Commission" because of section 102 of Reorganization Plan No. 2 of 1978 (5 App U.S.C.).

ACCESS TO RESTRICTED DATA

Pub. L. 85–568, title III, § 304(b), July 29, 1958, 72 Stat. 434, provided that: "The Atomic Energy Commission may authorize any

of its employees, or employees of any contractor, prospective contractor, licensee, or prospective licensee of the Atomic Energy Commission or any other person authorized to have access to Restricted Data by the Atomic Energy Commission under subsection 145 b. of the Atomic Energy Act of 1954 (42 U.S.C. 2165(b)), to permit any member, officer, or employee of the Council [National Aeronautics and Space Council], or the Administrator [of the National Aeronautics and Space Administration], or any officer, employee, member of an advisory committee, contractor, subcontractor, or officer or employee of a contractor or subcontractor of the Administration [National Aeronautics and Space Administration], to have access to Restricted Data relating to aeronautical and space activities which is required in the performance of his duties and so certified by the Council or the Administrator, as the case may be, but only if (1) the Council or Administrator or designee thereof has determined, in accordance with the established personnel security procedures and standards of the Council or Administration, that permitting such individual to have access to such Restricted Data will not endanger the common defense and security, and (2) the Council or Administrator or designee thereof finds that the established personnel and other security procedures and standards of the Council or Administration are adequate and in reasonable conformity to the standards established by the Atomic Energy Commission under section 145 of the Atomic Energy Act of 1954 (42 U.S.C. 2165). Any individual granted access to such Restricted Data pursuant to this subsection may exchange such Data with any individual who (A) is an officer or employee of the Department of Defense, or any department or agency thereof, or a member of the armed forces, or a contractor or subcontractor of any such department, agency, or armed force, or an officer or employee of any such contractor or subcontractor, and (B) has been authorized to have access to Restricted Data under the provisions of section 143 of the Atomic Energy Act of 1954 (42 U.S.C. 2163)."

[Atomic Energy Commission abolished and functions transferred by sections 5814 and 5841 of Title 42, The Public Health and Welfare. See also Transfer of Functions notes set out under those sections.]

[National Aeronautics and Space Council, together with functions of Council, abolished by section 3(a)(4) of Reorg. Plan No. 1 of 1973, effective July 1, 1973, set out in the Appendix to Title 5, Government Organization and Employees.]

§ 20133. Permission to carry firearms

As the Administrator deems necessary in the public interest, the Administrator may—

(1) direct officers and employees of the Administration to carry firearms while in the conduct of their official duties; and

(2) authorize employees of contractors and subcontractors of the Administration who are engaged in the protection of property owned by the United States, and located at facilities owned by or contracted to the United States, to carry firearms while in the conduct of their official duties.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3338.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20133	42 U.S.C. 2456.	Pub. L. 85–568, title III, § 304(e), July 29, 1958, 72 Stat. 435.

§ 20134. Arrest authority

Under regulations prescribed by the Administrator and approved by the Attorney General, employees of the Administration and of its contractors and subcontractors authorized to carry firearms under section 20133 of this title may arrest without warrant for any offense against the United States committed in their presence, or for any felony cognizable under the laws of the United States if they have reasonable grounds to believe that the person to be arrested has committed or is committing such felony. Persons granted authority to make arrests by this section may exercise that authority only while guarding and protecting property owned or leased by, or under the control of, the United States under the administration and control of the Administration or one of its contractors or subcontractors, at facilities owned by or contracted to the Administration.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3339.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20134	42 U.S.C. 2456a.	Pub. L. 85–568, title III, § 304(f), as added Pub. L. 100–685, title II, § 206, Nov. 17, 1988, 102 Stat. 4090.

§ 20135. Property rights in inventions

(a) DEFINITIONS.—In this section:

(1) CONTRACT.—The term "contract" means any actual or proposed contract, agreement, understanding, or other arrangement, and includes any assignment, substitution of parties, or subcontract executed or entered into thereunder.

(2) MADE.—The term "made", when used in relation to any invention, means the conception or first actual reduction to practice of such invention.

(3) PERSON.—The term "person" means any individual, partnership, corporation, association, institution, or other entity.

(b) EXCLUSIVE PROPERTY OF UNITED STATES.—

(1) IN GENERAL.—An invention shall be the exclusive property of the United States if it is made in the performance of any work under any contract of the Administration, and the Administrator determines that—

(A) the person who made the invention was employed or assigned to perform research, development, or exploration work and the invention is related to the work the person was employed or assigned to perform, or was within the scope of the person's employment duties, whether or not it was made during working hours, or with a contribution by the Government of the use of Government facilities, equipment, materials, allo-

cated funds, information proprietary to the Government, or services of Government employees during working hours; or

(B) the person who made the invention was not employed or assigned to perform research, development, or exploration work, but the invention is nevertheless related to the contract, or to the work or duties the person was employed or assigned to perform, and was made during working hours, or with a contribution from the Government of the sort referred to in subparagraph (A).

(2) PATENT TO UNITED STATES.—If an invention is the exclusive property of the United States under paragraph (1), and if such invention is patentable, a patent therefor shall be issued to the United States upon application made by the Administrator, unless the Administrator waives all or any part of the rights of the United States to such invention in conformity with the provisions of subsection (g).

(c) CONTRACT PROVISIONS FOR FURNISHING REPORTS OF INVENTIONS, DISCOVERIES, IMPROVEMENTS, OR INNOVATIONS.—Each contract entered into by the Administrator with any party for the performance of any work shall contain effective provisions under which the party shall furnish promptly to the Administrator a written report containing full and complete technical information concerning any invention, discovery, improvement, or innovation which may be made in the performance of any such work.

(d) PATENT APPLICATION.—No patent may be issued to any applicant other than the Administrator for any invention which appears to the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office (hereafter in this section referred to as the "Director") to have significant utility in the conduct of aeronautical and space activities unless the applicant files with the Director, with the application or within 30 days after request therefor by the Director, a written statement executed under oath setting forth the full facts concerning the circumstances under which the invention was made and stating the relationship (if any) of the invention to the performance of any work under any contract of the Administration. Copies of each such statement and the application to which it relates shall be transmitted forthwith by the Director to the Administrator.

(e) ISSUANCE OF PATENT TO APPLICANT.—Upon any application as to which any such statement has been transmitted to the Administrator, the Director may, if the invention is patentable, issue a patent to the applicant unless the Administrator, within 90 days after receipt of the application and statement, requests that the patent be issued to the Administrator on behalf of the United States. If, within such time, the Administrator files such a request with the Director, the Director shall transmit notice thereof to the applicant, and shall issue such patent to the Administrator unless the applicant within 30 days after receipt of the notice requests a hearing before the Patent Trial and Appeal Board on the question whether the Administrator is entitled under this section to receive the patent. The Board may hear and determine, in accordance with rules and procedures established for interference and derivation cases, the question so presented, and its determination shall be subject to

appeal by the applicant or by the Administrator to the United States Court of Appeals for the Federal Circuit in accordance with procedures governing appeals from decisions of the Patent Trial and Appeal Board in other proceedings.

(f) SUBSEQUENT TRANSFER OF PATENT IN CASE OF FALSE REPRESENTATIONS.—Whenever a patent has been issued to an applicant in conformity with subsection (e), and the Administrator thereafter has reason to believe that the statement filed by the applicant in connection with the patent contained a false representation of a material fact, the Administrator, within 5 years after the date of issuance of the patent, may file with the Director a request for the transfer to the Administrator of title to the patent on the records of the Director. Notice of any such request shall be transmitted by the Director to the owner of record of the patent, and title to the patent shall be so transferred to the Administrator unless, within 30 days after receipt of notice, the owner of record requests a hearing before the Patent Trial and Appeal Board on the question whether any such false representation was contained in the statement filed in connection with the patent. The question shall be heard and determined, and the determination shall be subject to review, in the manner prescribed by subsection (e) for questions arising thereunder. A request made by the Administrator under this subsection for the transfer of title to a patent, and prosecution for the violation of any criminal statute, shall not be barred by the failure of the Administrator to make a request under subsection (e) for the issuance of the patent to the Administrator, or by any notice previously given by the Administrator stating that the Administrator had no objection to the issuance of the patent to the applicant.

(g) WAIVER OF RIGHTS TO INVENTIONS.—Under such regulations in conformity with this subsection as the Administrator shall prescribe, the Administrator may waive all or any part of the rights of the United States under this section with respect to any invention or class of inventions made or which may be made by any person or class of persons in the performance of any work required by any contract of the Administration if the Administrator determines that the interests of the United States will be served thereby. Any such waiver may be made upon such terms and under such conditions as the Administrator shall determine to be required for the protection of the interests of the United States. Each such waiver made with respect to any invention shall be subject to the reservation by the Administrator of an irrevocable, nonexclusive, nontransferable, royalty-free license for the practice of such invention throughout the world by or on behalf of the United States or any foreign government pursuant to any treaty or agreement with the United States. Each proposal for any waiver under this subsection shall be referred to an Inventions and Contributions Board which shall be established by the Administrator within the Administration. Such Board shall accord to each interested party an opportunity for hearing, and shall transmit to the Administrator its findings of fact with respect to such proposal and its recommendations for action to be taken with respect thereto.

(h) PROTECTION OF TITLE.—The Administrator is authorized to take all suitable and necessary steps to protect any invention or

discovery to which the Administrator has title, and to require contractors or persons who retain title to inventions or discoveries under this section to protect the inventions or discoveries to which the Administration has or may acquire a license of use.

(i) ADMINISTRATION AS DEFENSE AGENCY.—The Administration shall be considered a defense agency of the United States for the purpose of chapter 17 of title 35.

(j) OBJECTS INTENDED FOR LAUNCH, LAUNCHED, OR ASSEMBLED IN OUTER SPACE.—Any object intended for launch, launched, or assembled in outer space shall be considered a vehicle for the purpose of section 272 of title 35.

(k) USE OR MANUFACTURE OF PATENTED INVENTIONS INCORPORATED IN SPACE VEHICLES LAUNCHED FOR PERSONS OTHER THAN UNITED STATES.—The use or manufacture of any patented invention incorporated in a space vehicle launched by the United States Government for a person other than the United States shall not be considered to be a use or manufacture by or for the United States within the meaning of section 1498(a) of title 28, unless the Administration gives an express authorization or consent for such use or manufacture.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3339; Pub. L. 112–29, § 7(d)(2), Sept. 16, 2011, 125 Stat. 315.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20135	42 U.S.C. 2457.	Pub. L. 85–568, title III, § 305, July 29, 1958, 72 Stat. 435; Pub. L. 96–517, § 7, Dec. 21, 1981, 95 Stat. 1210; Pub. L. 97–164, title I, § 162(3), Apr. 2, 1982, 96 Stat. 49; Pub. L. 98–622, title II, § 205(c), Nov. 8, 1984, 98 Stat. 3388; Pub. L. 106–113, div. B, § 1000(a)(9) [title IV, § 4732(b)(20)], Nov. 29, 1999, 113 Stat. 1536, 1501A–55.

AMENDMENTS

2011—Subsec. (e). Pub. L. 112-29 substituted "Patent Trial and Appeal Board" for "Board of Patent Appeals and Interferences'" in two places and inserted "and derivation" after "established for interference".

Subsec. (f). Pub. L. 112–29, 7(d)(2)(A), substituted "Patent Trial and Appeal Board" for "Board of Patent Appeals and Interferences".

EFFECTIVE DATE OF 2011 AMENDMENT

Amendment by Pub. L. 112–29 effective upon the expiration of the 1-year period beginning on Sept. 16, 2011, and applicable to proceedings commenced on or after that effective date, with certain exceptions, see section 7(e) of Pub. L. 112–29, set out as a note under section 6 of Title 35, Patents.

§ 20136. Contributions awards

(a) APPLICATIONS.—Subject to the provisions of this section, the Administrator is authorized, on the Administrator's own initiative

or on application of any person, to make a monetary award, in an amount and on terms the Administrator determines to be warranted, to any person (as defined by section 20135(a) of this title) for any scientific or technical contribution to the Administration which is determined by the Administrator to have significant value in the conduct of aeronautical and space activities. Each application made for such an award shall be referred to the Inventions and Contributions Board established under section 20135 of this title. Such Board shall accord to each applicant an opportunity for hearing on the application, and shall transmit to the Administrator its recommendation as to the terms of the award, if any, to be made to the applicant for the contribution. In determining the terms and conditions of an award the Administrator shall take into account—

(1) the value of the contribution to the United States;

(2) the aggregate amount of any sums which have been expended by the applicant for the development of the contribution;

(3) the amount of any compensation (other than salary received for services rendered as an officer or employee of the Government) previously received by the applicant for or on account of the use of the contribution by the United States; and

(4) any other factors the Administrator determines to be material.

(b) APPORTIONMENT OF AWARDS.—If more than one applicant under subsection (a) claims an interest in the same contribution, the Administrator shall ascertain and determine the respective interests of the applicants, and shall apportion any award to be made among the applicants in amounts the Administrator determines to be equitable.

(c) SURRENDER OF OTHER CLAIMS.—No award may be made under subsection (a) unless the applicant surrenders, by means the Administrator determines to be effective, all claims that the applicant may have to receive any compensation (other than the award made under this section) for the use of the contribution or any element thereof at any time by or on behalf of the United States, or by or on behalf of any foreign government pursuant to a treaty or agreement with the United States, within the United States or at any other place.

(d) REPORT AND WAITING PERIOD.—No award may be made under subsection (a) in an amount exceeding $100,000 unless the Administrator transmits to the appropriate committees of Congress a full and complete report concerning the amount and terms of, and the basis for, the proposed award, and a period of 30 calendar days of regular session of Congress expires after receipt of the report by the committees.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3342.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20136(a)	42 U.S.C. 2458(a).	Pub. L. 85–568, title III, § 306, July 29, 1958, 72 Stat. 437.

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20136(b)	42 U.S.C. 2458(b) (1st sentence).	
20136(c)	42 U.S.C. 2458(b) (par. (1) of last sentence).	
20136(d)	42 U.S.C. 2458(b) (par. (2) of last sentence).	

In subsections (c) and (d), the words "No award may be made under subsection (a)" are substituted for "No award may be made under subsection (a) with respect to any contribution" for clarity and to eliminate unnecessary words.

§ 20137. Malpractice and negligence suits against United States

(a) EXCLUSIVE REMEDY.—The remedy against the United States provided by sections 1346(b) and 2672 of title 28, for damages for personal injury, including death, caused by the negligent or wrongful act or omission of any physician, dentist, nurse, pharmacist, or paramedical or other supporting personnel (including medical and dental technicians, nursing assistants, and therapists) of the Administration in the performance of medical, dental, or related health care functions (including clinical studies and investigations) while acting within the scope of such person's duties or employment therein or therefor shall be exclusive of any other civil action or proceeding by reason of the same subject matter against such person (or the estate of such person) whose act or omission gave rise to the action or proceeding.

(b) ATTORNEY GENERAL TO DEFEND ANY CIVIL ACTION OR PROCEEDING FOR MALPRACTICE OR NEGLIGENCE.—The Attorney General shall defend any civil action or proceeding brought in any court against any person referred to in subsection (a) (or the estate of such person) for any such injury. Any such person against whom such civil action or proceeding is brought shall deliver within such time after date of service or knowledge of service as determined by the Attorney General, all process served upon such person or an attested true copy thereof to such person's immediate superior or to whomever was designated by the Administrator to receive such papers. Such person shall promptly furnish copies of the pleading and process therein to the United States Attorney for the district embracing the place wherein the proceeding is brought, to the Attorney General, and to the Administrator.

(c) REMOVAL OF ACTIONS.—Upon a certification by the Attorney General that any person described in subsection (a) was acting in the scope of such person's duties or employment at the time of the incident out of which the suit arose, any such civil action or proceeding commenced in a State court shall be removed without bond at any time before trial by the Attorney General to the district court of the United States of the district and division embracing the place wherein it is pending and the proceeding deemed a tort action brought against the United States under the provisions of title 28, and all references thereto. Should a district court of the United States determine, on a hearing on a motion to remand held before a trial on the merits, that the case so removed is one in which a remedy by suit within the meaning of subsection (a) is not

available against the United States, the case shall be remanded to the State court.

(d) COMPROMISE OR SETTLEMENT OF CLAIMS.—The Attorney General may compromise or settle any claim asserted in such civil action or proceeding in the manner provided in section 2677 of title 28, and with the same effect.

(e) APPLICABILITY OF OTHER PROVISIONS OF LAW.—For purposes of this section, the provisions of section 2680(h) of title 28 shall not apply to any cause of action arising out of a negligent or wrongful act or omission in the performance of medical, dental, or related health care functions (including clinical studies and investigations).

(f) LIABILITY INSURANCE FOR PERSONS ASSIGNED TO FOREIGN COUNTRIES OR NON-FEDERAL AGENCIES.—The Administrator or the Administrator's designee may, to the extent that the Administrator or the designee deems appropriate, hold harmless or provide liability insurance for any person described in subsection (a) for damages for personal injury, including death, caused by such person's negligent or wrongful act or omission in the performance of medical, dental, or related health care functions (including clinical studies and investigations) while acting within the scope of such person's duties if such person is assigned to a foreign country or detailed for service with other than a Federal department, agency, or instrumentality or if the circumstances are such as are likely to preclude the remedies of third persons against the United States described in section 2679(b) of title 28, for such damage or injury.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3343.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20137	42 U.S.C. 2458a.	Pub. L. 85–568, title III, § 307, as added Pub. L. 94–464, § 3, Oct. 8, 1976, 90 Stat. 1988.

In subsection (a), the word "hereafter" is omitted as unnecessary.

In subsection (b), in the last sentence, commas are added after "brought" and "Attorney General" for clarity.

In subsection (e), the words "wrongful act or omission" are substituted for "wrongful act of omission" to correct an error in the law.

§ 20138. Insurance and indemnification

(a) DEFINITIONS.—In this section:

(1) SPACE VEHICLE.—The term "space vehicle" means an object intended for launch, launched, or assembled in outer space, including the space shuttle and other components of a space transportation system, together with related equipment, devices, components, and parts.

(2) THIRD PARTY.—The term "third party" means any person who may institute a claim against a user for death, bodily injury, or loss of or damage to property.

(3) USER.—The term "user" includes anyone who enters into an agreement with the Administration for use of all or a portion of a space vehicle, who owns or provides property to be

flown on a space vehicle, or who employs a person to be flown on a space vehicle.

(b) AUTHORIZATION.—The Administration is authorized on such terms and to the extent it may deem appropriate to provide liability insurance for any user of a space vehicle to compensate all or a portion of claims by third parties for death, bodily injury, or loss of or damage to property resulting from activities carried on in connection with the launch, operations, or recovery of the space vehicle. Appropriations available to the Administration may be used to acquire such insurance, but such appropriations shall be reimbursed to the maximum extent practicable by the users under reimbursement policies established pursuant to section 20113 of this title.

(c) INDEMNIFICATION.—Under such regulations in conformity with this section as the Administrator shall prescribe taking into account the availability, cost, and terms of liability insurance, any agreement between the Administration and a user of a space vehicle may provide that the United States will indemnify the user against claims (including reasonable expenses of litigation or settlement) by third parties for death, bodily injury, or loss of or damage to property resulting from activities carried on in connection with the launch, operations, or recovery of the space vehicle, but only to the extent that such claims are not compensated by liability insurance of the user. Such indemnification may be limited to claims resulting from other than the actual negligence or willful misconduct of the user.

(d) TERMS OF INDEMNIFICATION AGREEMENT.—An agreement made under subsection (c) that provides indemnification must also provide for—

(1) notice to the United States of any claim or suit against the user for the death, bodily injury, or loss of or damage to the property; and

(2) control of or assistance in the defense by the United States, at its election, of that suit or claim.

(e) CERTIFICATION OF JUST AND REASONABLE AMOUNT.—No payment may be made under subsection (c) unless the Administrator or the Administrator's designee certifies that the amount is just and reasonable.

(f) PAYMENTS.—Upon the approval by the Administrator, payments under subsection (c) may be made, at the Administrator's election, either from funds available for research and development not otherwise obligated or from funds appropriated for such payments.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3344.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20138	42 U.S.C. 2458b.	Pub. L. 85–568, title III, § 308, as added Pub. L. 96–48, § 6, (b)(2), Aug. 8, 1979, 93 Stat. 348.

§ 20139. Insurance for experimental aerospace vehicles

(a) DEFINITIONS.—In this section:

(1) COOPERATING PARTY.—The term "cooperating party" means any person who enters into an agreement with the Administration for the performance of cooperative scientific, aeronautical, or space activities to carry out the purposes of this chapter.

(2) DEVELOPER.—The term "developer" means a United States person (other than a natural person) who—

(A) is a party to an agreement with the Administration for the purpose of developing new technology for an experimental aerospace vehicle;

(B) owns or provides property to be flown or situated on that vehicle; or

(C) employs a natural person to be flown on that vehicle.

(3) EXPERIMENTAL AEROSPACE VEHICLE.—The term "experimental aerospace vehicle" means an object intended to be flown in, or launched into, orbital or suborbital flight for the purpose of demonstrating technologies necessary for a reusable launch vehicle, developed under an agreement between the Administration and a developer.

(4) RELATED ENTITY.—The term "related entity" includes a contractor or subcontractor at any tier, a supplier, a grantee, and an investigator or detailee.

(b) IN GENERAL.—The Administrator may provide liability insurance for, or indemnification to, the developer of an experimental aerospace vehicle developed or used in execution of an agreement between the Administration and the developer.

(c) TERMS AND CONDITIONS.—

(1) IN GENERAL.—Except as otherwise provided in this section, the insurance and indemnification provided by the Administration under subsection (b) to a developer shall be provided on the same terms and conditions as insurance and indemnification is provided by the Administration under section 20138 of this title to the user of a space vehicle.

(2) INSURANCE.—

(A) IN GENERAL.—A developer shall obtain liability insurance or demonstrate financial responsibility in amounts to compensate for the maximum probable loss from claims by—

(i) a third party for death, bodily injury, or property damage, or loss resulting from an activity carried out in connection with the development or use of an experimental aerospace vehicle; and

(ii) the United States Government for damage or loss to Government property resulting from such an activity.

(B) MAXIMUM REQUIRED.—The Administrator shall determine the amount of insurance required, but, except as provided in subparagraph (C), that amount shall not be greater than the amount required under section 50914(a)(3) of this title for a launch. The Administrator shall publish notice of the Administrator's determination and the applicable amount or amounts in the Federal Register within 10 days after making the determination.

(C) INCREASE IN DOLLAR AMOUNTS.—The Administrator may increase the dollar amounts set forth in section 50914(a)(3)(A) of this title for the purpose of applying that section under this section to a developer after consultation with the Comptroller General and such experts and consultants as may be appropriate, and after publishing notice of the increase in the Federal Register not less than 180 days before the increase goes into effect. The Administrator shall make available for public inspection, not later than the date of publication of such notice, a complete record of any correspondence received by the Administration, and a transcript of any meetings in which the Administration participated, regarding the proposed increase.

(D) SAFETY REVIEW REQUIRED BEFORE ADMINISTRATOR PROVIDES INSURANCE.—The Administrator may not provide liability insurance or indemnification under subsection (b) unless the developer establishes to the satisfaction of the Administrator that appropriate safety procedures and practices are being followed in the development of the experimental aerospace vehicle.

(3) NO INDEMNIFICATION WITHOUT CROSS-WAIVER.—Notwithstanding subsection (b), the Administrator may not indemnify a developer of an experimental aerospace vehicle under this section unless there is an agreement between the Administration and the developer described in subsection (d).

(4) APPLICATION OF CERTAIN PROCEDURES.—If the Administrator requests additional appropriations to make payments under this section, like the payments that may be made under section 20138(c) of this title, then the request for those appropriations shall be made in accordance with the procedures established by subsections (d) and (e) of section 50915 of this title.

(d) CROSS-WAIVERS.—

(1) ADMINISTRATOR AUTHORIZED TO WAIVE.—The Administrator, on behalf of the United States, and its departments, agencies, and instrumentalities, may reciprocally waive claims with a developer or cooperating party and with the related entities of that developer or cooperating party under which each party to the waiver agrees to be responsible, and agrees to ensure that its own related entities are responsible, for damage or loss to its property for which it is responsible, or for losses resulting from any injury or death sustained by its own employees or agents, as a result of activities connected to the agreement or use of the experimental aerospace vehicle.

(2) LIMITATIONS.—

(A) CLAIMS.—A reciprocal waiver under paragraph (1) may not preclude a claim by any natural person (including, but not limited to, a natural person who is an employee of the United States, the developer, the cooperating party, or their respective subcontractors) or that natural person's estate, survivors, or subrogees for injury or death, except with respect to a subrogee that is a party to the waiver or has otherwise agreed to be bound by the terms of the waiver.

(B) LIABILITY FOR NEGLIGENCE.—A reciprocal waiver under paragraph (1) may not absolve any party of liability to any natural person (including, but not limited to, a natural person who is an employee of the United States, the developer, the cooperating party, or their respective subcontractors) or such a natural person's estate, survivors, or subrogees for negligence, except with respect to a subrogee that is a party to the waiver or has otherwise agreed to be bound by the terms of the waiver.

(C) INDEMNIFICATION FOR DAMAGES.—A reciprocal waiver under paragraph (1) may not be used as the basis of a claim by the Administration, or the developer or cooperating party, for indemnification against the other for damages paid to a natural person, or that natural person's estate, survivors, or subrogees, for injury or death sustained by that natural person as a result of activities connected to the agreement or use of the experimental aerospace vehicle.

(D) WILLFUL MISCONDUCT.—A reciprocal waiver under paragraph (1) may not relieve the United States, the developer, the cooperating party, or the related entities of the developer or cooperating party, of liability for damage or loss resulting from willful misconduct.

(3) EFFECT ON PREVIOUS WAIVERS.—This subsection applies to any waiver of claims entered into by the Administration without regard to the date on which the Administration entered into the waiver.

(e) RELATIONSHIP TO OTHER LAWS.—

(1) SECTION 20138.—This section does not apply to any object, transaction, or operation to which section 20138 of this title applies.

(2) SECTION 50919(g)(1).—The Administrator may not provide indemnification to a developer under this section for launches subject to license under section 50919(g)(1) of this title.

(f) TERMINATION.—

(1) IN GENERAL.—The provisions of this section shall terminate on December 31, 2010.

(2) EFFECT OF TERMINATION ON AGREEMENT.—The termination of this section shall not terminate or otherwise affect any cross-waiver agreement, insurance agreement, indemnification agreement, or other agreement entered into under this section, except as may be provided in that agreement.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3345.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20139	42 U.S.C. 2458c.	Pub. L. 85–568, title III, § 309, formerly title III, as added Pub. L. 106–74, title IV, § 435(a), Oct. 20, 1909, 113 Stat. 1097; designated § 309 and amended Pub. L. 106–391, title III, § 324(a)(2), (b), Oct. 30, 2000, 114 Stat. 1599, 1600; Pub. L. 109–155, title VII, § 702, Dec. 30, 2005, 119 stat. 2936.

In subsection (d)(3), the words "without regard to the date on which the Administration entered into the waiver" are substituted for "without regard to whether it was entered into before, on, or after the date of enactment of this Act" to avoid an ambiguity in the law. Literally, the words "the date of enactment of this Act" mean July 29, 1958, the date of enactment of Public Law 85–568. However, the intended meaning of the words "the date of enactment of this Act" is probably October 20, 1999, the date of enactment of Public Law 106–74. The question as to which date is actually intended is rendered inconsequential by the words "before, on, or after".

§ 20140. Appropriations

(a) AUTHORIZATION.—

(1) IN GENERAL.—There are authorized to be appropriated such sums as may be necessary to carry out this chapter, except that nothing in this chapter shall authorize the appropriation of any amount for—

(A) the acquisition or condemnation of any real property; or

(B) any other item of a capital nature (such as plant or facility acquisition, construction, or expansion) which exceeds $250,000.

(2) AVAILABILITY.—Sums appropriated pursuant to this subsection for the construction of facilities, or for research and development activities, shall remain available until expended.

(b) USE OF FUNDS FOR EMERGENCY REPAIRS OF EXISTING FACILITIES.—Any funds appropriated for the construction of facilities may be used for emergency repairs of existing facilities when such existing facilities are made inoperative by major breakdown, accident, or other circumstances and such repairs are deemed by the Administrator to be of greater urgency than the construction of new facilities.

(c) TERMINATION.—Notwithstanding any other provision of law, the authorization of any appropriation to the Administration shall expire (unless an earlier expiration is specifically provided) at the close of the third fiscal year following the fiscal year in which the authorization was enacted, to the extent that such appropriation has not theretofore actually been made.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3347.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20140	42 U.S.C. 2459.	Pub. L. 85–568, title III, § 310, formerly § 307, July 29, 1958, 72 Stat. 438; Pub. L. 88–113, § 6, Sept. 6, 1963, 77 Stat. 144; renumbered § 308, Pub. L., 94–464, § 3, Oct. 8, 1976, 90 Stat. 1988; renumbered § 309, Pub. L., 96–48, § 6(b)(1), Aug. 8, 1979, 93 Stat. 348; renumbered § 310, Pub. L., 106–391, title III, § 324(a)(1), Oct. 30, 2000, 114 Stat. 1599.

§ 20141. Misuse of agency name and initials

(a) IN GENERAL.—No person (as defined by section 20135(a) of this title) may knowingly use the words "National Aeronautics and Space Administration" or the letters "NASA", or any combination, variation, or colorable imitation of those words or letters either alone or in combination with other words or letters—

(1) as a firm or business name in a manner reasonably calculated to convey the impression that the firm or business has some connection with, endorsement of, or authorization from, the Administration which does not, in fact, exist; or

(2) in connection with any product or service being offered or made available to the public in a manner reasonably calculated to convey the impression that the product or service has the authorization, support, sponsorship, or endorsement of, or the development, use, or manufacture by or on behalf of the Administration which does not, in fact, exist.

(b) CIVIL PROCEEDING TO ENJOIN.—Whenever it appears to the Attorney General that any person is engaged in an act or practice which constitutes or will constitute conduct prohibited by subsection (a), the Attorney General may initiate a civil proceeding in a district court of the United States to enjoin such act or practice.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3348.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20141	42 U.S.C. 2459b.	Pub. L. 85–568, title III, § 311, formerly § 310, as added Pub. L. 98–52, title I, § 107, July 15, 1983, 97 Stat. 284; renumbered § 311, Pub. L. 106–391, title III, § 324(a)(1), Oct. 30, 2000, 114 Stat. 1599.

§ 20142. Contracts regarding expendable launch vehicles

(a) COMMITMENTS BEYOND AVAILABLE APPROPRIATIONS.—The Administrator may enter into contracts for expendable launch vehicle services that are for periods in excess of the period for which funds are otherwise available for obligation, provide for the payment for contingent liability which may accrue in excess of available appropriations in the event the Federal Government for its convenience terminates such contracts, and provide for advance payments reasonably related to launch vehicle and related equipment, fabrication, and acquisition costs, if any such contract limits the amount of the payments that the Government is allowed to make under

such contract to amounts provided in advance in appropriation Acts. Such contracts may be limited to sources within the United States when the Administrator determines that such limitation is in the public interest.

(b) TERMINATION IF FUNDS NOT AVAILABLE.—If funds are not available to continue any such contract, the contract shall be terminated for the convenience of the Government, and the costs of such contract shall be paid from appropriations originally available for performance of the contract, from other unobligated appropriations currently available for the procurement of launch services, or from funds appropriated for such payments.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3348.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20142	42 U.S.C.2459c.	Pub. L. 85–568, title III, § 312, formerly § 311, as added Pub. L. 100–147, title I, § 117, Oct. 30, 1987, 101 Stat. 867; renumbered § 312, Pub. L. 106–391, title III, § 324(a)(1), Oct. 30, 2000, 114 Stat. 1599.

In subsection (a), the word "expendable" is substituted for "expendabe" to correct an error in the law.

§ 20143. Full cost appropriations account structure

(a) ACCOUNTS FOR APPROPRIATIONS.—

(1) DESIGNATION OF 3 ACCOUNTS.—Appropriations for the Administration shall be made in 3 accounts, "Science, Aeronautics, and Education", "Exploration Systems and Space Operations", and an account for amounts appropriated for the necessary expenses of the Office of the Inspector General.

(2) REPROGRAMMING.—Within the Exploration Systems and Space Operations account, no more than 10 percent of the funds for a fiscal year for Exploration Systems may be reprogrammed for Space Operations, and no more than 10 percent of the funds for a fiscal year for Space Operations may be reprogrammed for Exploration Systems. This paragraph shall not apply to reprogramming for the purposes described in subsection (b)(2).

(3) AVAILABILITY.—Appropriations shall remain available for 2 fiscal years, unless otherwise specified in law. Each account shall include the planned full costs of Administration activities.

(b) TRANSFERS AMONG ACCOUNTS.—

(1) IN GENERAL.—To ensure the safe, timely, and successful accomplishment of Administration missions, the Administration may transfer among accounts as necessary, amounts for—

(A) Federal salaries and benefits;

(B) training, travel, and awards;

(C) facility and related costs;

(D) information technology services;

(E) publishing services;

(F) science, engineering, fabricating, and testing services; and

(G) other administrative services.

(2) DISASTER, ACT OF TERRORISM, EMERGENCY RESCUE.—The Administration may also transfer amounts among accounts for the immediate costs of recovering from damage caused by a major disaster (as defined in section 102 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5122)) or by an act of terrorism, or for the immediate costs associated with an emergency rescue of astronauts.

(c) TRANSFER OF UNEXPIRED BALANCES.—The unexpired balances of prior appropriations to the Administration for activities authorized under this chapter may be transferred to the new account established for such activity in subsection (a). Balances so transferred may be merged with funds in the newly established account and thereafter may be accounted for as one fund under the same terms and conditions.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3349.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20143	42 U.S.C. 2459f.	Pub. L. 85–568, title III, § 313, formerly § 312, as added Pub. L. 106–377, § 1(a)(I) [title IV, § 431], Oct. 27, 2000, 114 Stat. 1441, 14414A–56; renumbered § 313 and amended, Pub. L. 108–199, div. G, title IV, § 417, Jan. 23, 2004, 118 Stat. 415; Pub. L. 108–447, div. I, title IV, § 417, Dec. 8, 2004, 118 Stat. 3339; Pub. L. 109–155, title II, § 201, Dec. 30, 2005, 119 Stat. 2915.

In subsection (a)(1), the words "for fiscal year 2007 and thereafter" are omitted as unnecessary.

NOTICE OF REPROGRAMMING OR REORGANIZATION

Pub. L. 106–391, title III, § 311, Oct. 30, 2000, 114 Stat. 1594, provided that:

"(a) NOTICE OF REPROGRAMMING.—If any funds authorized by this Act [see Tables for classification] are subject to a reprogramming action that requires notice to be provided to the Appropriations Committees of the House of Representatives and the Senate, notice of such action shall concurrently be provided to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

"(b) NOTICE OF REORGANIZATION.—The Administrator [of the National Aeronautics and Space Administration] shall provide notice to the Committees on Science [now Science, Space, and Technology] and Appropriations of the House of Representatives, and the Committees on Commerce, Science, and Transportation and Appropriations of the Senate, not later than 30 days before any major reorganization of any program, project, or activity of the National Aeronautics and Space Administration."

§ 20144. Prize authority

(a) IN GENERAL.—The Administration may carry out a program to competitively award cash prizes to stimulate innovation in basic

and applied research, technology development, and prototype demonstration that have the potential for application to the performance of the space and aeronautical activities of the Administration. The Administration may carry out a program to award prizes only in conformity with this section.

(b) TOPICS.—In selecting topics for prize competitions, the Administrator shall consult widely both within and outside the Federal Government, and may empanel advisory committees. The Administrator shall give consideration to prize goals such as the demonstration of the ability to provide energy to the lunar surface from space-based solar power systems, demonstration of innovative near-Earth object survey and deflection strategies, and innovative approaches to improving the safety and efficiency of aviation systems.

(c) ADVERTISING.—The Administrator shall widely advertise prize competitions to encourage participation.

(d) REQUIREMENTS AND REGISTRATION.—For each prize competition, the Administrator shall publish a notice in the Federal Register announcing the subject of the competition, the rules for being eligible to participate in the competition, the amount of the prize, and the basis on which a winner will be selected.

(e) ELIGIBILITY.—To be eligible to win a prize under this section, an individual or entity—

(1) shall have registered to participate in the competition pursuant to any rules promulgated by the Administrator under subsection (d);

(2) shall have complied with all the requirements under this section;

(3) in the case of a private entity, shall be incorporated in and maintain a primary place of business in the United States, and in the case of an individual, whether participating singly or in a group, shall be a citizen or permanent resident of the United States; and

(4) shall not be a Federal entity or Federal employee acting within the scope of their employment.

(f) LIABILITY.—

(1) ASSUMPTION OF RISK.—Registered participants must agree to assume any and all risks and waive claims against the Federal Government and its related entities, except in the case of willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits, whether direct, indirect, or consequential, arising from their participation in a competition, whether such injury, death, damage, or loss arises through negligence or otherwise. For the purposes of this paragraph, the term "related entity" means a contractor or subcontractor at any tier, and a supplier, user, customer, cooperating party, grantee, investigator, or detailee.

(2) LIABILITY INSURANCE.—Participants must obtain liability insurance or demonstrate financial responsibility, in amounts determined by the Administrator, for claims by—

(A) a third party for death, bodily injury, or property damage, or loss resulting from an activity carried out in connection with participation in a competition, with the Federal Government named as an additional insured under the registered participant's insurance policy and

registered participants agreeing to indemnify the Federal Government against third party claims for damages arising from or related to competition activities; and

(B) the Federal Government for damage or loss to Government property resulting from such an activity.

(g) JUDGES.—For each competition, the Administration, either directly or through an agreement under subsection (h), shall assemble a panel of qualified judges to select the winner or winners of the prize competition on the basis described pursuant to subsection (d). Judges for each competition shall include individuals from outside the Administration, including from the private sector. A judge may not—

(1) have personal or financial interests in, or be an employee, officer, director, or agent of any entity that is a registered participant in a competition; or

(2) have a familial or financial relationship with an individual who is a registered participant.

(h) ADMINISTERING THE COMPETITION.—The Administrator may enter into an agreement with a private, nonprofit entity to administer the prize competition, subject to the provisions of this section.

(i) FUNDING.—

(1) SOURCES.—Prizes under this section may consist of Federal appropriated funds and funds provided by the private sector for such cash prizes. The Administrator may accept funds from other Federal agencies for such cash prizes. The Administrator may not give any special consideration to any private sector entity in return for a donation.

(2) AVAILABILITY.—

(A) DEFINITION OF PROVISIONS KNOWN AS THE ANTI-DEFICIENCY ACT.—In this paragraph, the term "provisions known as the Anti-Deficiency Act" means sections 1341, 1342, 1349(a), 1350, 1351, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, and 1519 of title 31.

(B) IN GENERAL.—Notwithstanding any other provision of law, funds appropriated for prize awards under this section shall remain available until expended, and may be transferred, reprogrammed, or expended for other purposes only after the expiration of 10 fiscal years after the fiscal year for which the funds were originally appropriated. No provision in this section permits obligation or payment of funds in violation of the provisions known as the Anti-Deficiency Act.

(3) APPROPRIATION OR COMMITMENT OF FUNDS REQUIRED BEFORE ANNOUNCEMENT OF PRIZE OR INCREASE.—

(A) IN GENERAL.—No prize may be announced under subsection (d) until all the funds needed to pay out the announced amount of the prize have been appropriated or committed in writing by a private source.

(B) INCREASE.—The Administrator may increase the amount of a prize after an initial announcement is made under subsection (d) if—

(i) notice of the increase is provided in the same manner as the initial notice of the prize; and

(ii) the funds needed to pay out the announced amount of the increase have been appropriated or committed in writing by a private source.

(4) NOTICE TO COMMITTEES FOR PRIZE GREATER THAN $50,000,000.—No prize competition under this section may offer a prize in an amount greater than $50,000,000 unless 30 days have elapsed after written notice has been transmitted to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

(5) APPROVAL OF ADMINISTRATOR FOR PRIZE GREATER THAN $1,000,000.—No prize competition under this section may result in the award of more than $1,000,000 in cash prizes without the approval of the Administrator.

(j) USE OF ADMINISTRATION NAME OR INSIGNIA.—A registered participant in a competition under this section may use the Administration's name, initials, or insignia only after prior review and written approval by the Administration.

(k) COMPLIANCE WITH EXISTING LAW.—The Federal Government shall not, by virtue of offering or providing a prize under this section, be responsible for compliance by registered participants in a prize competition with Federal law, including licensing, export control, and non-proliferation laws, and related regulations.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3350; Pub. L. 111–358, title I, § 105(b), Jan. 4, 2011, 124 Stat. 3993.)

AMENDMENT NOT SHOWN IN TEXT

This section was derived from section 2459f–1 of Title 42, The Public Health and Welfare, which was amended by Pub. L. 111–358, title I, § 105(b), Jan. 4, 2011, 124 Stat. 3993. For applicability of this amendment to this section, see section 5(b) of Pub. L. 111–314, set out as a Transitional and Savings Provisions note preceding section 10101 of this title. Former section 2459f–1 of Title 42 was amended by striking out "The Administration may carry out a program to award prizes only in conformity with this section."

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20144	42 U.S.C. 2459f–1.	Pub. L. 85–568, title III, § 314, as added Pub. L. 109–155, title I, § 104, Dec. 30, 2005, 119 Stat. 2910; Pub. L. 110–422, title XI, § 1105(b), Oct. 15, 2008, 122 Stat. 4809.

In subsection (i)(2), subparagraph (A) is added, and the words "provisions known as the Anti-Deficiency Act" are substituted for "the Anti-Deficiency Act (31 U.S.C. 1341)", for clarity.

In subsection (i)(4), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

AVAILABILITY OF FUNDS

Pub. L. 116–6, div. C, title III, Feb. 15, 2019, 133 Stat. 123, provided in part that: "Funds for any announced prize otherwise authorized shall remain available, without fiscal year limitation, until a prize is claimed or the offer is withdrawn."

Similar provisions were contained in the following prior appropriation acts: Pub. L. 115–141, div. B, title III, Mar. 23, 2018, 132 Stat. 431.

PURPOSE

Pub. L. 110–422, title XI, § 1105(a), Oct. 15, 2008, 122 Stat. 4809, provided that: "Prizes can play a useful role in encouraging innovation in the development of technologies and products that can assist NASA [National Aeronautics and Space Administration] in its aeronautics and space activities, and the use of such prizes by NASA should be encouraged."

§ 20145. Lease of non-excess property

(a) IN GENERAL.—The Administrator may enter into a lease under this section with any person or entity (including another department or agency of the Federal Government or an entity of a State or local government) with regard to any non-excess real property and related personal property under the jurisdiction of the Administrator.

(b) CASH CONSIDERATION.—

(1) FAIR MARKET VALUE.—

(A) A person or entity entering into a lease under this section shall provide cash consideration for the lease at fair market value as determined by the Administrator.

(B) Notwithstanding subparagraph (A), the Administrator may accept in-kind consideration for leases entered into for the purpose of developing renewable energy production facilities.

(2) UTILIZATION.—

(A) IN GENERAL.—The Administrator may utilize amounts of cash consideration received under this subsection for a lease entered into under this section to cover the full costs to the Administration in connection with the lease. These funds shall remain available until expended.

(B) CAPITAL REVITALIZATION AND IMPROVEMENTS.—Of any amounts of cash consideration received under this subsection that are not utilized in accordance with subparagraph (A)—

(i) 35 percent shall be deposited in a capital asset account to be established by the Administrator, shall be available for maintenance, capital revitalization,

and improvements of the real property assets and related personal property under the jurisdiction of the Administrator, and shall remain available until expended; and

(ii) the remaining 65 percent shall be available to the respective center or facility of the Administration engaged in the lease of nonexcess real property, and shall remain available until expended for maintenance, capital revitalization, and improvements of the real property assets and related personal property at the respective center or facility subject to the concurrence of the Administrator.

(C) NO UTILIZATION FOR DAILY OPERATING COSTS.—Amounts utilized under subparagraph (B) may not be utilized for daily operating costs.

(c) ADDITIONAL TERMS AND CONDITIONS.—The Administrator may require such terms and conditions in connection with a lease under this section as the Administrator considers appropriate to protect the interests of the United States.

(d) RELATIONSHIP TO OTHER LEASE AUTHORITY.—The authority under this section to lease property of the Administration is in addition to any other authority to lease property of the Administration under law.

(e) LEASE RESTRICTIONS.—

(1) NO LEASE BACK OR OTHER CONTRACT.—The Administration is not authorized to lease back property under this section during the term of the out-lease or enter into other contracts with the lessee respecting the property.

(2) CERTIFICATION THAT OUT-LEASE WILL NOT HAVE NEGATIVE IMPACT ON MISSION.—The Administration is not authorized to enter into an out-lease under this section unless the Administrator certifies that the out-lease will not have a negative impact on the mission of the Administration.

(f) REPORTING REQUIREMENTS.—The Administrator shall submit an annual report by January 31st of each year. The report shall include the following:

(1) VALUE OF ARRANGEMENTS AND EXPENDITURES OF REVENUES.—Information that identifies and quantifies the value of the arrangements and expenditures of revenues received under this section.

(2) AVAILABILITY AND USE OF FUNDS FOR OPERATING PLAN.—The availability and use of funds received under this section for the Administration's operating plan.

(g) SUNSET.—The authority to enter into leases under this section shall expire December 31, 2019. The expiration under this subsection of authority to enter into leases under this section shall not affect the validity or term of leases or the Administration's retention of proceeds from leases entered into under this section before the expiration of the authority.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3352; Pub. L. 112–55, div. B, title III, Nov. 18, 2011, 125 Stat. 626; Pub. L. 115–10, title VIII, § 832, Mar. 21, 2017, 131 Stat. 67; Pub. L. 115–403, § 2, Dec. 31, 2018, 132 Stat. 5348.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20145	42 U.S.C. 2459j.	Pub. L. 85–568, title III, § 315, as added Pub. L. 108–7, div. K, title IV, § 418, Feb. 20, 2003, 117 Stat. 525; Pub. L. 110–161, div. B, title V, § 533(a)–(e), Dec. 26, 2007, 121 Stat. 1931; Pub. L. 110–422, title XI, § 1117(c), (d), Oct. 15, 2008, 122 Stat. 4814.

In subsection (f)(2), the word "Administration's" is substituted for "Agency's" for clarity.

In subsection (g), the words "10 years after December 26, 2007" are substituted for "on the date that is ten years after the date of the enactment of the Commerce, Justice, Science, and Related Agencies Appropriations Act of 2008" for consistency and to reflect the date of enactment of the Commerce, Justice, Science, and Related Agencies Appropriations Act, 2008 (Public Law 110–161, div. B, 121 Stat. 1884).

AMENDMENTS

2018—Subsec. (g). Pub. L. 115–403 substituted "December 31, 2019" for "December 31, 2018".

2017—Subsec. (g). Pub. L. 115–10 substituted "December 31, 2018" for "10 years after December 26, 2007".

2011—Subsec. (b)(1). Pub. L. 112–55 designated existing provisions as subpar. (A) and added subpar. (B).

DEPOSIT OF PROCEEDS

Pub. L. 113–6, div. B, title III, Mar. 26, 2013, 127 Stat. 263, provided in part: "That hereafter, notwithstanding section 315 of the National Aeronautics and Space Act of 1958 (see 51 U.S.C. 20145), all proceeds from leases entered into under that section shall be deposited into this account [funds appropriated under the headings 'NATIONAL AERONAUTICS AND SPACE ADMINISTRATION' and 'CONSTRUCTION AND ENVIRONMENTAL COMPLIANCE AND RESTORATION' of title III of div. B of Pub. L. 113–6]: *Provided further*, That such proceeds shall be available for a period of 5 years to the extent and in amounts as provided in annual appropriations Acts".

Similar provisions were contained in the following appropriation acts:

Pub. L. 116–6, div. C, title III, Feb. 15, 2019, 133 Stat. 123.
Pub. L. 115–141, div. B, title III, Mar. 23, 2018, 132 Stat. 431.
Pub. L. 115–31, div. B, title III, May 5, 2017, 131 Stat. 214.
Pub. L. 114–113, div. B, title III, Dec. 18, 2015, 129 Stat. 2317.
Pub. L. 113–235, div. B, title III, Dec. 16, 2014, 128 Stat. 2203.
Pub. L. 113–76, div. B, title III, Jan. 17, 2014, 128 Stat. 72.
Pub. L. 112–55, div. B, title III, Nov. 18, 2011, 125 Stat. 625.
Pub. L. 111–117, div. B, title III, Dec. 16, 2009, 123 Stat. 3144.

§ 20146. Retrocession of jurisdiction

(a) DEFINITION OF STATE.—In this section, the term "State" means any of the several States, the District of Columbia, the Com-

monwealth of Puerto Rico, the United States Virgin Islands, Guam, American Samoa, the Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States.

(b) RELINQUISHING LEGISLATIVE JURISDICTION.—Notwithstanding any other provision of law, the Administrator may relinquish to a State all or part of the legislative jurisdiction of the United States over lands or interests under the control of the Administrator in that State.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3353.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20146	42 U.S.C. 2459k.	Pub. L. 85–568, title III, § 316, as added Pub. L. 109–155, title VII, § 701, Dec. 30, 2005, 119 Stat. 2935.

§ 20147. Recovery and disposition authority

(a) DEFINITIONS.—In this section:

(1) ADMINISTRATION HUMAN SPACE FLIGHT VEHICLE.—The term "Administration human space flight vehicle" means a space vehicle, as defined in section 20138(a) of this title, that—

(A) is intended to transport one or more persons;

(B) is designed to operate in outer space; and

(C) is either—

(i) owned by the Administration; or

(ii) owned by an Administration contractor or cooperating party and operated as part of an Administration mission or a joint mission with the Administration.

(2) CREWMEMBER.—The term "crewmember" means an astronaut or other person assigned to an Administration human space flight vehicle.

CONTROL OF REMAINS.—

(1) IN GENERAL.—Subject to paragraphs (2) and (3), when there is an accident or mishap resulting in the death of a crewmember of an Administration human space flight vehicle, the Administrator may take control over the remains of the crewmember and order autopsies and other scientific or medical tests.

(2) TREATMENT.—Each crewmember shall provide the Administrator with the crewmember's preferences regarding the treatment accorded to the crewmember's remains and the Administrator shall, to the extent possible, respect those stated preferences.

(3) CONSTRUCTION.—This section shall not be construed to permit the Administrator to interfere with any Federal investigation of a mishap or accident.

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3353.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20147	42 U.S.C. 2459*l*.	Pub. L. 85–568, title III, § 317, as added Pub. L. 109–155, title VII, § 705, Dec. 30, 2005, 119 Stat. 2936.

§ 20148. Indemnification; NASA launch services and reentry services

(a) IN GENERAL.—Under such regulations in conformity with this section as the Administrator shall prescribe taking into account the availability, cost, and terms of liability insurance, any contract between the Administration and a provider may provide that the United States will indemnify the provider against successful claims (including reasonable expenses of litigation or settlement) by third parties for death, bodily injury, or loss of or damage to property resulting from launch services and reentry services carried out under the contract that the contract defines as unusually hazardous or nuclear in nature, but only to the extent the total amount of successful claims related to the activities under the contract—

(1) is more than the amount of insurance or demonstration of financial responsibility described in subsection (c)(3); and

(2) is not more than the amount specified in section 50915(a)(1)(B).

(b) TERMS OF INDEMNIFICATION.—A contract made under subsection (a) that provides indemnification shall provide for—

(1) notice to the United States of any claim or suit against the provider for death, bodily injury, or loss of or damage to property; and

(2) control of or assistance in the defense by the United States, at its election, of that claim or suit and approval of any settlement.

(c) LIABILITY INSURANCE OF THE PROVIDER.—

(1) IN GENERAL.—The provider under subsection (a) shall obtain liability insurance or demonstrate financial responsibility in amounts to compensate for the maximum probable loss from claims by—

(A) a third party for death, bodily injury, or property damage or loss resulting from a launch service or reentry service carried out under the contract; and

(B) the United States Government for damage or loss to Government property resulting from a launch service or reentry service carried out under the contract.

(2) MAXIMUM PROBABLE LOSSES.—

(A) IN GENERAL.—The Administrator shall determine the maximum probable losses under subparagraphs (A) and (B) of paragraph (1) not later than 90 days after the date that the provider requests such a determination and submits all information the Administrator requires.

(B) REVISIONS.—The Administrator may revise a determination under subparagraph (A) of this paragraph if the Administrator determines the revision is warranted based on new information.

(3) AMOUNT OF INSURANCE.—For the total claims related to one launch or reentry, a provider shall not be required to obtain insurance or demonstrate financial responsibility of more than—

(A) (A)(i) $500,000,000 under paragraph (1)(A); or (ii) $100,000,000 under paragraph (1)(B); or

(B) the maximum liability insurance available on the world market at reasonable cost.

(4) COVERAGE.—An insurance policy or demonstration of financial responsibility under this subsection shall protect the following, to the extent of their potential liability for involvement in launch services or reentry services:

(A) The Government.

(B) Personnel of the Government.

(C) Related entities of the Government.

(D) Related entities of the provider.

(E) Government astronauts.

(d) NO INDEMNIFICATION WITHOUT CROSS-WAIVER.—Notwithstanding subsection (a), the Administrator may not indemnify a provider under this section unless there is a cross-waiver between the Administration and the provider as described in subsection (e).

(e) CROSS-WAIVERS.—

(1) IN GENERAL.—The Administrator, on behalf of the United States and its departments, agencies, and instrumentalities, shall reciprocally waive claims with a provider under which each party to the waiver agrees to be responsible, and agrees to ensure that its related entities are responsible, for damage or loss to its property, or for losses resulting from any injury or death sustained by its employees or agents, as a result of activities arising out of the performance of the contract.

(2) LIMITATION.—The waiver made by the Government under paragraph (1) shall apply only to the extent that the claims are more than the amount of insurance or demonstration of financial responsibility required under subsection (c)(1)(B).

(f) WILLFUL MISCONDUCT.—Indemnification under subsection (a) may exclude claims resulting from the willful misconduct of the provider or its related entities.

(g) CERTIFICATION OF JUST AND REASONABLE AMOUNT.—No payment may be made under subsection (a) unless the Administrator or the Administrator's designee certifies that the amount is just and reasonable.

(h) PAYMENTS.—

(1) IN GENERAL.—Upon the approval by the Administrator, payments under subsection (a) may be made from funds appropriated for such payments.

(2) LIMITATION.—The Administrator shall not approve payments under paragraph (1), except to the extent provided in an appropriation law or to the extent additional legislative authority is enacted providing for such payments.

(3) ADDITIONAL APPROPRIATIONS.—If the Administrator requests additional appropriations to make payments under this subsection, then the request for those appropriations shall be made in accordance with the procedures established under section 50915.

(i) RULES OF CONSTRUCTION.—

(1) IN GENERAL.—The authority to indemnify under this section shall not create any rights in third persons that would not otherwise exist by law.

(2) OTHER AUTHORITY.—Nothing in this section may be construed as prohibiting the Administrator from indemnifying a provider or any other NASA contractor under other law, including under Public Law 85-804 (50 U.S.C. 1431 et seq.).

(3) ANTI-DEFICIENCY ACT.—Notwithstanding any other provision of this section—

(A) all obligations under this section are subject to the availability of funds; and

(B) nothing in this section may be construed to require obligation or payment of funds in violation of sections 1341, 1342, 1349 through 1351, and 1511 through 1519 of title 31, United States Code (commonly referred to as the "Anti-Deficiency Act").

(j) RELATIONSHIP TO OTHER LAWS.—The Administrator may not provide indemnification under this section for an activity that requires a license or permit under chapter 509.

(k) DEFINITIONS.—In this section:

(1) GOVERNMENT ASTRONAUT.—The term "government astronaut" has the meaning given the term in section 50902.

(2) LAUNCH SERVICES.—The term "launch services'" has the meaning given the term in section 50902.

(3) PROVIDER.—The term "provider" means a person that provides domestic launch services or domestic reentry services to the Government.

(4) REENTRY SERVICES.—The term "reentry services'" has the meaning given the term in section 50902.

(5) RELATED ENTITY.—The term "related entity" means a contractor or subcontractor.

(6) THIRD PARTY.—The term "third party" means a person except—

(A) the United States Government;

(B) related entities of the Government involved in launch services or reentry services;

(C) a provider;

(D) related entities of the provider involved in launch services or reentry services; or (E) a government astronaut.

(Added Pub. L. 115–10, title III, § 305(a), Mar. 21, 2017, 131 Stat. 30.)

REFERENCES IN TEXT

Public Law 85-804, referred to in subsec. (i)(2), is Pub. L. 85-804, Aug. 28, 1958, 72 Stat. 972, which is classified generally to chapter 29 (§ 1431 et seq.) of Title 50, War and National Defense. For complete classification of this Act to the Code, see Tables.

§ 20149. Medical monitoring and research relating to human space flight

(a) IN GENERAL.—Notwithstanding any other provision of law, the Administrator may provide for—

(1) the medical monitoring and diagnosis of a former United States government astronaut or a former payload specialist for conditions that the Administrator considers potentially associated with human space flight; and

(2) the treatment of a former United States government astronaut or a former payload specialist for conditions that the Administrator considers associated with human space flight, including scientific and medical tests for psychological and medical conditions.

(b) REQUIREMENTS.—

(1) NO COST SHARING.—The medical monitoring, diagnosis, or treatment described in subsection (a) shall be provided without any deductible, copayment, or other cost sharing obligation.

(2) ACCESS TO LOCAL SERVICES.—The medical monitoring, diagnosis, and treatment described in subsection (a) may be provided by a local health care provider if it is unadvisable due to the health of the applicable former United States government astronaut or former payload specialist for that former United States government astronaut or former payload specialist to travel to the Lyndon B. Johnson Space Center, as determined by the Administrator.

(3) SECONDARY PAYMENT.—Payment or reimbursement for the medical monitoring, diagnosis, or treatment described in subsection (a) shall be secondary to any obligation of the United States Government or any third party under any other provision of law or contractual agreement to pay for or provide such medical monitoring, diagnosis, or treatment. Any costs for items and services that may be provided by the Administrator for medical monitoring, diagnosis, or treatment under subsection (a) that are not paid for or provided under such other provision of law or contractual agreement, due to the application of deductibles, copayments, coinsurance, other cost sharing, or otherwise, are reimbursable by the Administrator on behalf of the former United States government astronaut or former payload specialist involved to the extent such items or services are authorized to be provided by the Administrator for such medical monitoring, diagnosis, or treatment under subsection (a).

(4) CONDITIONAL PAYMENT.—The Administrator may provide for conditional payments for or provide medical monitoring, diagnosis, or treatment described in subsection (a) that is obligated to be paid for or provided by the United States or any third party under any other provision of law or contractual agreement to pay for or provide such medical monitoring, diagnosis, or treatment if—

(A) payment for (or the provision of) such medical monitoring, diagnosis, or treatment services has not been made (or provided) or cannot reasonably be expected to be made (or provided) promptly by the United States or such third party, respectively; and

(B) such payment (or such provision of services) by the Administrator is conditioned on reimbursement by the United States or such third party, respectively, for such medical monitoring, diagnosis, or treatment.

(c) EXCLUSIONS.—The Administrator may not—

(1) provide for medical monitoring or diagnosis of a former United States government astronaut or former payload specialist under subsection (a) for any psychological or medical condition that is not potentially associated with human space flight;

(2) provide for treatment of a former United States government astronaut or former payload specialist under subsection (a) for any psychological or medical condition that is not associated with human space flight; or

(3) require a former United States government astronaut or former payload specialist to participate in the medical monitoring, diagnosis, or treatment authorized under subsection (a).

(d) PRIVACY.—Consistent with applicable provisions of Federal law relating to privacy, the Administrator shall protect the privacy of all medical records generated under subsection (a) and accessible to the Administration.

(e) REGULATIONS.—The Administrator shall promulgate such regulations as are necessary to carry out this section.

(f) DEFINITION OF UNITED STATES GOVERNMENT ASTRONAUT.—In this section, the term "United States government astronaut" has the meaning given the term "government astronaut" in section 50902, except it does not include an individual who is an international partner astronaut.

(g) DATA USE AND DISCLOSURE.—The Administrator may use or disclose data acquired in the course of medical monitoring, diagnosis, or treatment of a former United States government astronaut or a former payload specialist under subsection (a), in accordance with subsection (d). Former United States government astronaut or former payload specialist participation in medical monitoring, diagnosis, or treatment under subsection (a) shall constitute consent for the Administrator to use or disclose such data.

(Added Pub. L. 115–10, title IV, § 443(a), Mar. 21, 2017, 131 Stat. 45.)

ANNUAL REPORTS

Pub. L. 115–10, title IV, § 443(c), Mar. 21, 2017, 131 Stat. 47, provided that:

"(1) IN GENERAL.—Each fiscal year, not later than the date of submission of the President's annual budget request for that fiscal year under section 1105 of title 31, United States Code, the Administrator [of the National Aeronautics and Space Administration] shall publish a report, in accordance with applicable Federal privacy laws, on the activities of the Administration [National Aeronautics and Space Administration] under section 20149 of title 51, United States Code.

"(2) CONTENTS.—Each report under paragraph (1) shall include a detailed cost accounting of the Administration's activities under section 20149 of title 51, United States Code, and a 5-year budget estimate.

"(3) SUBMISSION TO CONGRESS.—The Administrator shall submit to the appropriate committees of Congress [Committee on Science, Space, and Technology of the House of Representatives and Committee on Commerce, Science, and Transpor-

tation of the Senate] each report under paragraph (1) not later than the date of submission of the President's annual budget request for that fiscal year under section 1105 of title 31, United States Code."

INSPECTOR GENERAL AUDIT

Pub. L. 115–10, title IV, § 443(f), Mar. 21, 2017, 131 Stat. 47, provided that: "The Inspector General of NASA [National Aeronautics and Space Administration] shall periodically audit or review, as the Inspector General considers necessary to prevent waste, fraud, and abuse, the activities of the Administration [National Aeronautics and Space Administration] under section 20149 of title 51, United States Code."

Subchapter IV—Upper Atmosphere Research

§ 20161. Congressional declaration of purpose and policy

(a) PURPOSE.—The purpose of this subchapter is to authorize and direct the Administration to develop and carry out a comprehensive program of research, technology, and monitoring of the phenomena of the upper atmosphere so as to provide for an understanding of and to maintain the chemical and physical integrity of the Earth's upper atmosphere.

(b) POLICY.—Congress declares that it is the policy of the United States to undertake an immediate and appropriate research, technology, and monitoring program that will provide for understanding the physics and chemistry of the Earth's upper atmosphere.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3354.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20161	42 U.S.C. 2481.	Pub. L. 85–568, title IV, § 401, as added Pub. L. 94–39, § 8, June 19, 1975, 89 Stat. 222.

§ 20162. Definition of upper atmosphere

In this subchapter, the term "upper atmosphere" means that portion of the Earth's sensible atmosphere above the troposphere.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3354.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20162	42 U.S.C. 2482.	Pub. L. 85–568, title IV, § 402, as added Pub. L. 94–39, § 8, June 19, 1975, 89 Stat. 222.

§ 20163. Program authorized

(a) IN GENERAL.—In order to carry out the purposes of this subchapter, the Administration, in cooperation with other Federal agencies, shall initiate and carry out a program of research, technology, monitoring, and other appropriate activities directed to understand the physics and chemistry of the upper atmosphere.

(b) ACTIVITIES.—In carrying out the provisions of this subchapter, the Administration shall—

(1) arrange for participation by the scientific and engineering community, of both the Nation's industrial organizations and institutions of higher education, in planning and carrying out appropriate research, in developing necessary technology, and in making necessary observations and measurements;

(2) provide, by way of grant, contract, scholarships, or other arrangements, to the maximum extent practicable and consistent with other laws, for the widest practicable and appropriate participation of the scientific and engineering community in the program authorized by this subchapter; and

(3) make all results of the program authorized by this subchapter available to the appropriate regulatory agencies and provide for the widest practicable dissemination of such results.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3354.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20163	42 U.S.C. 2483.	Pub. L. 85–568, title IV, § 403, as added Pub. L. 94–39, § 8, June 19, 1975, 89 Stat. 222.

§ 20164. International cooperation

In carrying out the provisions of this subchapter, the Administration, subject to the direction of the President and after consultation with the Secretary of State, shall make every effort to enlist the support and cooperation of appropriate scientists and engineers of other countries and international organizations.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3355.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20164	42 U.S.C. 2484.	Pub. L. 85–568, title IV, § 404, as added Pub. L. 94–39, § 8, June 19, 1975, 89 Stat. 223.

CHAPTER 203—RESPONSIBILITIES AND VISION

Sec.
20301. General responsibilities.
20302. Vision for space exploration.
20303. Contribution to innovation.
20304. Basic research enhancement.
20305. National Academies decadal surveys.

§ 20301. General responsibilities

(a) PROGRAMS.—The Administrator shall ensure that the Administration carries out a balanced set of programs that shall include, at a minimum, programs in—

(1) human space flight, in accordance with section 20302 of this title;

(2) aeronautics research and development; and

(3) scientific research, which shall include, at a minimum—

(A) robotic missions to study the Moon and other planets and their moons, and to deepen understanding of astronomy, astrophysics, and other areas of science that can be productively studied from space;

(B) Earth science research and research on the Sun-Earth connection through the development and operation of research satellites and other means;

(C) support of university research in space science, Earth science, and microgravity science; and

(D) research on microgravity, including research that is not directly related to human exploration.

(b) CONSULTATION AND COORDINATION.—In carrying out the programs of the Administration, the Administrator shall—

(1) consult and coordinate to the extent appropriate with other relevant Federal agencies, including through the National Science and Technology Council;

(2) work closely with the private sector, including by—

(A) encouraging the work of entrepreneurs who are seeking to develop new means to launch satellites, crew, or cargo;

(B) contracting with the private sector for crew and cargo services, including to the International Space Station, to the extent practicable;

(C) using commercially available products (including software) and services to the extent practicable to support all Administration activities; and

(D) encouraging commercial use and development of space to the greatest extent practicable; and

(3) involve other nations to the extent appropriate.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3355.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20301	42 U.S.C. 16611(a).	Pub. L. 109–155, title I, § 101, Dec. 30, 2005, 119 Stat. 2897.

FUNDING FOR ORION, SPACE LAUNCH SYSTEM, EXPLORATION GROUND SYSTEMS, AND MOBILE LAUNCH PLATFORMS

Pub. L. 115–141, div. B, title III, Mar. 23, 2018, 132 Stat. 430, provided: "That acquisition of Orion crew vehicles, SLS launch vehicles, Exploration Ground Systems, mobile launch platforms, and their associated components may be funded incrementally in fiscal year 2018 and thereafter".

SPACE LAUNCH SYSTEM, ORION, AND EXPLORATION GROUND SYSTEMS

Pub. L. 115–10, title IV, § 421, Mar. 21, 2017, 131 Stat. 35, provided that:

"(a) FINDINGS.—Congress makes the following findings:

"(1) NASA has made steady progress in developing and testing the Space Launch System and Orion exploration systems

with the successful Exploration Flight Test of Orion in December of 2014, the final qualification test firing of the 5-segment Space Launch System boosters in June 2016, and a full thrust, full duration test firing of the RS–25 Space Launch System core stage engine in August 2016.

"(2) Through the 21st Century Launch Complex program and Exploration Ground Systems programs, NASA has made significant progress in transforming exploration ground systems infrastructure to meet NASA's mission requirements for the Space Launch System and Orion and to modernize NASA's launch complexes to the benefit of the civil, defense, and commercial space sectors.

"(b) SPACE LAUNCH SYSTEM.—

"(1) SENSE OF CONGRESS.—It is the sense of Congress that use of the Space Launch System and Orion, with contributions from partnerships with the private sector, academia, and the international community, is the most practical approach to reaching the Moon, Mars, and beyond.

"(2) REAFFIRMATION.—Congress reaffirms the policy and minimum capability requirements for the Space Launch System under section 302 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18322).

"(c) SENSE OF CONGRESS ON SPACE LAUNCH SYSTEM, ORION, AND EXPLORATION GROUND SYSTEMS.—It is the sense of Congress that—

"(1) as the United States works to send humans on a series of missions to Mars in the 2030s, the United States national space program should continue to make progress on its commitment by fully developing the Space Launch System, Orion, and related Exploration Ground Systems;

"(2) using the Space Launch System and Orion for a wide range of contemplated missions will facilitate the national defense, science, and exploration objectives of the United States;

"(3) the United States should have continuity of purpose for the Space Launch System and Orion in deep space exploration missions, using them beginning with the uncrewed mission, EM–1, planned for 2018, followed by the crewed mission, EM–2, in cis-lunar space planned for 2021, and for subsequent missions beginning with EM–3 extending into cis-lunar space and eventually to Mars;

"(4) the President's annual budget requests for the Space Launch System and Orion development, test, and operational phases should strive to accurately reflect the resource requirements of each of those phases;

"(5) the fully integrated Space Launch System, including an upper stage needed to go beyond low-Earth orbit, will safely enable human space exploration of the Moon, Mars, and beyond; and

"(6) the Administrator should budget for and undertake a robust ground test and uncrewed and crewed flight test and demonstration program for the Space Launch System and Orion in order to promote safety and reduce programmatic risk.

"(d) IN GENERAL.—The Administrator shall continue the development of the fully integrated Space Launch System, including an upper stage needed to go beyond low-Earth orbit, in order to safely

enable human space exploration of the Moon, Mars, and beyond over the course of the next century as required in section 302(c) of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18322(c)).

"(e) REPORT.—

"(1) IN GENERAL.—Not later than 60 days after the date of enactment of this Act [Mar. 21, 2017], the Administrator shall submit to the appropriate committees of Congress a report addressing the ability of Orion to meet the needs and the minimum capability requirements described in section 303(b)(3) of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18323(b)(3)).

"(2) CONTENTS.—The report shall detail—

"(A) those components and systems of Orion that ensure it is in compliance with section 303(b)(3) of that Act (42 U.S.C. 18323(b)(3));

"(B) the expected date that Orion, integrated with a vehicle other than the Space Launch System, could be available to transport crew and cargo to the ISS;

"(C) any impacts to the deep space exploration missions under subsection (f) of this section due to enabling Orion to meet the minimum capability requirements described in section 303(b)(3) of that Act (42 U.S.C. 18323(b)(3)) and conducting the mission described in subparagraph (B) of this paragraph; and

"(D) the overall cost and schedule impacts associated with enabling Orion to meet the minimum capability requirements described in section 303(b)(3) of that Act (42 U.S.C. 18323(b)(3)) and conducting the mission described in subparagraph (B) of this paragraph.

"(f) EXPLORATION MISSIONS.—The Administrator shall continue development of—

"(1) an uncrewed exploration mission to demonstrate the capability of both the Space Launch System and Orion as an integrated system by 2018;

"(2) subject to applicable human rating processes and requirements, a crewed exploration mission to demonstrate the Space Launch System, including the Core Stage and Exploration Upper Stages, by 2021;

"(3) subsequent missions beginning with EM–3 at operational flight rate sufficient to maintain safety and operational readiness using the Space Launch System and Orion to extend into cis-lunar space and eventually to Mars; and

"(4) a deep space habitat as a key element in a deep space exploration architecture along with the Space Launch System and Orion.

"(g) OTHER USES.—The Administrator shall assess the utility of the Space Launch System for use by the science community and for other Federal Government launch needs, including consideration of overall cost and schedule savings from reduced transit times and increased science returns enabled by the unique capabilities of the Space Launch System.

"(h) UTILIZATION REPORT.—

"(1) IN GENERAL.—The Administrator, in consultation with the Secretary of Defense and the Director of National Intelligence, shall prepare a report that addresses the effort and budget required to enable and utilize a cargo variant of the 130-ton Space Launch System configuration described in section 302(c) of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18322(c)).

"(2) CONTENTS.—In preparing the report, the Administrator shall—

"(A) consider the technical requirements of the scientific and national security communities related to a cargo variant of the Space Launch System; and

"(B) directly assess the utility and estimated cost savings obtained by using a cargo variant of the Space Launch System for national security and space science missions.

"(3) SUBMISSION TO CONGRESS.—Not later than 180 days after the date of enactment of this Act [Mar. 21, 2017], the Administrator shall submit the report to the appropriate committees of Congress." [For definitions of terms used in section 421 of Pub. L. 115–10, set out above, see section 2 of Pub. L. 115–10, set out as a note under section 10101 of this title.]

MAINTAINING A BALANCED SPACE SCIENCE PORTFOLIO

Pub. L. 115–10, title V, § 501, Mar. 21, 2017, 131 Stat. 48, provided that:

"(a) SENSE OF CONGRESS ON SCIENCE PORTFOLIO.—Congress reaffirms the sense of Congress that—

"(1) a balanced and adequately funded set of activities, consisting of research and analysis grant programs, technology development, suborbital research activities, and small, medium, and large space missions, contributes to a robust and productive science program and serves as a catalyst for innovation and discovery; and

"(2) the Administrator [of the National Aeronautics and Space Administration] should set science priorities by following the guidance provided by the scientific community through the National Academies of Sciences, Engineering, and Medicine's decadal surveys.

"(b) POLICY.—It is the policy of the United States to ensure, to the extent practicable, a steady cadence of large, medium, and small science missions."

PLANETARY SCIENCE

Pub. L. 115–10, title V, § 502, Mar. 21, 2017, 131 Stat. 48, provided that:

"(a) FINDINGS.—Congress finds that—

"(1) Administration [National Aeronautics and Space Administration] support for planetary science is critical to enabling greater understanding of the solar system and the origin of the Earth;

"(2) the United States leads the world in planetary science and can augment its success in that area with appropriate international, academic, and industry partnerships;

"(3) a mix of small, medium, and large planetary science missions is required to sustain a steady cadence of planetary exploration; and

"(4) robotic planetary exploration is a key component of preparing for future human exploration.

"(b) MISSION PRIORITIES.—

"(1) IN GENERAL.—In accordance with the priorities established in the most recent Planetary Science Decadal Survey, the Administrator [of the National Aeronautics and Space Administration] shall ensure, to the greatest extent practicable, the completion of a balanced set of Discovery, New Frontiers, and Flagship missions at the cadence recommended by the most recent Planetary Science Decadal Survey.

"(2) MISSION PRIORITY ADJUSTMENTS.—Consistent with the set of missions described in paragraph (1), and while maintaining the continuity of scientific data and steady development of capabilities and technologies, the Administrator may seek, if necessary, adjustments to mission priorities, schedule, and scope in light of changing budget projections."

EXTRASOLAR PLANET EXPLORATION STRATEGY

Pub. L. 115–10, title V, § 508, Mar. 21, 2017, 131 Stat. 50, provided that:

"(a) STRATEGY.—

"(1) IN GENERAL.—The Administrator [of the National Aeronautics and Space Administration] shall enter into an arrangement with the National Academies to develop a science strategy for the study and exploration of extrasolar planets, including the use of the Transiting Exoplanet Survey Satellite, the James Webb Space Telescope, a potential Wide-Field Infrared Survey Telescope mission, or any other telescope, spacecraft, or instrument, as appropriate.

"(2) REQUIREMENTS.—The strategy shall—

"(A) outline key scientific questions;

"(B) identify the most promising research in the field;

"(C) indicate the extent to which the mission priorities in existing decadal surveys address the key extrasolar planet research and exploration goals;

"(D) identify opportunities for coordination with international partners, commercial partners, and not-for-profit partners; and

"(E) make recommendations regarding the activities under subparagraphs (A) through (D), as appropriate.

"(b) USE OF STRATEGY.—The Administrator shall use the strategy—

"(1) to inform roadmaps, strategic plans, and other activities of the Administration [National Aeronautics and Space Administration] as they relate to extrasolar planet research and exploration; and

"(2) to provide a foundation for future activities and initiatives related to extrasolar planet research and exploration.

"(c) REPORT TO CONGRESS.—Not later than 18 months after the date of enactment of this Act [Mar. 21, 2017], the National Academies shall submit to the Administrator and to the appropriate committees of Congress [Committee on Science, Space, and Technology of the House of Representatives and Committee on Commerce, Science, and Transportation of the Senate] a report containing the strategy developed under subsection (a)."

ASTROBIOLOGY STRATEGY

Pub. L. 115–10, title V, § 509, Mar. 21, 2017, 131 Stat. 50, provided that:

"(a) STRATEGY.—

"(1) IN GENERAL.—The Administrator [of the National Aeronautics and Space Administration] shall enter into an arrangement with the National Academies to develop a science strategy for astrobiology that would outline key scientific questions, identify the most promising research in the field, and indicate the extent to which the mission priorities in existing decadal surveys address the search for life's origin, evolution, distribution, and future in the Universe.

"(2) RECOMMENDATIONS.—The strategy shall include recommendations for coordination with international partners.

"(b) USE OF STRATEGY.—The Administrator shall use the strategy developed under subsection (a) in planning and funding research and other activities and initiatives in the field of astrobiology.

"(c) REPORT TO CONGRESS.—Not later than 18 months after the date of enactment of this Act [Mar. 21, 2017], the National Academies shall submit to the Administrator and to the appropriate committees of Congress [Committee on Science, Space, and Technology of the House of Representatives and Committee on Commerce, Science, and Transportation of the Senate] a report containing the strategy developed under subsection (a)."

SPACE TECHNOLOGY RESEARCH AND DEVELOPMENT

Pub. L. 115–10, title VII, §§ 701, 702, Mar. 21, 2017, 131 Stat. 56, 57 provided that:

"SEC. 701. SPACE TECHNOLOGY INFUSION.

"(a) SENSE OF CONGRESS ON SPACE TECHNOLOGY.—It is the sense of Congress that space technology is critical—

"(1) to developing technologies and capabilities that will make the Administration [National Aeronautics and Space Administration]'s core missions more affordable and more reliable;

"(2) to enabling a new class of Administration missions beyond low-Earth orbit; and

"(3) to improving technological capabilities and promote innovation for the Administration and the Nation.

"(b) SENSE OF CONGRESS ON PROPULSION TECHNOLOGY.—It is the sense of Congress that advancing propulsion technology would improve the efficiency of trips to Mars and could shorten travel time

to Mars, reduce astronaut health risks, and reduce radiation exposure, consumables, and mass of materials required for the journey.

"(c) POLICY.—It is the policy of the United States that the Administrator [of the National Aeronautics and Space Administration] shall develop technologies to support the Administration's core missions, as described in section 2(3) of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18301(3)), and support sustained investments in early stage innovation, fundamental research, and technologies to expand the boundaries of the national aerospace enterprise.

"(d) PROPULSION TECHNOLOGIES.—A goal of propulsion technologies developed under subsection (c) shall be to significantly reduce human travel time to Mars.

"SEC. 702. SPACE TECHNOLOGY PROGRAM.

"(a) SPACE TECHNOLOGY PROGRAM AUTHORIZED.—The Administrator [of the National Aeronautics and Space Administration] shall conduct a space technology program (referred to in this section as the 'Program') to research and develop advanced space technologies that could deliver innovative solutions across the Administration [National Aeronautics and Space Administration]'s space exploration and science missions.

"(b) CONSIDERATIONS.—In conducting the Program, the Administrator shall consider—

"(1) the recommendations of the National Academies' review of the Administration's Space Technology roadmaps and priorities; and

"(2) the applicable enabling aspects of the stepping stone approach to exploration under section 70504 of title 51, United States Code.

"(c) REQUIREMENTS.—In conducting the Program, the Administrator shall—

"(1) to the extent practicable, use a competitive process to select research and development projects;

"(2) to the extent practicable and appropriate, use small satellites and the Administration's suborbital and ground-based platforms to demonstrate space technology concepts and developments; and

"(3) as appropriate, partner with other Federal agencies, universities, private industry, and foreign countries.

"(d) SMALL BUSINESS PROGRAMS.—The Administrator shall organize and manage the Administration's Small Business Innovation Research Program and Small Business Technology Transfer Program within the Program.

"(e) NONDUPLICATION CERTIFICATION.—The Administrator shall submit a budget for each fiscal year, as transmitted to Congress under section 1105(a) of title 31, United States Code, that avoids duplication of projects, programs, or missions conducted by [the] Program with other projects, programs, or missions conducted by another office or directorate of the Administration.

"(f) COLLABORATION, COORDINATION, AND ALIGNMENT.—

"(1) IN GENERAL.—The Administrator shall—

"(A) ensure that the Administration's projects, programs, and activities in support of technology research and devel-

opment of advanced space technologies are fully coordinated and aligned;

"(B) ensure that the results [of] the projects, programs, and activities under subparagraph (A) are shared and leveraged within the Administration; and

"(C) ensure that the organizational responsibility for research and development activities in support of human space exploration not initiated as of the date of enactment of this Act [Mar. 21, 2017] is established on the basis of a sound rationale.

"(2) SENSE OF CONGRESS.—It is the sense of Congress that projects, programs, and missions being conducted by the Human Exploration and Operations Mission Directorate in support of research and development of advanced space technologies and systems focusing on human space exploration should continue in that Directorate.

"(g) REPORT.—Not later than 180 days after the date of enactment of this Act, the Administrator shall provide to the appropriate committees of Congress a report—

"(1) comparing the Administration's space technology investments with the high-priority technology areas identified by the National Academies in the National Research Council's report on the Administration's Space Technology Roadmaps; and

"(2) including—

"(A) identification of how the Administration will address any gaps between the agency's investments and the recommended technology areas, including a projection of funding requirements; and "

(B) identification of the rationale described in subsection (f)(1)(C).

"(h) ANNUAL REPORT.—The Administrator shall include in the Administration's annual budget request for each fiscal year the rationale for assigning organizational responsibility for, in the year prior to the budget fiscal year, each initiated project, program, and mission focused on research and development of advanced technologies for human space exploration."

§ 20302. Vision for space exploration

(a) IN GENERAL.—The Administrator shall establish a program to develop a sustained human presence in cis-lunar space or on the Moon, including a robust precursor program, to promote exploration, science, commerce, and United States preeminence in space, and as a stepping-stone to future exploration of Mars and other destinations. The Administrator is further authorized to develop and conduct appropriate international collaborations in pursuit of these goals.

(b) FUTURE EXPLORATION OF MARS.—The Administrator shall manage human space flight programs, including the Space Launch System and Orion, to enable humans to explore Mars and other destinations by defining a series of sustainable steps and conducting mission planning, research, and technology development on a timetable that is technically and fiscally possible, consistent with section 70504.

(c) DEFINITIONS.—In this section:

(1) ORION.—The term "Orion" means the multipurpose crew vehicle described under section 303 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18323).

(2) SPACE LAUNCH SYSTEM.—The term "Space Launch System" means has the meaning given the term in section 3 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18302).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3356; Pub. L. 115–10, title IV, § 413, Mar. 21, 2017, 131 Stat. 33.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20302	42 U.S.C. 16611(b).	Pub. L. 109–155, title I, § 101(b), Dec. 30, 2005, 119 Stat. 2898.

AMENDMENTS

2017—Subsec. (a). Pub. L. 115–10, § 413(1), inserted "in cis-lunar space or" after "sustained human presence".

Subsec. (b). Pub. L. 115–10, § 413(2), amended subsec. (b) generally. Prior to amendment, text read as follows: "The Administrator shall manage human space flight programs to strive to achieve the following milestones (in conformity with section 70502 of this title):

"(1) Returning Americans to the Moon no later than 2020.

"(2) Launching the Crew Exploration Vehicle as close to 2010 as possible.

"(3) Increasing knowledge of the impacts of long duration stays in space on the human body using the most appropriate facilities available, including the International Space Station.

"(4) Enabling humans to land on and return from Mars and other destinations on a timetable that is technically and fiscally possible."

Subsec. (c). Pub. L. 115–10, § 413(3), added subsec. (c).

HUMAN SPACE EXPLORATION

Pub. L. 115–10, title IV, §§ 431, 432, Mar. 21, 2017, 131 Stat. 38, provided that:

"SEC. 431. FINDINGS ON HUMAN SPACE EXPLORATION.

"Congress makes the following findings:

"(1) In accordance with section 204 of the National Aeronautics and Space Administration Authorization Act of 2010 (124 Stat. 2813), the National Academies of Sciences, Engineering, and Medicine, through its Committee on Human Spaceflight, conducted a review of the goals, core capabilities, and direction of human space flight, and published the findings and recommendations in a 2014 report entitled, 'Pathways to Exploration: Rationales and Approaches for a U.S. Program of Human Space Exploration'.

"(2) The Committee on Human Spaceflight included leaders from the aerospace, scientific, security, and policy communities.

"(3) With input from the public, the Committee on Human Spaceflight concluded that many practical and aspirational rationales for human space flight together constitute a compelling case for continued national investment and pursuit of human space exploration toward the horizon goal of Mars.

"(4) According to the Committee on Human Spaceflight, the rationales include economic benefits, national security, national prestige, inspiring students and other citizens, scientific discovery, human survival, and a sense of shared destiny.

"(5) The Committee on Human Spaceflight affirmed that Mars is the appropriate long-term goal for the human space flight program.

"(6) The Committee on Human Spaceflight recommended that NASA define a series of sustainable steps and conduct mission planning and technology development as needed to achieve the long-term goal of placing humans on the surface of Mars.

"(7) Expanding human presence beyond low-Earth orbit and advancing toward human missions to Mars requires early planning and timely decisions to be made in the near-term on the necessary courses of action for commitments to achieve short-term and long-term goals and objectives.

"(8) In addition to the 2014 report described in paragraph (1), there are several independently developed reports or concepts that describe potential Mars architectures or concepts and identify Mars as the long-term goal for human space exploration, including NASA's 'The Global Exploration Roadmap' of 2013, 'NASA's Journey to Mars-Pioneering Next Steps in Space Exploration' of 2015, NASA Jet Propulsion Laboratory's 'Minimal Architecture for Human Journeys to Mars' of 2015, and Explore Mars' 'The Humans to Mars Report 2016'.

"SEC. 432. HUMAN EXPLORATION ROADMAP.

"(a) SENSE OF CONGRESS.—It is the sense of Congress that—

"(1) expanding human presence beyond low-Earth orbit and advancing toward human missions to Mars in the 2030s requires early strategic planning and timely decisions to be made in the near-term on the necessary courses of action for commitments to achieve short-term and long-term goals and objectives;

"(2) for strong and sustained United States leadership, a need exists to advance a human exploration roadmap, addressing exploration objectives in collaboration with international, academic, and industry partners;

"(3) an approach that incrementally advances toward a long-term goal is one in which nearer-term developments and implementation would influence future development and implementation; and

"(4) a human exploration roadmap should begin with low-Earth orbit, then address in greater detail progress beyond low-Earth orbit to cis-lunar space, and then address future

missions aimed at human arrival and activities near and then on the surface of Mars.

"(b) HUMAN EXPLORATION ROADMAP.—

"(1) IN GENERAL.—The Administrator shall develop a human exploration roadmap, including a critical decision plan, to expand human presence beyond low-Earth orbit to the surface of Mars and beyond, considering potential interim destinations such as cis-lunar space and the moons of Mars.

"(2) SCOPE.—The human exploration roadmap shall include—

"(A) an integrated set of exploration, science, and other goals and objectives of a United States human space exploration program to achieve the long-term goal of human missions near or on the surface of Mars in the 2030s;

"(B) opportunities for international, academic, and industry partnerships for exploration-related systems, services, research, and technology if those opportunities provide cost-savings, accelerate program schedules, or otherwise benefit the goals and objectives developed under subparagraph (A);

"(C) sets and sequences of precursor missions in cis-lunar space and other missions or activities necessary—

"(i) to demonstrate the proficiency of the capabilities and technologies identified under subparagraph (D); and

"(ii) to meet the goals and objectives developed under subparagraph (A), including anticipated timelines and missions for the Space Launch System and Orion;

"(D) an identification of the specific capabilities and technologies, including the Space Launch System, Orion, a deep space habitat, and other capabilities, that facilitate the goals and objectives developed under subparagraph (A);

"(E) a description of how cis-lunar elements, objectives, and activities advance the human exploration of Mars;

"(F) an assessment of potential human health and other risks, including radiation exposure;

"(G) mitigation plans, whenever possible, to address the risks identified in subparagraph (F);

"(H) a description of those technologies already under development across the Federal Government or by other entities that facilitate the goals and objectives developed under subparagraph (A);

"(I) a specific process for the evolution of the capabilities of the fully integrated Orion with the Space Launch System and a description of how these systems facilitate the goals and objectives developed under subparagraph (A) and demonstrate the capabilities and technologies described in subparagraph (D);

"(J) a description of the capabilities and technologies that need to be demonstrated or research data that could be gained through the utilization of the ISS and the status of the development of such capabilities and technologies;

"(K) a framework for international cooperation in the development of all capabilities and technologies identified under this section, including an assessment of the risks posed by relying on international partners for capabilities and technologies on the critical path of development;

"(L) a process for partnering with nongovernmental entities using Space Act Agreements or other acquisition instruments for future human space exploration; and

"(M) include [sic] information on the phasing of planned intermediate destinations, Mars mission risk areas and potential risk mitigation approaches, technology requirements and phasing of required technology development activities, the management strategy to be followed, related ISS activities, planned international collaborative activities, potential commercial contributions, and other activities relevant to the achievement of the goal established in this section.

"(3) CONSIDERATIONS.—In developing the human exploration roadmap, the Administrator shall consider—

"(A) using key exploration capabilities, namely the Space Launch System and Orion;

"(B) using existing commercially available technologies and capabilities or those technologies and capabilities being developed by industry for commercial purposes;

"(C) establishing an organizational approach to ensure collaboration and coordination among NASA's Mission Directorates under section 821 [set out as a note under section 20111 of this title], when appropriate, including to collect and return to Earth a sample from the Martian surface;

"(D) building upon the initial uncrewed mission, EM–1, and first crewed mission, EM–2, of the Space Launch System and Orion to establish a sustainable cadence of missions extending human exploration missions into cis-lunar space, including anticipated timelines and milestones;

"(E) developing the robotic and precursor missions and activities that will demonstrate, test, and develop key technologies and capabilities essential for achieving human missions to Mars, including long-duration human operations beyond low-Earth orbit, space suits, solar electric propulsion, deep space habitats, environmental control life support systems, Mars lander and ascent vehicle, entry, descent, landing, ascent, Mars surface systems, and in-situ resource utilization;

"(F) demonstrating and testing 1 or more habitat modules in cis-lunar space to prepare for Mars missions;

"(G) using public-private, firm fixed-price partnerships, where practicable;

"(H) collaborating with international, academic, and industry partners, when appropriate;

"(I) any risks to human health and sensitive onboard technologies, including radiation exposure;

"(J) any risks identified through research outcomes under the NASA Human Research Program's Behavioral Health Element; and

"(K) the recommendations and ideas of several independently developed reports or concepts that describe potential Mars architectures or concepts and identify Mars as the long-term goal for human space exploration, including the reports described under section 431.

"(4) CRITICAL DECISION PLAN ON HUMAN SPACE EXPLORATION.—As part of the human exploration roadmap, the Administrator shall include a critical decision plan—

"(A) identifying and defining key decisions guiding human space exploration priorities and plans that need to be made before June 30, 2020, including decisions that may guide human space exploration capability development, precursor missions, long-term missions, and activities;

"(B) defining decisions needed to maximize efficiencies and resources for reaching the near, intermediate, and long-term goals and objectives of human space exploration; and

"(C) identifying and defining timelines and milestones for a sustainable cadence of missions beginning with EM–3 for the Space Launch System and Orion to extend human exploration from cis-lunar space to the surface of Mars.

"(5) REPORTS.—

"(A) INITIAL HUMAN EXPLORATION ROADMAP.—The Administrator shall submit to the appropriate committees of Congress—

"(i) an initial human exploration roadmap, including a critical decision plan, before December 1, 2017; and

"(ii) an updated human exploration roadmap periodically as the Administrator considers necessary but not less than biennially.

"(B) CONTENTS.—Each human exploration roadmap under this paragraph shall include a description of—

"(i) the achievements and goals accomplished in the process of developing such capabilities and technologies during the 2-year period prior to the submission of the human exploration roadmap; and

"(ii) the expected goals and achievements in the following 2-year period.

"(C) SUBMISSION WITH BUDGET.—Each human exploration roadmap under this section shall be included in the budget for that fiscal year transmitted to Congress under section 1105(a) of title 31, United States Code."

[For definitions of terms used in sections 431 and 432 of Pub. L. 115–10, set out above, see section 2 of Pub. L. 115–10, set out as a note under section 10101 of this title.]

§ 20303. Contribution to innovation

(a) PARTICIPATION IN INTERAGENCY ACTIVITIES.—The Administration shall be a full participant in any interagency effort to promote

innovation and economic competitiveness through near-term and long-term basic scientific research and development and the promotion of science, technology, engineering, and mathematics education, consistent with the Administration's mission, including authorized activities.

(b) HISTORIC FOUNDATION.—In order to carry out the participation described in subsection (a), the Administrator shall build on the historic role of the Administration in stimulating excellence in the advancement of physical science and engineering disciplines and in providing opportunities and incentives for the pursuit of academic studies in science, technology, engineering, and mathematics.

(c) BALANCED SCIENCE PROGRAM AND ROBUST AUTHORIZATION LEVELS.—The balanced science program authorized by section 101(d) of the National Aeronautics and Space Administration Authorization Act of 2005 (42 U.S.C. 16611(d)) shall be an element of the contribution by the Administration to the interagency programs.

(d) ANNUAL REPORT.—

(1) REQUIREMENT.—The Administrator shall submit to Congress and the President an annual report describing the activities conducted pursuant to this section, including a description of the goals and the objective metrics upon which funding decisions were made.

(2) CONTENT.—Each report submitted pursuant to paragraph (1) shall include, with regard to science, technology, engineering, and mathematics education programs, at a minimum, the following:

(A) A description of each program.

(B) The amount spent on each program.

(C) The number of students or teachers served by each program.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3356.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20303(a)	42 U.S.C. 16611a(a).	Pub. L. 110–69, title II, § 2001(a), (b), (c), (e), Aug. 9, 2007, 121 Stat. 582.
20303(b)	42 U.S.C. 16611a(b).	
20303(c)	42 U.S.C. 16611a(c).	
20303(d)	42 U.S.C. 16611a(e).	

REFERENCES IN TEXT

Section 101(d) of the National Aeronautics and Space Administration Authorization Act of 2005 (42 U.S.C. 16611(d)), referred to in subsec. (c), is section 101(d) of Pub. L. 109–155, title I, Dec. 30, 2005, 119 Stat. 2897, which was omitted from the Code following the enactment of this title by Pub. L. 111–314.

INTERNATIONAL SPACE STATION'S CONTRIBUTION TO NATIONAL COMPETITIVENESS ENHANCEMENT

Pub. L. 111–358, title II, § 204, Jan. 4, 2011, 124 Stat. 3994, provided that:

"(a) SENSE OF CONGRESS.—It is the sense of the Congress that the International Space Station represents a valuable and unique national asset which can be utilized to increase educational opportunities and scientific and technological innovation which will enhance the Nation's economic security and competitiveness in the global technology fields of endeavor. If the period for active utilization of the International Space Station is extended to at least the year 2020, the potential for such opportunities and innovation would be increased. Efforts should be made to fully realize that potential.

"(b) EVALUATION AND ASSESSMENT OF NASA'S INTERAGENCY CONTRIBUTION.—Pursuant to the authority provided in title II of the America COMPETES Act (Public Law 110–69 [see Tables for classification]), the Administrator [of NASA] shall evaluate and, where possible, expand efforts to maximize NASA's [National Aeronautics and Space Administration's] contribution to interagency efforts to enhance science, technology, engineering, and mathematics education capabilities, and to enhance the Nation's technological excellence and global competitiveness. The Administrator shall identify these enhancements in the annual reports required by section 2001(e) of that Act ([former] 42 U.S.C. 16611a(e)) [now 51 U.S.C. 20303(d)].

"(c) REPORT TO THE CONGRESS.—Within 120 days after the date of enactment of this Act [Jan. 4, 2011], the Administrator shall provide to the House of Representatives Committee on Science and Technology [now Committee on Science, Space, and Technology] and the Senate Committee on Commerce, Science, and Transportation a report on the assessment made pursuant to subsection (a). The report shall include—

"(1) a description of current and potential activities associated with utilization of the International Space Station which are supportive of the goals of educational excellence and innovation and competitive enhancement established or reaffirmed by this Act [see Short Title of 2011 Amendment note set out under section 1861 of Title 42, The Public Health and Welfare], including a summary of the goals supported, the number of individuals or organizations participating in or benefiting from such activities, and a summary of how such activities might be expanded or improved upon;

"(2) a description of government and private partnerships which are, or may be, established to effectively utilize the capabilities represented by the International Space Station to enhance United States competitiveness, innovation and science, technology, engineering, and mathematics education; and

"(3) a summary of proposed actions or activities to be undertaken to ensure the maximum utilization of the International Space Station to contribute to fulfillment of the goals and objectives of this Act, and the identification of any additional au-

thority, assets, or funding that would be required to support such activities."

§ 20304. Basic research enhancement

(a) DEFINITION OF BASIC RESEARCH.—In this section, the term "basic research" has the meaning given the term in Office of Management and Budget Circular No. A–11.

(b) COORDINATION.—The Administrator, the Director of the National Science Foundation, the Secretary of Energy, the Secretary of Defense, and the Secretary of Commerce shall, to the extent practicable, coordinate basic research activities related to physical sciences, technology, engineering, and mathematics.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3357.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20304	42 U.S.C. 16658.	Pub. L. 110–69, title II, § 2003, Aug. 9, 2007, 121 Stat. 583.

§ 20305. National Academies decadal surveys

(a) IN GENERAL.—The Administrator shall enter into agreements on a periodic basis with the National Academies for independent assessments, also known as decadal surveys, to take stock of the status and opportunities for Earth and space science discipline fields and Aeronautics research and to recommend priorities for research and programmatic areas over the next decade.

(b) INDEPENDENT COST ESTIMATES.—The agreements described in subsection (a) shall include independent estimates of the life cycle costs and technical readiness of missions assessed in the decadal surveys whenever possible.

(c) REEXAMINATION.—The Administrator shall request that each National Academies decadal survey committee identify any conditions or events, such as significant cost growth or scientific or technological advances, that would warrant the Administration asking the National Academies to reexamine the priorities that the decadal survey had established.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3357.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
20305	42 U.S.C. 17823.	Pub. L. 110–422, title XI, § 1104, Oct. 15, 2008, 122 Stat. 4809.

IMPLEMENTATION OF DECADAL SURVEY'S RECOMMENDED DECISION RULES

Pub. L. 112–55, div. B, title III, Nov. 18, 2011, 125 Stat. 622, provided in part: "That NASA shall implement the recommendations of the most recent National Research Council planetary decadal survey and shall follow the decadal survey's recommended decision rules regarding program implementation, including a strict adherence to the recommendation that NASA include in a balanced pro-

gram a flagship class mission, which may be executed in cooperation with one or more international partners, if such mission can be appropriately de-scoped and all NASA costs for such mission can be accommodated within the overall funding levels appropriated by Congress".

Subtitle III—Administrative Provisions

CHAPTER 301—APPROPRIATIONS, BUDGETS, AND ACCOUNTING

Sec.
30101. Prior authorization of appropriations required.
30102. Working capital fund.
30103. Budgets.
30104. Baselines and cost controls.

§ 30101. Prior authorization of appropriations required

Notwithstanding the provisions of any other law, no appropriation may be made to the Administration unless previously authorized by legislation enacted by Congress.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3357.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30101	42 U.S.C. 2460.	Pub L. 86–45, § 4, June 15, 1959, 73 Stat. 75.

The word "hereafter" is omitted as unnecessary.

§ 30102. Working capital fund

(a) ESTABLISHMENT.—There is hereby established in the United States Treasury an Administration working capital fund.

(b) AVAILABILITY OF AMOUNTS.—

(1) IN GENERAL.—Amounts in the fund are available for financing activities, services, equipment, information, and facilities as authorized by law to be provided—

(A) within the Administration;

(B) to other agencies or instrumentalities of the United States;

(C) to any State, territory, or possession or political subdivision thereof;

(D) to other public or private agencies; or

(E) to any person, firm, association, corporation, or educational institution on a reimbursable basis.

(2) CAPITAL REPAIRS.—The fund shall also be available for the purpose of funding capital repairs, renovations, rehabilitation, sustainment, demolition, or replacement of Administration real property, on a reimbursable basis within the Administration.

(3) NO FISCAL YEAR LIMITATION.—Amounts in the fund are available without regard to fiscal year limitation.

(c) CONTENTS.—The capital of the fund consists of—

(1) amounts appropriated to the fund;

(2) the reasonable value of stocks of supplies, equipment, and other assets and inventories on order that the Admin-

istrator transfers to the fund, less the related liabilities and unpaid obligations;

(3) payments received for loss or damage to property of the fund; and

(4) refunds or rebates received on an on-going basis from a credit card services provider under the National Aeronautics and Space Administration's credit card programs.

(d) REIMBURSEMENT.—The fund shall be reimbursed, in advance, for supplies and services at rates that will approximate the expenses of operation, such as the accrual of annual leave, depreciation of plant, property, and equipment, and overhead.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3357; Pub. L. 113–6, div. B, title III, Mar. 26, 2013, 127 Stat. 264.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30102	42 U.S.C. 2459i.	Pub L. 108–7, div. K, title III, (last par. under heading "Administrative Provisions", at 117 Stat. 520), Feb. 20, 2003, 117 stat. 520.

AMENDMENTS

2013—Subsec. (c)(4). Pub. L. 113–6 added par. (4).

§ 30103. Budgets

(a) CATEGORIES.—The proposed budget for the Administration submitted by the President for each fiscal year shall be accompanied by documents showing—

(1) by program—

(A) the budget for space operations, including the International Space Station and the space shuttle;

(B) the budget for exploration systems;

(C) the budget for aeronautics;

(D) the budget for space science;

(E) the budget for Earth science;

(F) the budget for microgravity science;

(G) the budget for education;

(H) the budget for safety oversight; and

(I) the budget for public relations;

(2) the budget for technology transfer programs;

(3) the budget for the Integrated Enterprise Management Program, by individual element;

(4) the budget for the Independent Technical Authority, both total and by center;

(5) the total budget for the prize program under section 20144 of this title, and the administrative budget for that program; and

(6) the comparable figures for at least the 2 previous fiscal years for each item in the proposed budget.

(b) ADDITIONAL BUDGET INFORMATION UPON REQUEST BY COMMITTEES.—The Administration shall make available, upon request from the Committee on Science and Technology of the House of

Representatives or the Committee on Commerce, Science, and Transportation of the Senate—

(1) information on corporate and center general and administrative costs and service pool costs, including—

(A) the total amount of funds being allocated for those purposes for any fiscal year for which the President has submitted an annual budget request to Congress;

(B) the amount of funds being allocated for those purposes for each center, for headquarters, and for each directorate; and

(C) the major activities included in each cost category; and

(2) the figures on the amount of unobligated funds and unexpended funds, by appropriations account—

(A) that remained at the end of the fiscal year prior to the fiscal year in which the budget is being presented that were carried over into the fiscal year in which the budget is being presented;

(B) that are estimated will remain at the end of the fiscal year in which the budget is being presented that are proposed to be carried over into the fiscal year for which the budget is being presented; and

(C) that are estimated will remain at the end of the fiscal year for which the budget is being presented.

(c) INFORMATION IN ANNUAL BUDGET JUSTIFICATION.—The Administration shall provide, at a minimum, the following information in its annual budget justification:

(1) The actual, current, proposed funding level, and estimated budgets for the next 5 fiscal years by directorate, theme, program, project and activity within each appropriations account.

(2) The proposed programmatic and non-programmatic construction of facilities.

(3) The budget for headquarters including—

(A) the budget by office, and any division thereof, for the actual, current, proposed funding level, and estimated budgets for the next 5 fiscal years;

(B) the travel budget for each office, and any division thereof, for the actual, current, and proposed funding level; and

(C) the civil service full time equivalent assignments per headquarters office, and any division thereof, including the number of Senior Executive Service, noncareer, detailee, and contract personnel per office.

(4) Within 14 days of the submission of the budget to Congress an accompanying volume shall be provided to the Committees on Appropriations containing the following information for each center, facility managed by any center, and federally funded research and development center operated on behalf of the Administration:

(A) The actual, current, proposed funding level, and estimated budgets for the next 5 fiscal years by directorate, theme, program, project, and activity.

(B) The proposed programmatic and non-programmatic construction of facilities.

(C) The number of civil service full time equivalent positions per center for each identified fiscal year.

(D) The number of civil service full time equivalent positions considered to be uncovered capacity at each location for each identified fiscal year.

(5) The proposed budget as designated by object class for each directorate, theme, and program.

(6) Sufficient narrative shall be provided to explain the request for each program, project, and activity, and an explanation for any deviation to previously adopted baselines for all justification materials provided to the Committees.

(d) ESTIMATE OF GROSS RECEIPTS AND PROPOSED USE OF FUNDS RELATED TO LEASE OF PROPERTY.—Each annual budget request shall include an annual estimate of gross receipts and collections and proposed use of all funds collected pursuant to section 20145 of this title.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3358.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30103(a)	42 U.S.C. 16611(h)(1).	Pub. L. 109–155, title I, § 101(h)(1), (i), Dec. 30, 2005, 110 Stat. 2903.
30103(b)	42 U.S.C. 16611(i).	
30103(c)	42 U.S.C. 16611b.	Pub. L. 110–161, div. B, title III, (7th par. under heading "Administrative Provisions", at 121 Stat. 1919), Dec. 26, 2007, 121 Stat. 1919.
30103(d)	42 U.S.C. 16611(b) note.	Pub. L. 111–8, div. B, title III, (3d proviso in par. under heading "Cross Agency Support", at 123 Stat. 589), Mar. 11, 2009, 123 Stat. 589.

In subsection (a)(5), the source law's reference to "section 104" of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2910) is translated as "section 20144" of title 51. Section 104 of the National Aeronautics and Space Administration Authorization Act of 2005 amended the National Aeronautics and Space Act of 1958 (Public Law 85–568, 72 Stat. 426) by inserting a new section 314, which is restated as section 20144 of title 51.

In subsection (b), in the matter before paragraph (1), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

In subsection (c), in the matter before paragraph (1), the words "For fiscal year 2009 and hereafter" are omitted as unnecessary.

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

ESTIMATES OF RECEIPTS AND COLLECTIONS AND PROPOSED USE OF FUNDS FROM LEASES OF NON-EXCESS PROPERTY

Pub. L. 116–6, div. C, title III, Feb. 15, 2019, 133 Stat. 123, provided in part: "That each annual budget request shall include an annual estimate of gross receipts and collections and proposed use of all funds collected pursuant to section 20145 of title 51, United States Code."

Similar provisions were contained in the following prior appropriation acts:

Pub. L. 115–141, div. B, title III, Mar. 23, 2018, 132 Stat. 431.
Pub. L. 115–31, div. B, title III, May 5, 2017, 131 Stat. 214.
Pub. L. 114–113, div. B, title III, Dec. 18, 2015, 129 Stat. 2318.
Pub. L. 113–235, div. B, title III, Dec. 16, 2014, 128 Stat. 2203.
Pub. L. 113–76, div. B, title III, Jan. 17, 2014, 128 Stat. 72.
Pub. L. 113–6, div. B, title III, Mar. 26, 2013, 127 Stat. 263.
Pub. L. 112–55, div. B, title III, Nov. 18, 2011, 125 Stat. 625.
Pub. L. 111–117, div. B, title III, Dec. 16, 2009, 123 Stat. 3144.

TRANSMISSION OF BUDGET ESTIMATES

Pub. L. 102–588, title II, § 210, Nov. 4, 1992, 106 Stat. 5115, provided that: "The Administrator [of the National Aeronautics and Space Administration] shall, at the time of submission of the President's annual budget, transmit to the Congress—

"(1) a five-year budget detailing the estimated development costs for each individual program under the jurisdiction of the National Aeronautics and Space Administration for which development costs are expected to exceed $200,000,000; and

"(2) an estimate of the life-cycle costs associated with each such program." Similar provisions were contained in the following prior appropriation authorization act: Pub. L. 102–195, § 11, Dec. 9, 1991, 105 Stat. 1612.

§ 30104. Baselines and cost controls

(a) DEFINITIONS.—In this section:

(1) DEVELOPMENT.—The term "development" means the phase of a program following the formulation phase and beginning with the approval to proceed to implementation, as defined in the Administration's Procedural Requirements 7120.5E, dated August 14, 2012.

(2) DEVELOPMENT COST.—The term "development cost" means the total of all costs, including construction of facilities and civil servant costs, from the period beginning with the approval to proceed to implementation through the achievement of operational readiness, without regard to funding source or management control, for the life of the program.

(3) LIFE-CYCLE COST.—The term "life-cycle cost" means the total of the direct, indirect, recurring, and nonrecurring costs, including the construction of facilities and civil servant costs, and other related expenses incurred or estimated to be incurred in the design, development, verification, production, operation, maintenance, support, and retirement of a program

over its planned lifespan, without regard to funding source or management control.

(4) MAJOR PROGRAM.—The term "major program" means an activity approved to proceed to implementation that has an estimated life-cycle cost of more than $250,000,000.

(b) CONDITIONS FOR DEVELOPMENT.—

(1) IN GENERAL.—The Administration shall not enter into a contract for the development of a major program unless the Administrator determines that—

(A) the technical, cost, and schedule risks of the program are clearly identified and the program has developed a plan to manage those risks;

(B) the technologies required for the program have been demonstrated in a relevant laboratory or test environment; and

(C) the program complies with all relevant policies, regulations, and directives of the Administration.

(2) REPORT.—The Administrator shall transmit a report describing the basis for the determination required under paragraph (1) to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate at least 30 days before entering into a contract for development under a major program.

(3) NONDELEGATION.—The Administrator may not delegate the determination requirement under this subsection, except in cases in which the Administrator has a conflict of interest.

(c) MAJOR PROGRAM ANNUAL REPORTS.—

(1) REQUIREMENT.—Annually, at the same time as the President's annual budget submission to Congress, the Administrator shall transmit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report that includes the information required by this section for each major program for which the Administration proposes to expend funds in the subsequent fiscal year. Reports under this paragraph shall be known as Major Program Annual Reports.

(2) BASELINE REPORT.—The first Major Program Annual Report for each major program shall include a Baseline Report that shall, at a minimum, include—

(A) the purposes of the program and key technical characteristics necessary to fulfill those purposes;

(B) an estimate of the life-cycle cost for the program, with a detailed breakout of the development cost, program reserves, and an estimate of the annual costs until development is completed;

(C) the schedule for development, including key program milestones;

(D) the plan for mitigating technical, cost, and schedule risks identified in accordance with subsection (b)(1)(A); and

(E) the name of the person responsible for making notifications under subsection (d), who shall be an individual whose primary responsibility is overseeing the program.

(3) INFORMATION UPDATES.—For major programs for which a Baseline Report has been submitted, each subsequent Major Program Annual Report shall describe any changes to the information that had been provided in the Baseline Report, and the reasons for those changes.

(d) NOTIFICATION.—

(1) REQUIREMENT.—The individual identified under subsection (c)(2)(E) shall immediately notify the Administrator any time that individual has reasonable cause to believe that, for the major program for which he or she is responsible—

(A) the development cost of the program is likely to exceed the estimate provided in the Baseline Report of the program by 15 percent or more; or

(B) a milestone of the program is likely to be delayed by 6 months or more from the date provided for it in the Baseline Report of the program.

(2) REASONS.—Not later than 30 days after the notification required under paragraph (1), the individual identified under subsection (c)(2)(E) shall transmit to the Administrator a written notification explaining the reasons for the change in the cost or milestone of the program for which notification was provided under paragraph (1).

(3) NOTIFICATION OF CONGRESS.—Not later than 15 days after the Administrator receives a written notification under paragraph (2), the Administrator shall transmit the notification to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

(e) FIFTEEN PERCENT THRESHOLD.—

(1) DETERMINATION, REPORT, AND INITIATION OF ANALYSIS.—Not later than 30 days after receiving a written notification under subsection (d)(2), the Administrator shall determine whether the development cost of the program is likely to exceed the estimate provided in the Baseline Report of the program by 15 percent or more, or whether a milestone is likely to be delayed by 6 months or more. If the determination is affirmative, the Administrator shall—

(A) transmit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, not later than 15 days after making the determination, a report that includes—

(i) a description of the increase in cost or delay in schedule and a detailed explanation for the increase or delay;

(ii) a description of actions taken or proposed to be taken in response to the cost increase or delay; and

(iii) a description of any impacts the cost increase or schedule delay, or the actions described under clause (ii), will have on any other program within the Administration; and

(B) if the Administrator intends to continue with the program, promptly initiate an analysis of the program, which shall include, at a minimum—

(i) the projected cost and schedule for completing the program if current requirements of the program are not modified;

(ii) the projected cost and the schedule for completing the program after instituting the actions described under subparagraph (A)(ii); and

(iii) a description of, and the projected cost and schedule for, a broad range of alternatives to the program.

(2) COMPLETION OF ANALYSIS AND TRANSMITTAL TO COMMITTEES.—The Administration shall complete an analysis initiated under paragraph (1)(B) not later than 6 months after the Administrator makes a determination under this subsection. The Administrator shall transmit the analysis to the Committee on Science and Technology of the House of Representatives and Committee on Commerce, Science, and Transportation of the Senate not later than 30 days after its completion.

(f) THIRTY PERCENT THRESHOLD.—If the Administrator determines under subsection (e) that the development cost of a program will exceed the estimate provided in the Baseline Report of the program by more than 30 percent, then, beginning 18 months after the date the Administrator transmits a report under subsection (e)(1)(A), the Administrator shall not expend any additional funds on the program, other than termination costs, unless Congress has subsequently authorized continuation of the program by law. An appropriation for the specific program enacted subsequent to a report being transmitted shall be considered an authorization for purposes of this subsection. If the program is continued, the Administrator shall submit a new Baseline Report for the program no later than 90 days after the date of enactment of the Act under which Congress has authorized continuation of the program.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3360; Pub. L. 115–10, title VIII, § 828, Mar. 21, 2017, 131 Stat. 66.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30104	42 U.S.C. 16613.	Pub. L. 109–155, title I, § 103, Dec. 30, 2005, 119 Stat. 2907.

In subsections (b)(2), (c)(1), (d)(3), and (e)(1)(A), (2), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

AMENDMENTS

2017—Subsec. (a)(1). Pub. L. 115–10 substituted "Procedural Requirements 7120.5E, dated August 14, 2012" for "Procedural Requirements 7120.5c, dated March 22, 2005".

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

CHAPTER 303—CONTRACTING AND PROCUREMENT

Sec.
30301. Guaranteed customer base.
30302. Quality assurance personnel.
30303. Tracking and data relay satellite services.
30304. Award of contracts to small businesses and disadvantaged individuals.
30305. Outreach program.
30306. Small business contracting.
30307. Requirement for independent cost analysis.
30308. Cost effectiveness calculations.
30309. Use of abandoned and underutilized buildings, grounds, and facilities.
30310. Exception to alternative fuel procurement requirement.

DETECTION AND AVOIDANCE OF COUNTERFEIT PARTS

Pub. L. 115–10, title VIII, § 823, Mar. 21, 2017, 131 Stat. 62, provided that:

"(a) FINDINGS.—Congress makes the following findings:

"(1) A 2012 investigation by the Committee on Armed Services of the Senate of counterfeit electronic parts in the Department of Defense supply chain from 2009 through 2010 uncovered 1,800 cases and over 1,000,000 counterfeit parts and exposed the threat such counterfeit parts pose to service members and national security.

"(2) Since 2010, the Comptroller General of the United States has identified in 3 separate reports the risks and challenges associated with counterfeit parts and counterfeit prevention at both the Department of Defense and NASA, including inconsistent definitions of counterfeit parts, poorly targeted quality control practices, and potential barriers to improvements to these practices.

"(b) SENSE OF CONGRESS.—It is the sense of Congress that the presence of counterfeit electronic parts in the NASA supply chain poses a danger to United States government astronauts, crew, and other personnel and a risk to the agency overall.

"(c) REGULATIONS.—

"(1) IN GENERAL.—Not later than 270 days after the date of enactment of this Act [Mar. 21, 2017], the Administrator shall revise the NASA Supplement to the Federal Acquisition Regulation to improve the detection and avoidance of counterfeit electronic parts in the supply chain.

"(2) CONTRACTOR RESPONSIBILITIES.—In revising the regulations under paragraph (1), the Administrator shall—

"(A) require each covered contractor—

"(i) to detect and avoid the use or inclusion of any counterfeit parts in electronic parts or products that contain electronic parts;

"(ii) to take such corrective actions as the Administrator considers necessary to remedy the use or inclusion described in clause (i); and

"(iii) including a subcontractor, to notify the applicable NASA contracting officer not later than 30 calendar days after the date the covered contractor becomes aware, or has reason to suspect, that any end item, component, part or material contained in supplies purchased by NASA, or purchased by a covered contractor or subcontractor for delivery to, or on behalf of, NASA, contains a counterfeit electronic part or suspect counterfeit electronic part; and

"(B) prohibit the cost of counterfeit electronic parts, suspect counterfeit electronic parts, and any corrective action described under subparagraph (A)(ii) from being included as allowable costs under agency contracts, unless—

"(i)(I) the covered contractor has an operational system to detect and avoid counterfeit electronic parts and suspect counterfeit electronic parts that has been reviewed and approved by NASA or the Department of Defense; and

"(II) the covered contractor has provided the notice under subparagraph (A)(iii); or

"(ii) the counterfeit electronic parts or suspect counterfeit electronic parts were provided to the covered contractor as Government property in accordance with part 45 of the Federal Acquisition Regulation.

"(3) SUPPLIERS OF ELECTRONIC PARTS.—In revising the regulations under paragraph (1), the Administrator shall—

"(A) require NASA and covered contractors, including subcontractors, at all tiers—

"(i) to obtain electronic parts that are in production or currently available in stock from—

"(I) the original manufacturers of the parts or their authorized dealers; or

"(II) suppliers who obtain such parts exclusively from the original manufacturers of the parts or their authorized dealers; and

"(ii) to obtain electronic parts that are not in production or currently available in stock from suppliers that meet qualification requirements established under subparagraph (C);

"(B) establish documented requirements consistent with published industry standards or Government contract requirements for—

"(i) notification of the agency; and

"(ii) inspection, testing, and authentication of electronic parts that NASA or a covered contractor, including a subcontractor, obtains from any source other than a source described in subparagraph (A);

"(C) establish qualification requirements, consistent with the requirements of section 2319 of title 10, United States Code, pursuant to which NASA may identify suppliers that have appropriate policies and procedures in place to detect

and avoid counterfeit electronic parts and suspect counterfeit electronic parts; and

"(D) authorize a covered contractor, including a subcontractor, to identify and use additional suppliers beyond those identified under subparagraph (C) if—

"(i) the standards and processes for identifying such suppliers comply with established industry standards;

"(ii) the covered contractor assumes responsibility for the authenticity of parts provided by such suppliers under paragraph (2); and

"(iii) the selection of such suppliers is subject to review and audit by NASA.

"(d) DEFINITIONS.—In this section:

"(1) COVERED CONTRACTOR.—The term 'covered contractor' means a contractor that supplies an electronic part, or a product that contains an electronic part, to NASA.

"(2) ELECTRONIC PART.—The term 'electronic part' means a discrete electronic component, including a microcircuit, transistor, capacitor, resistor, or diode, that is intended for use in a safety or mission critical application."

[For definitions of terms used in section 823 of Pub. L. 115–10, set out above, see section 2 of Pub. L. 115–10, set out as a note under section 10101 of this title.]

AVOIDING ORGANIZATIONAL CONFLICTS OF INTEREST IN MAJOR ADMINISTRATION ACQUISITION PROGRAMS

Pub. L. 115–10, title VIII, § 830, Mar. 21, 2017, 131 Stat. 66, provided that:

"(a) REVISED REGULATIONS REQUIRED.—Not later than 270 days after the date of enactment of this Act [Mar. 21, 2017], the Administrator [of the National Aeronautics and Space Administration] shall revise the [National Aeronautics and Space] Administration Supplement to the Federal Acquisition Regulation to provide uniform guidance and recommend revised requirements for organizational conflicts of interest by contractors in major acquisition programs in order to address the elements identified in subsection (b).

"(b) ELEMENTS.—The revised regulations under subsection (a) shall, at a minimum—

"(1) address organizational conflicts of interest that could potentially arise as a result of—

"(A) lead system integrator contracts on major acquisition programs and contracts that follow lead system integrator contracts on such programs, particularly contracts for production;

"(B) the ownership of business units performing systems engineering and technical assistance functions, professional services, or management support services in relation to major acquisition programs by contractors who simultaneously own business units competing to perform as either the prime contractor or the supplier of a major subsystem or component for such programs;

"(C) the award of major subsystem contracts by a prime contractor for a major acquisition program to business

units or other affiliates of the same parent corporate entity, and particularly the award of subcontracts for software integration or the development of a proprietary software system architecture; or

"(D) the performance by, or assistance of, contractors in technical evaluations on major acquisition programs;

"(2) require the Administration to request advice on systems architecture and systems engineering matters with respect to major acquisition programs from objective sources independent of the prime contractor;

"(3) require that a contract for the performance of systems engineering and technical assistance functions for a major acquisition program contains a provision prohibiting the contractor or any affiliate of the contractor from participating as a prime contractor or a major subcontractor in the development of a system under the program; and

"(4) establish such limited exceptions to the requirement[s] in paragraphs (2) and (3) as the Administrator considers necessary to ensure that the Administration has continued access to advice on systems architecture and systems engineering matters from highly qualified contractors with domain experience and expertise, while ensuring that such advice comes from sources that are objective and unbiased."

§ 30301. Guaranteed customer base

No amount appropriated to the Administration may be used to fund grants, contracts, or other agreements with an expected duration of more than one year, when a primary effect of the grant, contract, or agreement is to provide a guaranteed customer base for or establish an anchor tenancy in new commercial space hardware or services unless an appropriations Act specifies the new commercial space hardware or services to be developed or used, or the grant, contract, or agreement is otherwise identified in such Act.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3363.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30301	42 U.S.C. 2459d.	Pub. L. 102–139, title III, (1st par. under heading "Administrative Provisions", at 105 Stat. 771), Oct. 28, 1991, 105 Stat. 771.

The words "in this or any other Act with respect to any fiscal year" are omitted as unnecessary.

§ 30302. Quality assurance personnel

(a) EXCLUSION OF ADMINISTRATION PERSONNEL.—A person providing articles to the Administration under a contract entered into after December 9, 1991, may not exclude Administration quality assurance personnel from work sites except as provided in a contract provision that has been submitted to Congress as provided in subsection (b).

(b) CONTRACT PROVISIONS.—The Administration shall not enter into any contract which permits the exclusion of Administration

quality assurance personnel from work sites unless the Administrator has submitted a copy of the provision permitting such exclusion to Congress at least 60 days before entering into the contract.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3363.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30302	42 U.S.C. 2459e.	Pub. L. 102–195, § 19, Dec. 9, 1991, 105 Stat. 1615.

In subsection (a), the date "December 9, 1991" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1992 (Public Law 102–195, 105 Stat. 1605).

In subsection (a), the words "that has been submitted to Congress as provided" are substituted for "described" for clarity.

§ 30303. Tracking and data relay satellite services

(a) CONTRACTS.—The Administration is authorized, when so provided in an appropriation Act, to enter into and to maintain a contract for tracking and data relay satellite services. Such services shall be furnished to the Administration in accordance with applicable authorization and appropriations Acts. The Government shall incur no costs under such contract prior to the furnishing of such services except that the contract may provide for the payment for contingent liability of the Government which may accrue in the event the Government should decide for its convenience to terminate the contract before the end of the period of the contract. Facilities which may be required in the performance of the contract may be constructed on Government-owned lands if there is included in the contract a provision under which the Government may acquire title to the facilities, under terms and conditions agreed upon in the contract, upon termination of the contract.

(b) REPORTS TO CONGRESS.—The Administrator shall in January of each year report to the Committee on Science and Technology and the Committee on Appropriations of the House of Representatives and the Committee on Commerce, Science, and Transportation and the Committee on Appropriations of the Senate the projected aggregate contingent liability of the Government under termination provisions of any contract authorized in this section through the next fiscal year. The authority of the Administration to enter into and to maintain the contract authorized hereunder shall remain in effect unless repealed by legislation enacted by Congress.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3363.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30303(a)	42 U.S.C. 2463 (1st par.).	Pub. L. 95–76, § 6, July 30, 1977, 91 Stat. 315; Pub. L. 103–437, § 15(c)(3), Nov. 2, 1994, 108 Stat. 4592.

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30303(b)	42 U.S.C. 2463 (last par.).	

In subsection (b), the words "Committee on Science and Technology" are substituted for "Committee on Science, Space, and Technology" on authority of section 1(a)(10) of Public Law 104–14 (2 U.S.C. note prec. 21), Rule X(1)(n) of the Rules of the House of Representatives, adopted by House Resolution No. 5 (106th Congress, January 6, 1999), and Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

In subsection (b), the word "hereafter" is omitted as unnecessary.

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 30304. Award of contracts to small businesses and disadvantaged individuals

The Administrator shall annually establish a goal of at least 8 percent of the total value of prime and subcontracts awarded in support of authorized programs, including the space station by the time operational status is obtained, which funds will be made available to small business concerns or other organizations owned or controlled by socially and economically disadvantaged individuals (within the meaning of paragraphs (5) and (6) of section 8(a) of the Small Business Act (15 U.S.C. 637(a))), including Historically Black Colleges and Universities that are part B institutions (as defined in section 322(2) of the Higher Education Act of 1965 (20 U.S.C. 1061(2))), Hispanic-serving institutions (as defined in section 502(a)(5) of that Act (20 U.S.C. 1101a(a)(5))), Tribal Colleges or Universities (as defined in section 316(b)(3) of that Act (20 U.S.C. 1059c(b)(3))), Alaska Native-serving institutions (as defined in section 317(b)(2) of that Act (20 U.S.C. 1059d(b)(2))), Native Hawaiian-serving institutions (as defined in section 317(b)(4) of that Act (20 U.S.C. 1059d(b)(4))), and minority educational institutions (as defined by the Secretary of Education pursuant to the General Education Provisions Act (20 U.S.C. 1221 et seq.)).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3364.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30304	42U.S.C. 2437b (1st par.).	Pub. L. 101–144, title III, (1st par. under heading "Small and Disadvantaged Business", at 103 Stat. 863), Nov. 9, 1989, 103 Stat. 863; Pub. L. 109–155, title VI, § 611, Dec. 30, 2005, 119 Stat. 2932.

The word "Alaska" is substituted for "Alaskan" in the phrase "Alaska Native-serving institutions (as defined in section 317(b)(2)

of that Act (20 U.S.C. 1059d(b)(2)))" for consistency with the term defined in section 317(b)(2) of the Higher Education Act of 1965 (20 U.S.C. 1059d(b)(2)).

REFERENCES IN TEXT

The General Education Provisions Act, referred to in text, is title IV of Pub. L. 90-247, Jan. 2, 1968, 81 Stat. 814, which is classified generally to chapter 31 (1221 et seq.) of Title 20, Education. For complete classification of this Act to the Code, see section 1221 of Title 20 and Tables.

§ 30305. Outreach program

(a) ESTABLISHMENT.—The Administration shall competitively select an organization to partner with Administration centers, aerospace contractors, and academic institutions to carry out a program to help promote the competitiveness of small, minority-owned, and women-owned businesses in communities across the United States through enhanced insight into the technologies of the Administration's space and aeronautics programs. The program shall support the mission of the Administration's Innovative Partnerships Program with its emphasis on joint partnerships with industry, academia, government agencies, and national laboratories.

(b) PROGRAM STRUCTURE.—In carrying out the program described in subsection (a), the organization shall support the mission of the Administration's Innovative Partnerships Program by undertaking the following activities:

(1) FACILITATING ENHANCED INSIGHT.—Facilitating the enhanced insight of the private sector into the Administration's technologies in order to increase the competitiveness of the private sector in producing viable commercial products.

(2) CREATING NETWORK.—Creating a network of academic institutions, aerospace contractors, and Administration centers that will commit to donating appropriate technical assistance to small businesses, giving preference to socially and economically disadvantaged small business concerns, small business concerns owned and controlled by service-disabled veterans, and HUBZone small business concerns. This paragraph shall not apply to any contracting actions entered into or taken by the Administration.

(3) CREATING NETWORK OF ECONOMIC DEVELOPMENT ORGANIZATIONS.—Creating a network of economic development organizations to increase the awareness and enhance the effectiveness of the program nationwide.

(c) REPORT.—Not later than one year after October 15, 2008, and annually thereafter, the Administrator shall submit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate describing the efforts and accomplishments of the program established under subsection (a) in support of the Administration's Innovative Partnerships Program. As part of the report, the Administrator shall provide—

(1) data on the number of small businesses receiving assistance, jobs created and retained, and volunteer hours donated

by the Administration, contractors, and academic institutions nationwide;

(2) an estimate of the total dollar value of the economic impact made by small businesses that received technical assistance through the program; and

(3) an accounting of the use of funds appropriated for the program.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3364.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30305	42 U.S.C. 17824.	Pub. L. 110–422, title XI, § 1107, Oct. 15, 2008, 122 Stat. 4810.

In subsection (c), in the matter before paragraph (1), the date "October 15, 2008" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2008.

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 30306. Small business contracting

(a) PLAN.—In consultation with the Small Business Administration, the Administrator shall develop a plan to maximize the number and amount of contracts awarded to small business concerns (within the meaning given that term in section 3 of the Small Business Act (15 U.S.C. 632)) and to meet established contracting goals for such concerns.

(b) PRIORITY.—The Administrator shall establish as a priority meeting the contracting goals developed in conjunction with the Small Business Administration to maximize the amount of prime contracts, as measured in dollars, awarded in each fiscal year by the Administration to small business concerns (within the meaning given that term in section 3 of the Small Business Act (15 U.S.C. 632)).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3365.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30306	42 U.S.C. 16821.	Pub. L. 109–155, title VII, § 707, Dec. 30, 2005, 199 Stat. 2937.

§ 30307. Requirement for independent cost analysis

(a) DEFINITION OF IMPLEMENTATION.—In this section, the term "implementation" means all activity in the life cycle of a project after preliminary design, independent assessment of the preliminary design, and approval to proceed into implementation, includ-

ing critical design, development, certification, launch, operations, disposal of assets, and, for technology programs, development, testing, analysis, and communication of the results.

(b) REQUIREMENT.—Before any funds may be obligated for implementation of a project that is projected to cost more than $250,000,000 in total project costs, the Administrator shall conduct and consider an independent life-cycle cost analysis of the project and shall report the results to Congress. In developing cost accounting and reporting standards for carrying out this section, the Administrator shall, to the extent practicable and consistent with other laws, solicit the advice of experts outside of the Administration.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3365.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30307	42 U.S.C. 2459g.	Pub. L. 106–391, title III, § 301, Oct. 30, 2000, 114 Stat. 1591; Pub. L. 109–155, title VII, § 704, Dec. 30, 2005, 119 Stat. 2936.

In subsection (b), in the first sentence, the words "the Administrator shall conduct" are substituted for "the Administrator for the National Aeronautics and Space Administration shall conduct" to eliminate unnecessary words.

In subsection (b), in the last sentence, the word "experts'" is substituted for "expertise" for clarity.

COST ESTIMATION

Pub. L. 115–10, title VIII, 836, Mar. 21, 2017, 131 Stat. 69, provided that:

"(a) SENSE OF CONGRESS.—It is the sense of Congress that—

"(1) realistic cost estimating is critically important to the ultimate success of major space development projects; and

"(2) the [National Aeronautics and Space] Administration has devoted significant efforts over the past 5 years to improving its cost estimating capabilities, but it is important that the Administration continue its efforts to develop and implement guidance in establishing realistic cost estimates.

"(b) GUIDANCE AND CRITERIA.—The Administrator [of the National Aeronautics and Space Administration] shall provide to its acquisition programs and projects, in a manner consistent with the Administration's Space Flight Program and Project Management Requirements—

"(1) guidance on when to use an Independent Cost Estimate and Independent Cost Assessment; and

"(2) criteria to use to make a determination under paragraph (1)."

§ 30308. Cost effectiveness calculations

(a) DEFINITIONS.—In this section:

(1) COMMERCIAL PROVIDER.—The term "commercial provider" means any person providing space transportation services or other space-related activities, the primary control of which is

held by persons other than a Federal, State, local, or foreign government.

(2) STATE.—The term "State" means each of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States.

(b) IN GENERAL.—Except as otherwise required by law, in calculating the cost effectiveness of the cost of the Administration engaging in an activity as compared to a commercial provider, the Administrator shall compare the cost of the Administration engaging in the activity using full cost accounting principles with the price the commercial provider will charge for such activity.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3366.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30308(a)	(no source)	
30308(b)	42 U.S.C. 2459h.	Pub. L. 106–391, title III, § 304, Oct. 30, 2000, 114 Stat. 1592.

In subsection (a), definitions of "commercial provider" and "State" are added to carry forward the appropriate definitions from section 3 of the National Aeronautics and Space Administration Authorization Act of 2000 (Public Law 106–391, 114 Stat. 1579, 1580).

§ 30309. Use of abandoned and underutilized buildings, grounds, and facilities

(a) DEFINITION OF DEPRESSED COMMUNITIES.—In this section, the term "depressed communities" means rural and urban communities that are relatively depressed, in terms of age of housing, extent of poverty, growth of per capita income, extent of unemployment, job lag, or surplus labor.

(b) IN GENERAL.—In any case in which the Administrator considers the purchase, lease, or expansion of a facility to meet requirements of the Administration, the Administrator shall consider whether those requirements could be met by the use of one of the following:

(1) Abandoned or underutilized buildings, grounds, and facilities in depressed communities that can be converted to Administration usage at a reasonable cost, as determined by the Administrator.

(2) Any military installation that is closed or being closed, or any facility at such an installation.

(3) Any other facility or part of a facility that the Administrator determines to be—

(A) owned or leased by the United States for the use of another agency of the Federal Government; and

(B) considered by the head of the agency involved to be—

(i) excess to the needs of that agency; or

(ii) underutilized by that agency.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3366.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30309	42 U.S.C. 2473d.	Pub. L. 106–391, title III, § 325, Oct. 30, 2000, 114 Stat. 1600.

PRIOR PROVISIONS

Provisions similar to those in this section were contained in the following prior appropriation authorization act:

Pub. L. 102–588, title II, 220, Nov. 4, 1992, 106 Stat. 5118.

§ 30310. Exception to alternative fuel procurement requirement

Section 526(a) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17142(a)) does not prohibit the Administration from entering into a contract to purchase a generally available fuel that is not an alternative or synthetic fuel or predominantly produced from a nonconventional petroleum source, if—

(1) the contract does not specifically require the contractor to provide an alternative or synthetic fuel or fuel from a nonconventional petroleum source;

(2) the purpose of the contract is not to obtain an alternative or synthetic fuel or fuel from a nonconventional petroleum source; and

(3) the contract does not provide incentives for a refinery upgrade or expansion to allow a refinery to use or increase its use of fuel from a nonconventional petroleum source.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3366.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30310	42 U.S.C. 17827.	Pub. L. 100–422, title XI, § 1112, Oct. 15 2008, 122 Stat. 4811.

REFERENCES IN TEXT

Section 526(a) of the Energy Independence and Security Act of 2007, referred to in text, probably means section 526 of Pub. L. 110-140, which is classified to section 17142 of Title 42, The Public Health and Welfare, but does not contain subsecs.

CHAPTER 305—MANAGEMENT AND REVIEW

Sec.
30501. Lessons learned and best practices.
30502. Whistleblower protection.
30503. Performance assessments.
30504. Assessment of science mission extensions.

ASSESSMENT OF IMPEDIMENTS TO SPACE SCIENCE AND ENGINEERING WORKFORCE DEVELOPMENT FOR MINORITY AND UNDERREPRESENTED GROUPS AT NASA

Pub. L. 111–358, title II, § 203, Jan. 4, 2011, 124 Stat. 3994, provided that:

"(a) ASSESSMENT.—The Administrator [of NASA] shall enter into an arrangement for an independent assessment of any impediments to space science and engineering workforce development for minority and underrepresented groups at NASA [National Aeronautics and Space Administration], including recommendations on—

"(1) measures to address such impediments;

"(2) opportunities for augmenting the impact of space science and engineering workforce development activities and for expanding proven, effective programs; and

"(3) best practices and lessons learned, as identified through the assessment, to help maximize the effectiveness of existing and future programs to increase the participation of minority and underrepresented groups in the space science and engineering workforce at NASA.

"(b) REPORT.—A report on the assessment carried out under subsection (a) shall be transmitted to the House of Representatives Committee on Science and Technology [now Committee on Science, Space, and Technology] and the Senate Committee on Commerce, Science, and Transportation not later than 15 months after the date of enactment of this Act [Jan. 4, 2011].

"(c) IMPLEMENTATION.—To the extent practicable, the Administrator shall take all necessary steps to address any impediments identified in the assessment."

EX. ORD. NO. 11374. ABOLITION OF MISSILE SITES LABOR COMMISSION

Ex. Ord. No. 11374, Oct. 11, 1967, 32 F.R. 14199, provided:

By virtue of the authority vested in me as President of the United States, it is ordered as follows:

SECTION 1. The Missile Sites Labor Commission is hereby abolished and its functions and responsibilities are transferred to the Federal Mediation and Conciliation Service.

SEC. 2. The Director of the Federal Mediation and Conciliation Service shall establish within the Federal Mediation and Conciliation Service such procedures as may be necessary to provide for continued priority for resolution of labor disputes or potential labor disputes at missile and space sites, and shall seek the continued cooperation of manufacturers, contractors, construction concerns, and labor unions in avoiding uneconomical operations and work stoppages at missile and space sites.

SEC. 3. The Department of Defense, the National Aeronautics and Space Administration, and other appropriate government departments and agencies shall continue to cooperate in the avoidance of uneconomical operations and work stoppages at missile and space sites. They shall also assist the Federal Mediation and Conciliation Service in the discharge of its responsibilities under this order.

SEC. 4. All records and property of the Missile Sites Labor Commission are hereby transferred to the Federal Mediation and Conciliation Service.

SEC. 5. Any disputes now before the Missile Sites Labor Commission shall be resolved by the personnel now serving as members of the Missile Sites Labor Commissions under special assignment for such purposes by the Director of the Federal Mediation and Conciliation Service.

SEC. 6. Executive Order No. 10946 of May 26, 1961, is hereby revoked.

LYNDON B. JOHNSON.

TASK FORCE ON SPACE INDUSTRY WORKFORCE AND ECONOMIC DEVELOPMENT

Memorandum of President of the United States, May 3, 2010, 75 F.R. 24781, provided:

Memorandum for the Secretary of Defense[,] the Secretary of Commerce[,] the Secretary of Labor[,] the Secretary of Housing and Urban Development[,] the Secretary of Transportation[,] the Secretary of Education[,] the Director of the Office of Management and Budget[,] the Administrator of the Small Business Administration[,] the Administrator of the National Aeronautics and Space Administration[,] the Chair of the Council of Economic Advisers[,] the Director of National Intelligence[,] the Director of the Office of Science and Technology Policy[, and] the Director of the National Economic Council.

My Administration is committed to implementing a bold, new approach to human spaceflight. Supported by a $6 billion increase to the National Aeronautics and Space Administration's (NASA) budget over the next 5 years, this strategy will foster the development of path-breaking technologies, increase the reach and reduce the cost of human and robotic exploration of space, and help create thousands of new jobs.

NASA's budget also includes $429 million next year, and $1.9 billion over the next 5 years, to modernize the Kennedy Space Center and other nearby space launch facilities in Florida. This modernization effort will help spur new commercial business and innovation and provide additional good jobs to the region. While all of the new aspects of my Administration's plan together will create thousands of new jobs in Florida, past decisions to end the Space Shuttle program will still affect families and communities along Florida's "Space Coast."

Building on this significant new investment at the Kennedy Space Center and my increased budget for NASA overall, I am committed to taking additional steps to help local economies like Florida's Space Coast adapt and thrive in the years ahead. The men and women who work in Florida's aerospace industry are some of the most talented and highly trained in the Nation. It is critical that their skills are tapped as we transform and expand the country's space exploration efforts. That is why I am launching a $40 million, multi-agency initiative to help the Space Coast transform their economies and prepare their workers for the opportunities of tomorrow. This effort will build on and complement ongoing

local and Federal economic and workforce-development efforts through a Task Force composed of senior-level Administration officials from relevant agencies that will construct an economic development action plan by August 15, 2010.

To these ends, I hereby direct the following:

SECTION 1. *Establishment of the Task Force on Space Industry Workforce and Economic Development*. There is established a Task Force on Space Industry Workforce and Economic Development (Task Force) to develop, in collaboration with local stakeholders, an interagency action plan to facilitate economic development strategies and plans along the Space Coast and to provide training and other opportunities for affected aerospace workers so they are equipped to contribute to new developments in America's space program and related industries. The Secretary of Commerce and the Administrator of NASA shall serve as Co-Chairs of the Task Force.

(a) Membership of the Task Force. In addition to the Co-Chairs, the Task Force shall consist of the following members:

(i) the Secretary of Defense;

(ii) the Secretary of Labor;

(iii) the Secretary of Housing and Urban Development;

(iv) the Secretary of Transportation;

(v) the Secretary of Education;

(vi) the Chair of the Council of Economic Advisers;

(vii) the Director of the Office of Management and Budget;

(viii) the Administrator of the Small Business Administration;

(ix) the Director of National Intelligence;

(x) the Director of the Office of Science and Technology Policy;

(xi) the Director of the National Economic Council; and

(xii) the heads of such other executive departments, agencies, and offices as the President may, from time totime, designate.

A member of the Task Force may designate, to perform the Task Force functions of the member, a senior-level official who is a part of the member's department, agency, or office, and who is a full-time officer or employee of the Federal Government.

(b) *Administration*. The Co-Chairs shall convene regular meetings of the Task Force, determine its agenda, and direct its work. At the direction of the Co-Chairs, the Task Force may establish subgroups consisting exclusively of Task Force members or their designees, as appropriate.

SEC. 2. *Mission and Functions*. The Task Force shall work with local stakeholders and executive departments and agencies to equip Space Coast and other affected workers to take advantage of new opportunities and expand the region's economic base.

The Task Force will perform the following functions, to the extent permitted by law:

(a) provide leadership and coordination of Federal Government resources to facilitate workforce and economic development opportunities for aerospace communities and workers affected by new developments in America's space exploration program. Such support may include the use of personnel, technical expertise, and available financial resources, and may be used to provide a coordinated Federal response to the needs of individual States, regions, municipalities, and communities adversely affected by space industry changes;

(b) provide recommendations to the President on ways Federal policies and programs can address issues of special importance to aerospace communities and workers; and

(c) help ensure that officials from throughout the executive branch, including officials on existing committees or task forces addressing technological development, research, or aerospace issues, advance the President's agenda for the transformation of America's space exploration program and support the coordination of Federal economic adjustment assistance activities.

SEC. 3. *Outreach.* Consistent with the objectives set forth in this memorandum, the Task Force, in accordance with applicable law, in addition to holding regular meetings, shall conduct outreach to representatives of nonprofit organizations; business; labor[;] State, local, and tribal governments; elected officials; and other interested persons that will assist in bringing to the President's attention concerns, ideas, and policy options for expanding and improving efforts to create jobs and economic growth in affected aerospace communities. The Task Force shall hold inaugural meetings with stakeholders within 60 days of the date of this memorandum.

SEC. 4. *Task Force Plan for Space Industry Workforce and Economic Development*. On or before August 15, 2010, the Task Force shall develop and submit to the President a comprehensive plan that:

(a) recommends how best to invest $40 million in transition assistance funding to ensure robust workforce and economic development in those communities within Florida affected by transitions in America's space exploration program;

(b) describes how the plan will build on and complement ongoing economic and workforce development efforts;

(c) explores future workforce and economic development activities that could be undertaken for affected aerospace communities in other States, as appropriate;

(d) identifies areas of collaboration with other public or nongovernmental actors to achieve the objectives of the Task Force; and

(e) details a coordinated implementation strategy by executive departments and agencies to meet the objectives of the Task Force.

SEC. 5. *Termination*. The Task Force shall terminate 3 years after the date of this memorandum unless extended by the President.

SEC. 6. *General Provisions*. (a) The heads of executive departments and agencies shall assist and provide information to the Task Force, consistent with applicable law, as may be necessary to carry out the functions of the Task Force. Each executive department and agency shall bear its own expense for participating in the Task Force; and

(b) nothing in this memorandum shall be construed to impair or otherwise affect:

(i) authority granted by law to an executive department, agency, or the head thereof; or

(ii) functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(c) This memorandum shall be implemented consistent with applicable law and subject to the availability of appropriations.

(d) This memorandum is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

(e) The Administrator of the National Aeronautics and Space Administration shall publish this memorandum in the Federal Register.

BARACK OBAMA.

§ 30501. Lessons learned and best practices

(a) IN GENERAL.—The Administrator shall transmit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate an implementation plan describing the Administration's approach for obtaining, implementing, and sharing lessons learned and best practices for its major programs and projects not later than 180 days after December 30, 2005. The implementation plan shall be updated and maintained to ensure that it is current and consistent with the burgeoning culture of learning and safety that is emerging at the Administration.

(b) REQUIRED CONTENT.—The implementation plan shall contain at a minimum the lessons learned and best practices requirements for the Administration, the organizations or positions responsible for enforcement of the requirements, the reporting structure, and the objective performance measures indicating the effectiveness of the activity.

(c) INCENTIVES.—The Administrator shall provide incentives to encourage sharing and implementation of lessons learned and best practices by employees, projects, and programs, as well as penalties for programs and projects that are determined not to have demonstrated use of those resources.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3367.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30501	42 U.S.C. 16615.	Pub. L. 109–155, title I, § 107, Dec. 30, 2005, 119 Stat. 2912.

In subsection (a), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

In subsection (a), the date "December 30, 2005" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895).

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 30502. Whistleblower protection

(a) IN GENERAL.—Not later than 1 year after December 30, 2005, the Administrator shall transmit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a plan describing steps to be taken by the Administration to protect from retaliation Administration employees who raise concerns about substantial and specific dangers to public health and safety or about substantial and specific factors that could threaten the success of a mission. The plan shall be designed to ensure that Administration employees have the full protection required by law. The administrator shall implement the plan not more than 1 year after its transmittal.

(b) GOAL.—The Administrator shall ensure that the plan describes a system that will protect employees who wish to raise or have raised concerns described in subsection (a).

(c) PLAN.—At a minimum, the plan shall include, consistent with Federal law—

(1) a reporting structure that ensures that the officials who are the subject of a whistleblower's complaint will not learn the identity of the whistleblower;

(2) a single point to which all complaints can be made without fear of retribution;

(3) procedures to enable the whistleblower to track the status of the case;

(4) activities to educate employees about their rights as whistleblowers and how they are protected by law;

(5) activities to educate employees about their obligations to report concerns and their accountability before and after receiving the results of the investigations into their concerns; and

(6) activities to educate all appropriate Administration Human Resources professionals, and all Administration managers and supervisors, regarding personnel laws, rules, and regulations.

(d) REPORT.—Not later than February 15 of each year beginning February 15, 2007, the Administrator shall transmit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on the concerns described in subsection (a) that were raised during the previous fiscal year. At a minimum, the report shall provide—

(1) the number of concerns that were raised, divided into the categories of safety and health, mission assurance, and mismanagement, and the disposition of those concerns, including whether any employee was disciplined as a result of a concern having been raised; and

(2) any recommendations for reforms to further prevent retribution against employees who raise concerns.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3367.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30502	42 U.S.C. 16618.	Pub. L., 109–155, title I, § 110, Dec. 30, 2005, 119 Stat. 2914.

In subsection (a), the date "December 30, 2005" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895).

In subsections (a) and (d), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

In subsection (d), the words "Not later than February 15 of each year beginning February 15, 2007" are substituted for "Not later than February 15 of each year beginning with the year after the date of enactment of this Act" for clarity.

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 30503. Performance assessments

(a) IN GENERAL.—The performance of each division in the Science directorate of the Administration shall be reviewed and assessed by the National Academy of Sciences at 5-year intervals.

(b) TIMING.—Beginning with the first fiscal year following December 30, 2005, the Administrator shall select at least one division for review under this section. The Administrator shall select divisions so that all disciplines will have received their first review within 6 fiscal years of December 30, 2005.

(c) REPORTS.—Not later than March 1 of each year, beginning with the first fiscal year after December 30, 2005, the Administrator shall transmit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate—

(1) setting forth in detail the results of any external review under subsection (a);

(2) setting forth in detail actions taken by the Administration in response to any external review; and

(3) including a summary of findings and recommendations from any other relevant external reviews of the Administration's science mission priorities and programs.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3368.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30503	42 U.S.C. 16651.	Pub. L., 109–155, title III, § 301, Dec. 30, 2005, 119 Stat. 2916.

In subsections (b) and (c), the date "December 30, 2005" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895).

In subsection (c), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 30504. Assessment of science mission extensions

(a) ASSESSMENTS.—

(1) IN GENERAL.—The Administrator shall carry out triennial reviews within each of the Science divisions to assess the cost and benefits of extending the date of the termination of data collection for those missions that exceed their planned missions' lifetime.

(2) CONSIDERATIONS.—In conducting an assessment under paragraph (1), the Administrator shall consider whether and how extending missions impacts the start of future missions.

(b) CONSULTATION AND CONSIDERATION OF POTENTIAL BENEFITS OF INSTRUMENTS ON MISSIONS.—When deciding whether to extend a mission that has an operational component, the Administrator shall—

(1) consult with any affected Federal agency; and

(2) take into account the potential benefits of instruments on missions that are beyond their planned mission lifetime.

(c) REPORTS.—The Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives, at the same time as the submission to Congress of the Administration's annual budget request for each fiscal year, a report detailing any assessment under subsection (a) that was carried out during the previous year.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3369; Pub. L. 115–10, title V, § 513, Mar. 21, 2017, 131 Stat. 52.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30504(a)	42 U.S.C. 16654(a) (matter before par. (1)).	Pub. L. 109–155, title III, § 304(a), (matter before par. (1)), (2), Dec. 30, 2005, 119 Stat. 2918.

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30504(b)	42 U.S.C. 16654(a)(2).	

In subsection (a), the words "In addition—" are omitted as unnecessary.

AMENDMENTS

2017—Pub. L. 115–10 amended section generally. Prior to amendment, text read as follows:

"(a) ASSESSMENT.—The Administrator shall carry out biennial reviews within each of the Science divisions to assess the cost and benefits of extending the date of the termination of data collection for those missions that have exceeded their planned mission lifetime.

"(b) CONSULTATION AND CONSIDERATION OF POTENTIAL BENEFITS OF INSTRUMENTS ON MISSIONS.—For those missions that have an operational component, the National Oceanic and Atmospheric Administration or any other affected agency shall be consulted and the potential benefits of instruments on missions that are beyond their planned mission lifetime taken into account."

CHAPTER 307—INTERNATIONAL COOPERATION AND COMPETITION

Sec.
30701. Competitiveness and international cooperation.
30702. Foreign contract limitation.
30703. Foreign launch vehicles.
30704. Offshore performance of contracts for the procurement of goods and services.

§ 30701. Competitiveness and international cooperation

(a) LIMITATION.—

(1) SOLICITATION OF COMMENT.—As part of the evaluation of the costs and benefits of entering into an obligation to conduct a space mission in which a foreign entity will participate as a supplier of the spacecraft, spacecraft system, or launch system, the Administrator shall solicit comment on the potential impact of such participation through notice published in Commerce Business Daily at least 45 days before entering into such an obligation.

(2) AGREEMENTS WITH PEOPLE'S REPUBLIC OF CHINA.—The Administrator shall certify to Congress at least 15 days in advance of any cooperative agreement with the People's Republic of China, or any company owned by the People's Republic of China or incorporated under the laws of the People's Republic of China, involving spacecraft, spacecraft systems, launch systems, or scientific or technical information, that—

(A) the agreement is not detrimental to the United States space launch industry; and

(B) the agreement, including any indirect technical benefit that could be derived from the agreement, will not improve the missile or space launch capabilities of the People's Republic of China.

(3) ANNUAL AUDIT.—The Inspector General of the Administration, in consultation with appropriate agencies, shall con-

duct an annual audit of the policies and procedures of the Administration with respect to the export of technologies and the transfer of scientific and technical information, to assess the extent to which the Administration is carrying out its activities in compliance with Federal export control laws and with paragraph (2).

(b) NATIONAL INTERESTS.—

(1) DEFINITION OF UNITED STATES COMMERCIAL PROVIDER.—In this subsection, the term "United States commercial provider" means a commercial provider (as defined in section 30308(a) of this title), organized under the laws of the United States or of a State (as defined in section 30308(a) of this title), which is—

(A) more than 50 percent owned by United States nationals; or

(B) a subsidiary of a foreign company and the Secretary of Commerce finds that—

(i) such subsidiary has in the past evidenced a substantial commitment to the United States market through—

(I) investments in the United States in long-term research, development, and manufacturing (including the manufacture of major components and subassemblies); and

(II) significant contributions to employment in the United States; and

(ii) the country or countries in which such foreign company is incorporated or organized, and, if appropriate, in which it principally conducts its business, affords reciprocal treatment to companies described in subparagraph (A) comparable to that afforded to such foreign company's subsidiary in the United States, as evidenced by—

(I) providing comparable opportunities for companies described in subparagraph (A) to participate in Government sponsored research and development similar to that authorized under this section, section 30307, 30308, 30309, or 30702 of this title, or the National Aeronautics and Space Administration Authorization Act of 2000 (Public Law 106–391, 114 Stat. 1577);

(II) providing no barriers to companies described in subparagraph (A) with respect to local investment opportunities that are not provided to foreign companies in the United States; and

(III) providing adequate and effective protection for the intellectual property rights of companies described in subparagraph (A).

(2) IN GENERAL.—Before entering into an obligation described in subsection (a), the Administrator shall consider the national interests of the United States described in paragraph (3) of this subsection.

(3) DESCRIPTION OF NATIONAL INTERESTS.—International cooperation in space exploration and science activities most effectively serves the United States national interest when it—

(A) (i) reduces the cost of undertaking missions the United States Government would pursue unilaterally;

(ii) enables the United States to pursue missions that it could not otherwise afford to pursue unilaterally; or

(iii) enhances United States capabilities to use and develop space for the benefit of United States citizens;

(B) is undertaken in a manner that is sensitive to the desire of United States commercial providers to develop or explore space commercially;

(C) is consistent with the need for Federal agencies to use space to complete their missions; and

(D) is carried out in a manner consistent with United States export control laws.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3369.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30701(a)	42 U.S.C. 2475a(a).	Pub. L. 106–391, title I, § 126, Oct. 30, 2000, 114 Stat. 1585.
30701(b)(1)	(no source)	
30701(b)(2)	42 U.S.C. 2475a(b).	
30701(b)(3)	(no source)	

In subsection (b)(1), the definition of "United States commercial provider" is added to carry forward the appropriate definition from section 3 of the National Aeronautics and Space Administration Authorization Act of 2000 (Public Law 106–391, 114 Stat. 1580).

In subsection (b)(3), the description of national interests of the United States is added to carry forward the appropriate description of national interests of the United States from section 2(6) of the National Aeronautics and Space Administration Authorization Act of 2000 (Public Law 106–391, 114 Stat. 1578).

REFERENCES IN TEXT

The National Aeronautics and Space Administration Authorization Act of 2000, referred to in subsec. (b)(1)(B)(ii)(I), is Pub. L. 106–391, Oct. 30, 2000, 114 Stat. 1577. For complete classification of this Act to the Code, see Tables.

LIMITATION ON INTERNATIONAL AGREEMENTS CONCERNING OUTER SPACE ACTIVITIES

Pub. L. 112–239, div. A, title IX, 913(a), (b), Jan. 2, 2013, 126 Stat. 1874, provided that:

"(a) CERTIFICATION REQUIRED.—If the United States becomes a signatory to a non-legally binding international agreement concerning an International Code of Conduct for Outer Space Activities or any similar agreement, at the same time as the United States becomes such a signatory—

"(1) the President shall submit to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives], the Permanent Select Committee on Intelligence of the House of Representatives, and the Select Committee on Intelligence of the Senate a certification that such agreement has no legally-binding effect or basis for limiting the activities of the United States in outer space; and

"(2) the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, and the Director of National Intelligence shall jointly submit to the congressional defense committees a certification that such agreement will be equitable, enhance national security, and have no militarily significant impact on the ability of the United States to conduct military or intelligence activities in space.

"(b) BRIEFINGS AND NOTIFICATIONS REQUIRED.—

"(1) RESTATEMENT OF POLICY FORMULATION UNDER THE ARMS CONTROL AND DISARMAMENT ACT WITH RESPECT TO OUTER SPACE.—No action shall be taken that would obligate the United States to reduce or limit the Armed Forces or armaments of the United States in outer space in a militarily significant manner, except pursuant to the treaty-making power of the President set forth in Article II, Section 2, Clause II of the Constitution or unless authorized by the enactment of further affirmative legislation by the Congress of the United States.

"(2) BRIEFINGS.—

"(A) REQUIREMENT.—The Secretary of Defense, the Secretary of State, and the Director of National Intelligence shall jointly provide to the covered congressional committees regular, detailed updates on the negotiation of a non-legally binding international agreement concerning an International Code of Conduct for Outer Space Activities or any similar agreement.

"(B) TERMINATION OF REQUIREMENT.—The requirement to provide regular briefings under subparagraph (A) shall terminate on the date on which the United States becomes a signatory to an agreement referred to in subparagraph (A), or on the date on which the President certifies to Congress that the United States is no longer negotiating an agreement referred to in subparagraph (A), whichever is earlier.

"(3) NOTIFICATIONS.—If the United States becomes a signatory to a non-legally binding international agreement concerning an International Code of Conduct for Outer Space Activities or any similar agreement, not less than 60 days prior to any action that will obligate the United States to reduce or limit the Armed Forces or armaments or activities of the United States in outer space, the head of each Department or agency of the Federal Government that is affected by such action shall submit to Congress notice of such action and the effect of such action on such Department or agency.

"(4) DEFINITION.—In this subsection, the term 'covered congressional committees' means—

"(A) the Committee on Armed Services, the Committee on Foreign Affairs, and the Permanent Select Committee on Intelligence of the House of Representatives; and

"(B) the Committee on Armed Services, the Committee on Foreign Relations, and the Select Committee on Intelligence of the Senate."

§ 30702. Foreign contract limitation

The Administration shall not enter into any agreement or contract with a foreign government that grants the foreign government the right to recover profit in the event that the agreement or contract is terminated.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3371.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30702	42 U.S.C. 2475b.	Pub. L. 106–391, title III, § 305, Oct. 30, 2000, 144 Stat. 1592.

§ 30703. Foreign launch vehicles

(a) ACCORD WITH SPACE TRANSPORTATION POLICY.—The Administration shall not launch a payload on a foreign launch vehicle except in accordance with the Space Transportation Policy announced by the President on December 21, 2004. This subsection shall not be construed to prevent the President from waiving the Space Transportation Policy.

(b) INTERAGENCY COORDINATION.—The Administration shall not launch a payload on a foreign launch vehicle unless the Administration commenced the interagency coordination required by the Space Transportation Policy announced by the President on December 21, 2004, at least 90 days before entering into a development contract for the payload.

(c) APPLICATION.—This section shall not apply to any payload for which development has begun prior to December 30, 2005, including the James Webb Space Telescope.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3371.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30703	42 U.S.C. 16614.	Pub. L. 109–155, title I, § 105, Dec. 30, 2005, 119 Stat. 2912.

In subsection (c), the date "December 30, 2005" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895).

§ 30704. Offshore performance of contracts for the procurement of goods and services

The Administrator shall submit to Congress, not later than 120 days after the end of each fiscal year, a report on the contracts and subcontracts performed overseas and the amount of purchases di-

rectly or indirectly by the Administration from foreign entities in that fiscal year. The report shall separately indicate—

(1) the contracts and subcontracts and their dollar values for which the Administrator determines that essential goods or services under the contract are available only from a source outside the United States; and

(2) the items and their dollar values for which the Buy American Act (41 U.S.C. 10a et seq.) was waived pursuant to obligations of the United States under international agreements.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3371.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30704	42 U.S.C. 16823.	Pub. L. 109–155, title VII, § 709, Dec. 30, 2005, 119 Stat. 2938.

In the matter before paragraph (1), the words "beginning with the first fiscal year after the date of enactment of this Act [December 30, 2005]" are omitted as obsolete.

REFERENCES IN TEXT

The Buy American Act, referred to in par. (2), is title III of act Mar. 3, 1933, ch. 212, 47 Stat. 1520, which was classified generally to sections 10a, 10b, and 10c of former Title 41, Public Contracts, and was substantially repealed and restated in chapter 83 (8301 et seq.) of Title 41, Public Contracts, by Pub. L. 111–350, §§ 3, 7(b), Jan. 4, 2011, 124 Stat. 3677, 3855. For complete classification of this Act to the Code, see Short Title of 1933 Act note set out under section 101 of Title 41 and Tables. For disposition of sections of former Title 41, see Disposition Table preceding section 101 of Title 41.

CHAPTER 309—AWARDS

Sec.
30901. Congressional Space Medal of Honor.
30902. Charles "Pete" Conrad Astronomy Awards.

§ 30901. Congressional Space Medal of Honor

(a) AUTHORITY TO AWARD.—The President may award, and present in the name of Congress, a medal of appropriate design, which shall be known as the Congressional Space Medal of Honor, to any astronaut who in the performance of the astronaut's duties has distinguished himself or herself by exceptionally meritorious efforts and contributions to the welfare of the Nation and of humankind.

(b) APPROPRIATIONS.—There is authorized to be appropriated from time to time such sums of money as may be necessary to carry out the purposes of this section.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3371.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30901(a)	42 U.S.C. 2461 (1st par.).	Pub. L. 91–76, § 1, Sept. 29, 1969, 83 Stat. 124.
30901(b)	42 U.S.C. 2461 (last par.).	Pub. L. 91–76, § 2, Sept. 29, 1969, 83 Stat. 124.

§ 30902. Charles "Pete" Conrad Astronomy Awards

(a) SHORT TITLE.—This section may be cited as the "Charles 'Pete' Conrad Astronomy Awards Act".

(b) DEFINITIONS.—In this section:

(1) AMATEUR ASTRONOMER.—The term "amateur astronomer" means an individual whose employer does not provide any funding, payment, or compensation to the individual for the observation of asteroids and other celestial bodies, and does not include any individual employed as a professional astronomer.

(2) MINOR PLANET CENTER.—The term "Minor Planet Center" means the Minor Planet Center of the Smithsonian Astrophysical Observatory.

(3) NEAR-EARTH ASTEROID.—The term "near-Earth asteroid" means an asteroid with a perihelion distance of less than 1.3 Astronomical Units from the Sun.

(4) PROGRAM.—The term "Program" means the Charles "Pete" Conrad Astronomy Awards Program established under subsection (c).

(c) CHARLES "PETE" CONRAD ASTRONOMY AWARDS PROGRAM.—

(1) IN GENERAL.—The Administrator shall establish the Charles "Pete" Conrad Astronomy Awards Program.

(2) AWARDS.—The Administrator shall make awards under the Program based on the recommendations of the Minor Planet Center.

(3) AWARD CATEGORIES.—The Administrator shall make one annual award, unless there are no eligible discoveries or contributions, for each of the following categories:

(A) DISCOVERY OF BRIGHTEST NEAR-EARTH ASTEROID.—The amateur astronomer or group of amateur astronomers who in the preceding calendar year discovered the intrinsically brightest near-Earth asteroid among the near-Earth asteroids that were discovered during that year by amateur astronomers or groups of amateur astronomers.

(B) GREATEST CONTRIBUTION TO CATALOGUING NEAR-EARTH ASTEROIDS.—The amateur astronomer or group of amateur astronomers who made the greatest contribution to the Minor Planet Center's mission of cataloguing near-Earth asteroids during the preceding year.

(4) AWARD AMOUNT.—An award under the Program shall be in the amount of $3,000.

(5) GUIDELINES.—

(A) CITIZEN OR PERMANENT RESIDENT.—No individual who is not a citizen or permanent resident of the United States at the time of the individual's discovery or contribution may receive an award under this section.

(B) FINALITY.—The decisions of the Administrator in making awards under this section are final.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3372.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
30902	42 U.S.C. 16792.	Pub. L. 109–155, title VI, § 613, Dec. 30, 2005, 119 Stat. 2932.

CHAPTER 311—SAFETY

Sec.
31101. Aerospace Safety Advisory Panel.
31102. Drug and alcohol testing.

§ 31101. Aerospace Safety Advisory Panel

(a) ESTABLISHMENT AND MEMBERS.—There is established an Aerospace Safety Advisory Panel consisting of a maximum of 9 members who shall be appointed by the Administrator for terms of 6 years each. Not more than 4 such members shall be chosen from among the officers and employees of the Administration.

(b) CHAIRMAN.—One member shall be designated by the Panel as its Chairman.

(c) DUTIES.—The Panel shall—

(1) review safety studies and operations plans referred to it, including evaluating the Administration's compliance with the return-to-flight and continue-to-fly recommendations of the Columbia Accident Investigation Board, and make reports thereon;

(2) advise the Administrator and Congress with respect to—

(A) the hazards of proposed or existing facilities and proposed operations;

(B) the adequacy of proposed or existing safety standards; and

(C) management and culture related to safety; and

(3) perform such other duties as the Administrator may request.

(d) COMPENSATION AND EXPENSES.—

(1) COMPENSATION.—

(A) FEDERAL OFFICERS AND EMPLOYEES.—A member of the Panel who is an officer or employee of the Federal Government shall receive no compensation for the member's services as such.

(B) MEMBERS APPOINTED FROM OUTSIDE THE FEDERAL GOVERNMENT.—A member of the Panel appointed from outside the Federal Government shall receive compensation, at a rate not to exceed the per diem rate equivalent to the maximum rate payable under section 5376 of title 5, for each day the member is engaged in the actual performance of duties vested in the Panel.

(2) EXPENSES.—A member of the Panel shall be allowed necessary travel expenses (or in the alternative, mileage for use of a privately owned vehicle and a per diem in lieu of subsist-

ence not to exceed the rate and amount prescribed in sections 5702 and 5704 of title 5), and other necessary expenses incurred by the member in the performance of duties vested in the Panel, without regard to the provisions of subchapter I of chapter 57 of title 5, the Standardized Government Travel Regulations, or section 5731 of title 5.

(e) ANNUAL REPORT.—The Panel shall submit an annual report to the Administrator and to Congress. In the first annual report submitted after December 30, 2005, the Panel shall include an evaluation of the Administration's management and culture related to safety. Each annual report shall include an evaluation of the Administration's compliance with the recommendations of the Columbia Accident Investigation Board through retirement of the space shuttle.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3373.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
31101(a)	42 U.S.C. 2477(a) (1st, last sentences).	Pub. L. 90–67, § 6, Aug. 21, 1967, 81 Stat. 170; Pub. L. 94–307, § 8, June 4, 1976, 90 Stat. 681; Pub. L. 99–234, title I, § 107(f), Jan. 2, 1986, 99 Stat. 1759; Pub. L. 109–155, title I, § 106, Dec. 30, 2005, 119 Stat. 2912.
31101(b)	42 U.S.C. 2477(a) (3d sentence).	
31101(c)	42 U.S.C. 2477(a) (2d sentence).	
31101(d)	42 U.S.C. 2477(a) (4th, 5th sentences).	
31101(e)	42 U.S.C. 2477(b).	

In subsection (d)(1)(B), the words "maximum rate payable under section 5376 of title 5" are substituted for "rate for GS–18" because of section 101(c) of the Federal Employees Pay Comparability Act of 1990 (Public Law 101–509, 5 U.S.C. 5376 note).

In subsection (e), the date "December 30, 2005" is substituted for "the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895).

§ 31102. Drug and alcohol testing

(a) DEFINITION OF CONTROLLED SUBSTANCE.—In this section, the term "controlled substance" means any substance under section 102(6) of the Controlled Substances Act (21 U.S.C. 802(6)) specified by the Administrator.

(b) TESTING PROGRAM.—

(1) EMPLOYEES OF ADMINISTRATION.—The Administrator shall establish a program applicable to employees of the Administration whose duties include responsibility for safety-sensitive, security, or national security functions. Such program shall provide for preemployment, reasonable suspicion, random, and post-accident testing for use, in violation of applicable law or Federal regulation, of alcohol or a controlled substance. The Administrator may also prescribe regulations, as

the Administrator considers appropriate in the interest of safety, security, and national security, for the conduct of periodic recurring testing of such employees for such use in violation of applicable law or Federal regulation.

(2) EMPLOYEES OF CONTRACTORS.—The Administrator shall, in the interest of safety, security, and national security, prescribe regulations. Such regulations shall establish a program that requires Administration contractors to conduct preemployment, reasonable suspicion, random, and post-accident testing of contractor employees responsible for safety-sensitive, security, or national security functions (as determined by the Administrator) for use, in violation of applicable law or Federal regulation, of alcohol or a controlled substance. The Administrator may also prescribe regulations, as the Administrator considers appropriate in the interest of safety, security, and national security, for the conduct of periodic recurring testing of such employees for such use in violation of applicable law or Federal regulation.

(3) SUSPENSION, DISQUALIFICATION, OR DISMISSAL.—In prescribing regulations under the programs required by this subsection, the Administrator shall require, as the Administrator considers appropriate, the suspension, disqualification, or dismissal of any employee to which paragraph (1) or (2) applies, in accordance with the provisions of this section, in any instance where a test conducted and confirmed under this section indicates that such employee has used, in violation of applicable law or Federal regulation, alcohol or a controlled substance.

(c) PROHIBITION ON SERVICE.—

(1) PROHIBITION UNLESS PROGRAM OF REHABILITATION COMPLETED.—No individual who is determined by the Administrator under this section to have used, in violation of applicable law or Federal regulation, alcohol or a controlled substance after December 9, 1991, shall serve as an Administration employee with responsibility for safety-sensitive, security, or national security functions (as determined by the Administrator), or as an Administration contractor employee with such responsibility, unless such individual has completed a program of rehabilitation described in subsection (d).

(2) UNCONDITIONAL PROHIBITION.—Any such individual determined by the Administrator under this section to have used, in violation of applicable law or Federal regulation, alcohol or a controlled substance after December 9, 1991, shall not be permitted to perform the duties that the individual performed prior to the date of the determination, if the individual—

(A) engaged in such use while on duty;

(B) prior to such use had undertaken or completed a rehabilitation program described in subsection (d);

(C) following such determination refuses to undertake such a rehabilitation program; or

(D) following such determination fails to complete such a rehabilitation program.

(d) PROGRAM FOR REHABILITATION.—

(1) REGULATIONS AND AVAILABILITY OF PROGRAM FOR CONTRACTOR EMPLOYEES.—The Administrator shall prescribe regu-

lations setting forth requirements for rehabilitation programs which at a minimum provide for the identification and opportunity for treatment of employees referred to in subsection (b) in need of assistance in resolving problems with the use, in violation of applicable law or Federal regulation, of alcohol or a controlled substance. Each contractor is encouraged to make such a program available to all of its employees in addition to those employees referred to in subsection (b)(2). The Administrator shall determine the circumstances under which such employees shall be required to participate in such a program. Nothing in this subsection shall preclude any Administration contractor from establishing a program under this subsection in cooperation with any other such contractor.

(2) ESTABLISHMENT AND MAINTENANCE OF PROGRAM FOR ADMINISTRATION EMPLOYEES.—The Administrator shall establish and maintain a rehabilitation program which at a minimum provides for the identification and opportunity for treatment of those employees of the Administration whose duties include responsibility for safety-sensitive, security, or national security functions who are in need of assistance in resolving problems with the use of alcohol or controlled substances.

(e) PROCEDURES FOR TESTING.—In establishing the programs required under subsection (b), the Administrator shall develop requirements which shall—

(1) promote, to the maximum extent practicable, individual privacy in the collection of specimen samples;

(2) with respect to laboratories and testing procedures for controlled substances, incorporate the Department of Health and Human Services scientific and technical guidelines dated April 11, 1988, and any subsequent amendments thereto, including mandatory guidelines which—

(A) establish comprehensive standards for all aspects of laboratory controlled substances testing and laboratory procedures to be applied in carrying out this section, including standards which require the use of the best available technology for ensuring the full reliability and accuracy of controlled substances tests and strict procedures governing the chain of custody of specimen samples collected for controlled substances testing;

(B) establish the minimum list of controlled substances for which individuals may be tested; and

(C) establish appropriate standards and procedures for periodic review of laboratories and criteria for certification and revocation of certification of laboratories to perform controlled substances testing in carrying out this section;

(3) require that all laboratories involved in the controlled substances testing of any individual under this section shall have the capability and facility, at such laboratory, of performing screening and confirmation tests;

(4) provide that all tests which indicate the use, in violation of applicable law or Federal regulation, of alcohol or a controlled substance by any individual shall be confirmed by a scientifically recognized method of testing capable of providing quantitative data regarding alcohol or a controlled substance;

(5) provide that each specimen sample be subdivided, secured, and labelled in the presence of the tested individual and that a portion thereof be retained in a secure manner to prevent the possibility of tampering, so that in the event the individual's confirmation test results are positive the individual has an opportunity to have the retained portion assayed by a confirmation test done independently at a second certified laboratory if the individual requests the independent test within 3 days after being advised of the results of the initial confirmation test;

(6) ensure appropriate safeguards for testing to detect and quantify alcohol in breath and body fluid samples, including urine and blood, through the development of regulations as may be necessary and in consultation with the Department of Health and Human Services;

(7) provide for the confidentiality of test results and medical information of employees; and

(8) ensure that employees are selected for tests by nondiscriminatory and impartial methods, so that no employee is harassed by being treated differently from other employees in similar circumstances.

(f) EFFECT ON OTHER LAWS AND REGULATIONS.—

(1) CONSISTENCY WITH FEDERAL REGULATION.—No State or local government shall adopt or have in effect any law, rule, regulation, ordinance, standard, or order that is inconsistent with the regulations promulgated under this section.

(2) CONTINUANCE OF REGULATIONS ISSUED BEFORE DECEMBER 9, 1991.—Nothing in this section shall be construed to restrict the discretion of the Administrator to continue in force, amend, or further supplement any regulations issued before December 9, 1991, that govern the use of alcohol and controlled substances by Administration employees with responsibility for safety-sensitive, security, and national security functions (as determined by the Administrator), or by Administration contractor employees with such responsibility.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3374.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
31102(a)	42 U.S.C. 2473c(h).	Pub. L. 102–195, § 21(c)–(h), Dec. 9, 1991, 105 Stat. 1616.
31102(b)	42 U.S.C. 2473c(c).	
31102(c)	42 U.S.C. 2473c(d).	
31102(d)	42 U.S.C. 2473c(e).	
31102(e)	42 U.S.C. 2473c(f).	
31102(f)	42 U.S.C. 2473c(g).	

In subsection (b)(2), the words "within 18 months after the date of enactment of this Act" are omitted as obsolete.

In paragraphs (1) and (2) of subsection (c), and in subsection (f)(2), the date "December 9, 1991" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1992 (Public Law 102–195, 105 Stat. 1605).

FINDINGS

Pub. L. 102–195, § 21(b), Dec. 9, 1991, 105 Stat. 1616, provided that: "The Congress finds that—

"(1) alcohol abuse and illegal drug use pose significant dangers to the safety and welfare of the Nation;

"(2) the success of the United States civil space program is contingent upon the safe and successful development and deployment of the many varied components of that program;

"(3) the greatest efforts must be expended to eliminate the abuse of alcohol and use of illegal drugs, whether on duty or off duty, by those individuals who are involved in the positions affecting safety, security, and national security;

"(4) the use of alcohol and illegal drugs has been demonstrated to adversely affect the performance of individuals, and has been proven to have been a critical factor in accidents in the workplace;

"(5) the testing of uniformed personnel of the Armed Forces has shown that the most effective deterrent to abuse of alcohol and use of illegal drugs is increased testing, including random testing;

"(6) adequate safeguards can be implemented to ensure that testing for abuse of alcohol or use of illegal drugs is performed in a manner which protects an individual's right of privacy, ensures that no individual is harassed by being treated differently from other individuals, and ensures that no individual's reputation or career development is unduly threatened or harmed; and

"(7) rehabilitation is a critical component of any testing program for abuse of alcohol or use of illegal drugs, and should be made available to individuals, as appropriate."

CHAPTER 313—HEALTHCARE

Sec.
31301. Healthcare program.
31302. Astronaut healthcare survey.

§ 31301. Healthcare program

The Administrator shall develop a plan to better understand the longitudinal health effects of space flight on humans. In the development of the plan, the Administrator shall consider the need for the establishment of a lifetime healthcare program for Administration astronauts and their families or other methods to obtain needed health data from astronauts and retired astronauts.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3376.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
31301	42 U.S.C. 16822.	Pub. L. 109–155, title VII, § 708, Dec. 30, 2005, 119 Stat. 2938.

§ 31302. Astronaut healthcare survey

(a) SURVEY.—The Administrator shall administer an anonymous survey of astronauts and flight surgeons to evaluate communication, relationships, and the effectiveness of policies. The survey questions and the analysis of results shall be evaluated by experts independent of the Administration. The survey shall be administered on at least a biennial basis.

(b) REPORT.—The Administrator shall transmit a report of the results of the survey to Congress not later than 90 days following completion of the survey.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3377.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
31302	42 U.S.C. 17822.	Pub. L. 110–422, title XI, § 1103, Oct. 15, 2008, 122 Stat. 4808.

CHAPTER 315—MISCELLANEOUS

Sec.
31501. Orbital debris.
31502. Maintenance of facilities.
31503. Laboratory productivity.
31504. Cooperative unmanned aerial vehicle activities.
31505. Development of enhanced-use lease policy.

§ 31501. Orbital debris

The Administrator, in conjunction with the heads of other Federal agencies, shall take steps to develop or acquire technologies that will enable the Administration to decrease the risks associated with orbital debris.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3377.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
31501	42 U.S.C. 16781.	Pub. L. 109–155, title VI, § 601, Dec. 30, 2005, 110 Stat. 2931.

§ 31502. Maintenance of facilities

In order to sustain healthy Centers that are capable of carrying out the Administration's missions, the Administrator shall ensure that adequate maintenance and upgrading of those Center facilities is performed on a regular basis.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3377.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
31502	42 U.S.C. 17811(a).	Pub. L. 110–422, title X, § 1002(a), Oct. 15, 2008, 122 Stat. 4806.

FACILITIES AND INFRASTRUCTURE

Pub. L. 115–10, title VIII, § 837, Mar. 21, 2017, 131 Stat. 69, provided that:

"(a) SENSE OF CONGRESS.—It is the sense of Congress that—

"(1) the [National Aeronautics and Space] Administration must address, mitigate, and reverse, where possible, the deterioration of its facilities and infrastructure, as their condition is hampering the effectiveness and efficiency of research performed by both the Administration and industry participants making use of Administration facilities, thus harming the competitiveness of the United States aerospace industry;

"(2) the Administration has a role in providing laboratory capabilities to industry participants that are not economically viable as commercial entities and thus are not available elsewhere;

"(3) to ensure continued access to reliable and efficient world-class facilities by researchers, the Administration should establish strategic partnerships with other Federal agencies, State agencies, FAA-licensed spaceports, institutions of higher education, and industry, as appropriate; and

"(4) decisions on whether to dispose of, maintain, or modernize existing facilities must be made in the context of meeting Administration and other needs, including those required to meet the activities supporting the human exploration roadmap under section 432 of this Act [set out in a note under section 20302 of this title], considering other national laboratory needs as the Administrator [of the National Aeronautics and Space Administration] deems appropriate.

"(b) POLICY.—It is the policy of the United States that the Administration maintain reliable and efficient facilities and infrastructure and that decisions on whether to dispose of, maintain, or modernize existing facilities or infrastructure be made in the context of meeting future Administration needs."

(c) "PLAN.—

"(1) IN GENERAL.—The Administrator shall develop a facilities and infrastructure plan.

"(2) GOAL.—The goal of the plan is to position the Administration to have the facilities and infrastructure, including laboratories, tools, and approaches, necessary to meet future Administration and other Federal agencies' laboratory needs.

"(3) CONTENTS.—The plan shall identify—

"(A) current Administration and other Federal agency laboratory needs;

"(B) future Administration research and development and testing needs;

"(C) a strategy for identifying facilities and infrastructure that are candidates for disposal, that is consistent with the national strategic direction set forth in—

"(i) the National Space Policy;

"(ii) the National Aeronautics Research, Development, Test, and Evaluation Infrastructure Plan;

"(iii) the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–

155; 119 Stat. 2895) [see Tables for classification], National Aeronautics and Space Administration Authorization Act of 2008 (Public Law 110–422; 122 Stat. 4779) [see Tables for classification], and National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18301 et seq.); and

"(iv) the human exploration roadmap under section 432 of this Act [set out in a note under section 20302 of this title];

"(D) a strategy for the maintenance, repair, upgrading, and modernization of Administration facilities and infrastructure, including laboratories and equipment;

"(E) criteria for—

"(i) prioritizing deferred maintenance tasks;

"(ii) maintaining, repairing, upgrading, or modernizing Administration facilities and infrastructure; and

"(iii) implementing processes, plans, and policies for guiding the Administration's Centers on whether to maintain, repair, upgrade, or modernize a facility or infrastructure and for determining the type of instrument to be used;

"(F) an assessment of modifications needed to maximize usage of facilities that offer unique and highly specialized benefits to the aerospace industry and the American public; and

"(G) implementation steps, including a timeline, milestones, and an estimate of resources required for carrying out the plan.

"(d) REQUIREMENT TO ESTABLISH POLICY.—

"(1) IN GENERAL.—Not later than 180 days after the date of enactment of this Act [Mar. 21, 2017], the Administrator shall establish and make publicly available a policy that guides the Administration's use of existing authorities to out-grant, lease, excess to the General Services Administration, sell, decommission, demolish, or otherwise transfer property, facilities, or infrastructure.

"(2) CRITERIA.—The policy shall include criteria for the use of authorities, best practices, standardized procedures, and guidelines for how to appropriately manage property, facilities, and infrastructure.

"(e) SUBMISSION TO CONGRESS.—Not later than 1 year after the date of enactment of this Act, the Administrator shall submit to the appropriate committees of Congress [Committee on Commerce, Science, and Transportation of the Senate and Committee on Science, Space, and Technology of the House of Representatives] the plan developed under subsection (c)."

§ 31503. Laboratory productivity

The Administration's laboratories are a critical component of the Administration's research capabilities, and the Administrator shall ensure that those laboratories remain productive.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3377.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
31503	42 U.S.C. 17812(a).	Pub. L. 110–422, title X, § 1003(a), Oct. 15, 2008, 122 Stat. 4807.

§ 31504. Cooperative unmanned aerial vehicle activities

The Administrator, in cooperation with the Administrator of the National Oceanic and Atmospheric Administration and in coordination with other agencies that have existing civil capabilities, shall continue to utilize the capabilities of unmanned aerial vehicles as appropriate in support of Administration and interagency cooperative missions. The Administrator may enter into cooperative agreements with universities with unmanned aerial vehicle programs and related assets to conduct collaborative research and development activities, including development of appropriate applications of small unmanned aerial vehicle technologies and systems in remote areas.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3377.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
31504	42 U.S.C. 17828.	Pub. L. 110–422, title XI, § 1116, Oct. 15, 2008, 122 Stat. 4813.

§ 31505. Development of enhanced-use lease policy

(a) IN GENERAL.—The Administrator shall develop an agency-wide enhanced-use lease policy that—

(1) is based upon sound business practices and lessons learned from the demonstration centers; and

(2) establishes controls and procedures to ensure accountability and protect the interests of the Government.

(b) CONTENTS.—The policy required by subsection (a) shall include the following:

(1) CRITERIA FOR DETERMINING ECONOMIC VALUE.—Criteria for determining whether enhanced-use lease provides better economic value to the Government than other options, such as—

(A) Federal financing through appropriations; or

(B) sale of the property.

(2) SECURITY AND ACCESS.—Requirement for the identification of proposed physical and procedural changes needed to ensure security and restrict access to specified areas, coordination of proposed changes with existing site tenants, and development of estimated costs of such changes.

(3) MEASURES OF EFFECTIVENESS.—Measures of effectiveness for the enhanced-use lease program.

(4) ACCOUNTING CONTROLS.—Accounting controls and procedures to ensure accountability, such as an audit trail and documentation to readily support financial transactions.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3377.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
31505	42 U.S.C. 17829.	Pub. L. 110–422, title XI, § 1117, Oct. 15, 2008, 122 Stat. 4813.

Subtitle IV—Aeronautics and Space Research and Education

CHAPTER 401—AERONAUTICS

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Subchapter I—General

§ 40101. Definition of institution of higher education

In this chapter, the term "institution of higher education" has the meaning given the term by section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3378.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40101	42 U.S.C. 16701.	Pub. L. 109–155, title IV, § 401, Dec. 30, 2005, 119 Stat. 2923.

§ 40102. Governmental interest in aeronautics research and development

Congress reaffirms the national commitment to aeronautics research made in chapter 201 of this title. Aeronautics research and development remains a core mission of the Administration. The Administration is the lead agency for civil aeronautics research. Further, the government of the United States shall promote aeronautics research and development that will expand the capacity, ensure the safety, and increase the efficiency of the Nation's air transportation system, promote the security of the Nation, protect

the environment, and retain the leadership of the United States in global aviation.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3379.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40102	42 U.S.C. 16711.	Pub. L. 109–155, title IV, § 411, Dec. 30, 2005, 119 Stat. 2923.

EX. ORD. NO. 13419. NATIONAL AERONAUTICS RESEARCH AND DEVELOPMENT

Ex. Ord. No. 13419, Dec. 20, 2006, 71 F.R. 77565, provided:

By the authority vested in me as President by the Constitution and the laws of the United States of America, including section 204 of the National Science and Technology Policy, Organization, and Priorities Act of 1976, as amended (42 U.S.C. 6613), section 101(c) of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155), and section 301 of title 3, United States Code, it is hereby ordered as follows:

SECTION 1. *National Aeronautics Research and Development Policy*. Continued progress in aeronautics, the science of flight, is essential to America's economic success and the protection of America's security interests at home and around the globe. Accordingly, it shall be the policy of the United States to facilitate progress in aeronautics research and development (R&D) through appropriate funding and activities of the Federal Government, in cooperation with State, territorial, tribal, local, and foreign governments, international organizations, academic and research institutions, private organizations, and other entities, as appropriate. The Federal Government shall only undertake roles in supporting aeronautics R&D that are not more appropriately performed by the private sector. The National Aeronautics Research and Development Policy prepared by the National Science and Technology Council should, to the extent consistent with this order and its implementation, guide the aeronautics R&D programs of the United States through 2020.

SEC. 2. *Functions of the Director of the Office of Science and Technology Policy*. To implement the policy set forth in section 1 of this order, the Director of the Office of Science and Technology Policy (the "Director") shall:

(a) review the funding and activities of the Federal Government relating to aeronautics R&D;

(b) recommend to the President, the Director of the Office of Management and Budget, and the heads of executive departments and agencies, as appropriate, such actions with respect to funding and activities of the Federal Government relating to aeronautics R&D as may be necessary to

(i) advance United States technological leadership in aeronautics;

(ii) support innovative research leading to significant advances in aeronautical concepts, technologies, and capabilities;

(iii) pursue and develop advanced aeronautics concepts and technologies, including those for advanced aircraft systems and air

transportation management systems, to benefit America's security and effective and efficient national airspace management;

(iv) maintain and advance United States aeronautics research, development, test and evaluation infrastructure to provide effective experimental and computational capabilities in support of aeronautics R&D;

(v) facilitate the educational development of the future aeronautics workforce as needed to further Federal Government interests;

(vi) enhance coordination and communication among executive departments and agencies to maximize the effectiveness of Federal Government R&D resources; and

(vii) ensure appropriate Federal Government coordination with State, territorial, tribal, local, and foreign governments, international organizations, academic and research institutions, private organizations, and other entities.

SEC. 3. *Implementation of National Aeronautics Research and Development Policy.* To implement the policy set forth in section 1 of this order, the Director shall:

(a) develop and, not later than 1 year after the date of this order, submit for approval by the President a plan for national aeronautics R&D and for related infrastructure, (the "plan"), and thereafter submit, not less often than biennially, to the President for approval any changes to the plan;

(b) monitor and report to the President as appropriate on the implementation of the approved plan;

(c) ensure that executive departments and agencies conducting aeronautics R&D:

(i) obtain and exchange information and advice, as appropriate, from organizations and individuals outside the Federal Government in support of Federal Government planning and performance of aeronautics R&D;

(ii) develop and implement, as appropriate, measures for improving dissemination of R&D results and facilitating technology transition from R&D to applications; and

(iii) identify and promote innovative policies and approaches that complement and enhance Federal Government aeronautics R&D investment; and

(d) report to the President on the results of the efforts of executive departments and agencies to implement paragraphs (c)(i) through (iii) of this section.

SEC. 4. *General Provisions.* (a) In implementing this order, the Director shall:

(i) obtain as appropriate the assistance of the National Science and Technology Council in the performance of the Director's functions under this order, consistent with Executive Order 12881 of November 23, 1993, as amended;

(ii) coordinate as appropriate with the Director of the Office of Management and Budget; and

(iii) obtain information and advice from all sources as appropriate, including individuals associated with academic and research institutions and private organizations.

(b) The functions of the President under subsection (c) of section 101 of the National Aeronautics and Space Administration Author-

ization Act of 2005, except the function of designation, are assigned to the Director of the Office of Science and Technology Policy. In performing these assigned functions, the Director shall, as appropriate, consult the Administrator of the National Aeronautics and Space Administration, the Secretary of Defense, the Secretary of Transportation, the Director of the Office of Management and Budget, and other heads of executive departments and agencies as appropriate. The Director also shall ensure that all actions taken in the performance of such functions are consistent with the authority set forth in subsections (a) through (d) of section 6 of Executive Order 13346 of July 8, 2004.

(c) This order shall be implemented in a manner consistent with:

(i) applicable law, including section 102A(i) of the National Security Act of 1947, as amended ([former] 50 U.S.C. 403–1(i)) [now 50 U.S.C. 3024(i)], and subject to the availability of appropriations; and

(ii) statutory authority of the principal officers of executive departments and agencies as the heads of their respective departments and agencies.

(d) This order shall not be construed to impair or otherwise affect the functions of the Director of the Office of Management and Budget relating to budget, administrative, and legislative proposals.

(e) This order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity by a party against the United States, its departments, agencies, instrumentalities, or entities, its officers, employees, or agents, or any other person.

GEORGE W. BUSH.

§ 40103. Cooperation with other agencies on aeronautics activities

The Administrator shall coordinate, as appropriate, the Administration's aeronautics activities with relevant programs in the Department of Transportation, the Department of Defense, the Department of Commerce, and the Department of Homeland Security, including the activities of the Next Generation Air Transportation System Joint Planning and Development Office established under section 709 of the Vision 100—Century of Aviation Reauthorization Act (Public Law 108–176, 49 U.S.C. 40101 note).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3379.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40103	42 U.S.C. 16712(b).	Pub. L. 110–69, title II, § 2002(b), Aug. 9, 2007, 121 Stat. 583.

The words "Next Generation Air Transportation System" are inserted before "Joint Planning and Development Office" for consistency with section 709 of the Vision 100—Century of Aviation Reauthorization Act (Public Law 108–176, 49 U.S.C. 40101 note).

§ 40104. Cooperation among Mission Directorates

Research and development activities performed by the Aeronautics Research Mission Directorate with the primary objective of assisting in the development of a flight project in another Mission Directorate shall be funded by the Mission Directorate seeking assistance.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3379.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40104	42 U.S.C. 17724.	Pub. L. 110–422, title III, § 307, Oct. 15, 2008, 122 Stat. 4788.

Subchapter II—High Priority Aeronautics Research and Development Programs

§ 40111. Fundamental research program

(a) OBJECTIVE.—In order to ensure that the Nation maintains needed capabilities in fundamental areas of aeronautics research, the Administrator shall establish a program of long-term fundamental research in aeronautical sciences and technologies that is not tied to specific development projects.

(b) OPERATION.—The Administrator shall conduct the program under this section, in part by awarding grants to institutions of higher education. The Administrator shall encourage the participation of institutions of higher education located in States that participate in the Experimental Program to Stimulate Competitive Research. All grants to institutions of higher education under this section shall be awarded through merit review.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3379.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40111	42 U.S.C. 16721(a), (b).	Pub. L. 109–155, title IV, § 421(a), (b), Dec. 30, 2005, 199 Stat. l2924.

§ 40112. Research and technology programs

(a) SUPERSONIC TRANSPORT RESEARCH AND DEVELOPMENT.—The Administrator may establish an initiative with the objective of developing and demonstrating, in a relevant environment, airframe and propulsion technologies to enable efficient, economical overland flight of supersonic civil transport aircraft with no significant impact on the environment.

(b) ROTORCRAFT AND OTHER RUNWAY-INDEPENDENT AIR VEHICLES.—The Administrator may establish a rotorcraft and other runway-independent air vehicles initiative with the objective of developing and demonstrating improved safety, noise, and environmental impact in a relevant environment.

(c) HYPERSONICS RESEARCH.—The Administrator may establish a hypersonics research program with the objective of exploring the science and technology of hypersonic flight using air-breathing pro-

pulsion concepts, through a mix of theoretical work, basic and applied research, and development of flight research demonstration vehicles. The program may also include the transition to the hypersonic range of Mach 3 to Mach 5.

(d) REVOLUTIONARY AERONAUTICAL CONCEPTS.—The Administrator may establish a research program which covers a unique range of subsonic, fixed wing vehicles and propulsion concepts. This research is intended to push technology barriers beyond current subsonic technology. Propulsion concepts include advanced materials, morphing engines, hybrid engines, and fuel cells.

(e) FUEL CELL-POWERED AIRCRAFT RESEARCH.—

(1) OBJECTIVE.—The Administrator may establish a fuel cell-powered aircraft research program whose objective shall be to develop and test concepts to enable a hydrogen fuel cell-powered aircraft that would have no hydrocarbon or nitrogen oxide emissions into the environment.

(2) APPROACH.—The Administrator may establish a program of competitively awarded grants available to teams of researchers that may include the participation of individuals from universities, industry, and government for the conduct of this research.

(f) MARS AIRCRAFT RESEARCH.—

(1) OBJECTIVE.—The Administrator may establish a Mars Aircraft project whose objective shall be to develop and test concepts for an uncrewed aircraft that could operate for sustained periods in the atmosphere of Mars.

(2) APPROACH.—The Administrator may establish a program of competitively awarded grants available to teams of researchers that may include the participation of individuals from universities, industry, and government for the conduct of this research.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3379.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40112(a)	42 U.S.C. 16722(b).	Pub. L. 109–155, title IV, § 422(b)–(g), Dec. 30, 2005, 119 Stat. 2925.
40112(b)	42 U.S.C. 16722(c).	
40112(c)	42 U.S.C. 16722(d).	
40112(d)	42 U.S.C. 16722(e).	
40112(e)	42 U.S.C. 16722(f).	
40112(f)	42 U.S.C. 16722(g).	

NATIONAL AERO-SPACE PLANE PROGRAM

Pub. L. 101–611, title I, § 116, Nov. 16, 1990, 104 Stat. 3202, provided that:

"(a) NATIONAL AERO-SPACE PLANE PROGRAM.—The Secretary of Defense (hereafter in this section referred to as the 'Secretary') and the Administrator shall jointly pursue on a high priority basis a National Aero-Space Plane program whose objective shall be the development and demonstration, by 1997, of a primarily air breathing single-stage-to-orbit and long range hypersonic cruise research flight vehicle. The program shall be a research program, and to the

extent practicable technological information developed shall be transferred to the military and to the domestic civil aviation and other private industries.

"(b) MANAGEMENT PLAN.—

"(1) The Secretary and the Adminstrator [sic] shall jointly develop a management plan for the program established under subsection (a), which shall include goals, major tasks, anticipated schedules, organizational structure, funding profiles, details of the respective responsibilities of the Secretary and the Administrator, and resource procurement strategies.

"(2) The management plan developed pursuant to paragraph (1) shall be submitted to the Congress within 120 days after the date of enactment of this Act [Nov. 16, 1990]."

[Pub. L. 101–611, title I, § 127, Nov. 16, 1990, 104 Stat. 3205, provided that: "For purposes of this title [see Tables for classification], the term 'Administrator' means the Administrator of the National Aeronautics and Space Administration."]

§ 40113. Airspace systems research

(a) OBJECTIVE.—The Airspace Systems Research program shall pursue research and development to enable revolutionary improvements to and modernization of the National Airspace System, as well as to enable the introduction of new systems for vehicles that can take advantage of an improved, modern air transportation system.

(b) ALIGNMENT.—Not later than 1 year after December 30, 2005, the Administrator shall align the projects of the Airspace Systems Research program so that they directly support the objectives of the Joint Planning and Development Office's Next Generation Air Transportation System Integrated Plan.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3380.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40113	42 U.S.C. 16723.	Pub. L. 109–155, title IV, § 423, Dec. 30, 2005, 119 Stat. 2925.

In subsection (b), the date "December 30, 2005" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895).

§ 40114. Aviation safety and security research

(a) OBJECTIVE.—The Aviation Safety and Security Research program shall pursue research and development activities that directly address the safety and security needs of the National Airspace System and the aircraft that fly in it. The program shall develop prevention, intervention, and mitigation technologies aimed at causal, contributory, or circumstantial factors of aviation accidents.

(b) ALIGNMENT.—Not later than 1 year after December 30, 2005, the Administrator shall align the projects of the Aviation Safety and Security Research program so that they directly support the

objectives of the Joint Planning and Development Office's Next Generation Air Transportation System Integrated Plan.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3380.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40114	42 U.S.C. 16724.	Pub. L. 109–155, title IV, § 424, Dec. 30, 2005, 119 Stat. 2926.

In subsection (b), the date "December 30, 2005" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895).

§ 40115. Aviation weather research

The Administrator may carry out a program of collaborative research with the National Oceanic and Atmospheric Administration on convective weather events, with the goal of significantly improving the reliability of 2-hour to 6-hour aviation weather forecasts.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3381.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40115	42 U.S.C. 16725.	Pub. L. 109–155, title IV, § 425, Dec. 30, 2005, 119 Stat. 2926.

§ 40116. University-based Centers for Research on Aviation Training

(a) IN GENERAL.—The Administrator shall award grants to institutions of higher education (or consortia thereof) to establish one or more Centers for Research on Aviation Training under cooperative agreements with appropriate Administration Centers.

(b) PURPOSE.—The purpose of the Centers for Research on Aviation Training shall be to investigate the impact of new technologies and procedures, particularly those related to the aircraft flight deck and to the air traffic management functions, on training requirements for pilots and air traffic controllers.

(c) APPLICATION.—An institution of higher education (or a consortium of such institutions) seeking funding under this section shall submit an application to the Administrator at such time, in such manner, and containing such information as the Administrator may require, including, at a minimum, a 5-year research plan.

(d) AWARD DURATION.—An award made by the Administrator under this section shall be for a period of 5 years and may be renewed on the basis of—

(1) satisfactory performance in meeting the goals of the research plan proposed in the application submitted under subsection (c); and

(2) other requirements as specified by the Administrator.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3381.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40116	42 U.S.C. 16727.	Pub. L. 109–155, title IV, § 427, Dec. 30, 2005, 119 Stat. 2926; Pub. L. 110–422, title III, § 308, Oct. 15, 2008, 122 Stat. 4788.

In subsection (b), the words "Centers for Research on Aviation Training" are substituted for "Centers'" for clarity. There are references to both "Centers for Research on Aviation Training" and "Administration Centers'" in subsection (a).

In subsection (d)(1), the words "proposed in the application submitted under subsection (c)" are substituted for "proposed by the Center in its application under subsection (c)" for clarity. Under section (c), applications are filed by an institution of higher education (or a consortium of such institutions) seeking funding, and not by the Center for which such funding is sought.

Subchapter III—Scholarships

§ 40131. Aeronautics scholarships

(a) ESTABLISHMENT.—The Administrator shall establish a program of scholarships for full-time graduate students who are United States citizens and are enrolled in, or have been accepted by and have indicated their intention to enroll in, accredited Masters degree programs in aeronautical engineering or equivalent programs at institutions of higher education. Each such scholarship shall cover the costs of room, board, tuition, and fees, and may be provided for a maximum of 2 years.

(b) IMPLEMENTATION.—Not later than 180 days after December 30, 2005, the Administrator shall publish regulations governing the scholarship program under this section.

(c) COOPERATIVE TRAINING OPPORTUNITIES.—Students who have been awarded a scholarship under this section shall have the opportunity for paid employment at one of the Administration Centers engaged in aeronautics research and development during the summer prior to the first year of the student's Masters program, and between the first and second year, if applicable. (Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3381.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40131	42 U.S.C. 16741.	Pub. L. 109–155, title IV, § 431, Dec. 30, 2005, 119 Stat. 2927.

In subsection (b), the date "December 30, 2005" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895).

Subchapter IV—Data Requests

§ 40141. Aviation data requests

The Administrator shall make available upon request satellite imagery and aerial photography of remote terrain that the Administration owns at the time of the request to the Administrator of the Federal Aviation Administration or the Director of the Five Star Medallion Program, to assist and train pilots in navigating challenging topographical features of such terrain.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3382.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40141	42 U.S.C. 16751.	Pub. L. 109–155, title IV, § 441, Dec. 30, 2005, 119 Stat. 2927.

CHAPTER 403—NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM

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§ 40301. Purposes

The purposes of this chapter are to—

(1) increase the understanding, assessment, development, and utilization of space resources by promoting a strong educational base, responsive research and training activities, and broad and prompt dissemination of knowledge and techniques;

(2) utilize the abilities and talents of the universities of the Nation to support and contribute to the exploration and development of the resources and opportunities afforded by the space environment;

(3) encourage and support, within the university community of the Nation, the existence of interdisciplinary and multidisciplinary programs of space research that—

(A) engage in integrated activities of training, research, and public service;

(B) have cooperative programs with industry; and (C) are coordinated with the overall program of the Administration;

(4) encourage and support the existence of consortia, made up of university and industry members, in order to advance the exploration and development of space resources in cases in which national objectives can be better fulfilled through such consortia than through the programs of single universities;

(5) encourage and support Federal funding for graduate fellowships in fields related to space; and

(6) support activities in colleges and universities generally for the purpose of creating and operating a network of institutional programs that will enhance achievements resulting from efforts under this chapter.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3382.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40301	42 U.S.C. 2486a.	Pub. L. 100–147, title II, § 203, Oct. 30, 1987, 101 Stat. 869.

In paragraph (3), the word "that" is substituted for ", to" for clarity.

In paragraph (4), the words "in order to" are substituted for "to", and the words "through such consortia" are added, for clarity.

CONGRESSIONAL STATEMENT OF FINDINGS

Pub. L. 100–147, title II, § 202, Oct. 30, 1987, 101 Stat. 869, provided that: "The Congress finds that—

"(1) the vitality of the Nation and the quality of life of the citizens of the Nation depend increasingly on the understanding, assessment, development, and utilization of space resources;

"(2) research and development of space science, space technology, and space commercialization will contribute to the quality of life, national security, and the enhancement of commerce;

"(3) the understanding and development of the space frontiers require a broad commitment and an intense involvement on the part of the Federal Government in partnership with State and local governments, private industry, universities, organizations, and individuals concerned with the exploration and utilization of space;

"(4) the National Aeronautics and Space Administration, through the national space grant college and fellowship program, offers the most suitable means for such commitment and involvement through the promotion of activities that will result in greater understanding, assessment, development, and utilization; and

"(5) Federal support of the establishment, development, and operation of programs and projects by space grant colleges, space grant regional consortia, institutions of higher education, institutes, laboratories, and other appropriate public and private entities is the most cost-effective way to promote such activities." [For definition of terms used in section 202 of Pub. L. 100–147, set out above, see section 204 of Pub. L. 100–147, title II, Oct. 30, 1987, 101 Stat. 870, which was classified to former section 2486b of Title 42, The Public Health and Welfare, and was repealed and reenacted as section 40302 of this title by Pub. L. 111–314, §§ 3, 6, Dec. 18, 2010, 124 Stat. 3328, 3444.]

§ 40302. Definitions

In this chapter:

(1) AERONAUTICAL AND SPACE ACTIVITIES.—The term "aeronautical and space activities" has the meaning given the term in section 20103 of this title.

(2) FIELD RELATED TO SPACE.—The term "field related to space" means any academic discipline or field of study (including the physical, natural, and biological sciences, and engineering, space technology, education, economics, sociology, communications, planning, law, international affairs, and public administration) which is concerned with or likely to improve the understanding, assessment, development, and utilization of space.

(3) PANEL.—The term "panel" means the space grant review panel established pursuant to section 40308 of this title.

(4) PERSON.—The term "person" means any individual, any public or private corporation, partnership, or other association or entity (including any space grant college, space grant regional consortium, institution of higher education, institute, or laboratory), or any State, political subdivision of a State, or agency or officer of a State or political subdivision of a State.

(5) SPACE ENVIRONMENT.—The term "space environment" means the environment beyond the sensible atmosphere of the Earth.

(6) SPACE GRANT COLLEGE.—The term "space grant college" means any public or private institution of higher education which is designated as such by the Administrator pursuant to section 40306 of this title.

(7) SPACE GRANT PROGRAM.—The term "space grant program" means any program that—

(A) is administered by any space grant college, space grant regional consortium, institution of higher education, institute, laboratory, or State or local agency; and

(B) includes 2 or more projects involving education and one or more of the following activities in the fields related to space:

(i) Research.

(ii) Training.

(iii) Advisory services.

(8) SPACE GRANT REGIONAL CONSORTIUM.—The term "space grant regional consortium" means any association or other alliance that is designated as a space grant regional consortium by the Administrator pursuant to section 40306 of this title.

(9) SPACE RESOURCE.—The term "space resource" means any tangible or intangible benefit which can be realized only from—

(A) aeronautical and space activities; or

(B) advancements in any field related to space.

(10) STATE.—The term "State" means any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or any other territory or possession of the United States.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3383.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40302	42 U.S.C. 2486b.	Pub. L. 100–147, title II, § 204, Oct. 30, 1987, 101 Stat. 870.

The definitions of "Administration" and "Administrator" in section 204 of the National Space Grant College and Fellowship Act (Public Law 100–147, title II, 101 Stat. 870) are omitted as unnecessary because of the definitions added by section 10101 of title 51.

§ 40303. National space grant college and fellowship program

(a) ESTABLISHMENT.—The Administrator shall establish and maintain, within the Administration, a program to be known as the national space grant college and fellowship program. The national space grant college and fellowship program shall consist of the financial assistance and other activities provided for in this chapter. The Administrator shall establish long-range planning guidelines and priorities, and adequately evaluate the program.

(b) FUNCTIONS.—Within the Administration, the program shall—

(1) apply the long-range planning guidelines and the priorities established by the Administrator under subsection (a);

(2) advise the Administrator with respect to the expertise and capabilities which are available through the national space grant college and fellowship program, and make such expertise available to the Administration as directed by the Administrator;

(3) evaluate activities conducted under grants and contracts awarded pursuant to sections 40304 and 40305 of this title to ensure that the purposes set forth in section 40301 of this title are implemented;

(4) encourage other Federal departments, agencies, and instrumentalities to use and take advantage of the expertise and capabilities which are available through the national space grant college and fellowship program, on a cooperative or other basis;

(5) encourage cooperation and coordination with other Federal programs concerned with the development of space resources and fields related to space;

(6) advise the Administrator on the designation of recipients supported by the national space grant college and fellowship program and, in appropriate cases, on the termination or suspension of any such designation; and

(7) encourage the formation and growth of space grant and fellowship programs.

(c) GENERAL AUTHORITIES.—To carry out the provisions of this chapter, the Administrator may—

(1) accept conditional or unconditional gifts or donations of services, money, or property, real, personal or mixed, tangible or intangible;

(2) accept and use funds from other Federal departments, agencies, and instrumentalities to pay for fellowships, grants, contracts, and other transactions; and

(3) issue such rules and regulations as may be necessary and appropriate.

(d) PROGRAM ADMINISTRATION COSTS.—In carrying out the provisions of this chapter, the Administrator—

(1) shall maximize appropriated funds for grants and contracts made under section 40304 in each fiscal year; and

(2) in each fiscal year, the Administrator shall limit its program administration costs to no more than 5 percent of funds appropriated for this program for that fiscal year.

(e) REPORTS.—For any fiscal year in which the Administrator cannot meet the administration cost target under subsection (d)(2), if the Administration is unable to limit program costs under subsection (b), the Administrator shall submit to the appropriate committees of Congress a report, including—

(1) a description of why the Administrator did not meet the cost target under subsection (d); and

(2) the measures the Administrator will take in the next fiscal year to meet the cost target under subsection (d) without drawing upon other Federal funding.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3383; Pub. L. 114–329, title III, § 302(b), Jan. 6, 2017, 130 Stat. 3003.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40303	42 U.S.C. 2486c.	Pub. L. 100–147, title II, § 205, Oct. 30, 1987, 101 Stat. 871.

AMENDMENTS

2017—Subsecs. (d), (e). Pub. L. 114–329 added subsecs. (d) and (e).

§ 40304. Grants or contracts

(a) AUTHORITY OF ADMINISTRATOR.—The Administrator may make grants and enter into contracts or other transactions under this subsection to assist any space grant and fellowship program or project if the Administrator finds that the program or project will carry out the purposes set forth in section 40301 of this title. The total amount paid pursuant to a grant or contract may equal not more than 66 percent of the total cost of the space grant and fellowship program or project involved, except in the case of grants or contracts paid for with funds accepted by the Administrator pursuant to section 40303(c)(2) of this title.

(b) SPECIAL GRANTS.—The Administrator may make special grants under this subsection to carry out the purposes set forth in section 40301 of this title. The amount of a special grant may equal up to 100 percent of the total cost of the project involved. A special grant may be made under this subsection only if the Administrator finds that—

(1) no reasonable means is available through which the applicant can meet the matching requirement for a grant under subsection (a);

(2) the probable benefit of the project outweighs the public interest in the matching requirement; and

(3) the same or equivalent benefit cannot be obtained through the award of a contract or grant under subsection (a) or section 40305 of this title.

(c) APPLICATION.—Any person may apply to the Administrator for a grant or contract under this section. Application shall be made in such form and manner, and with such content and other submissions, as the Administrator shall by regulation prescribe.

(d) TERMS AND CONDITIONS.—

(1) IN GENERAL.—Any grant made, or contract entered into, under this section shall be subject to the limitations and provisions set forth in paragraphs (2) and (3) and to such other terms, conditions, and requirements as the Administrator considers necessary or appropriate.

(2) LIMITATIONS.—No payment under any grant or contract under this section may be applied to—

(A) the purchase of any land;

(B) the purchase, construction, preservation, or repair of any building; or

(C) the purchase or construction of any launch facility or launch vehicle.

(3) LEASES.—Notwithstanding paragraph (2), the items in subparagraphs (A), (B), and (C) of such paragraph may be leased upon written approval of the Administrator.

(4) RECORDS.—Any person that receives or utilizes any proceeds of any grant or contract under this section shall keep such records as the Administrator shall by regulation prescribe as being necessary and appropriate to facilitate effective audit and evaluation, including records which fully disclose the amount and disposition by such recipient of such proceeds, the total cost of the program or project in connection with which such proceeds were used, and the amount, if any, of such cost which was provided through other sources. Such records shall be maintained for 3 years after the completion of such a program or project. The Administrator and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access, for the purpose of audit and evaluation, to any books, documents, papers, and records of receipts which, in the opinion of the Administrator or the Comptroller General, may be related or pertinent to such grants and contracts.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3384.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40304	42 U.S.C. 2486d.	Pub. L. 100–147, title II, § 206, Oct. 30, 1987, 101 Stat. 872.

In subsection (a), the words "not more than 66 percent" are substituted for "66 percent, or any lesser percent", and the word "except" is substituted for "except that this limitation shall not apply", for clarity and to eliminate unnecessary words.

In subsection (b), the words "up to 100 percent" are substituted for "100 percent, or any lesser percent" to eliminate unnecessary words.

§ 40305. Specific national needs

(a) IDENTIFICATION OF SPECIFIC NEEDS AND GRANT-MAKING AND CONTRACTING AUTHORITY.—The Administrator shall identify specific national needs and problems relating to space. The Administrator may make grants or enter into contracts under this section with respect to such needs or problems. The amount of any such grant or contract may equal up to 100 percent of the total cost of the project involved.

(b) APPLICATIONS FOR GRANTS OR CONTRACTS.—Any person may apply to the Administrator for a grant or contract under this section. In addition, the Administrator may invite applications with respect to specific national needs or problems identified under subsection (a). Application shall be made in such form and manner, and with such content and other submissions, as the Administrator shall by regulation prescribe. Any grant made, or contract entered into, under this section shall be subject to the limitations and provisions set forth in paragraphs (2) and (4) of section 40304(d) of this title and to such other terms, conditions, and requirements as the Administrator considers necessary or appropriate.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3385.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40305	42 U.S.C. 2486e.	Pub. L. 100–147, title II, § 207, Oct. 30, 1987, 101 Stat. 873.

In subsection (a), the words "up to 100 percent" are substituted for "100 percent, or any lesser percent" to eliminate unnecessary words.

§ 40306. Space grant college and space grant regional consortium

(a) DESIGNATION AND QUALIFICATIONS.—

(1) AUTHORITY TO DESIGNATE.—The Administrator may designate—

(A) any institution of higher education as a space grant college; and

(B) any association or other alliance of 2 or more persons, other than individuals, as a space grant regional consortium.

(2) SPACE GRANT COLLEGE REQUIREMENTS.—No institution of higher education may be designated as a space grant college unless the Administrator finds that such institution—

(A) is maintaining a balanced program of research, education, training, and advisory services in fields related to space;

(B) will act in accordance with such guidelines as are prescribed under subsection (b)(2); and

(C) meets such other qualifications as the Administrator considers necessary or appropriate.

(3) SPACE GRANT REGIONAL CONSORTIUM REQUIREMENTS.—No association or other alliance of 2 or more persons may be designated as a space grant regional consortium unless the Administrator finds that such association or alliance—

(A) is established for the purpose of sharing expertise, research, educational facilities or training facilities, and other capabilities in order to facilitate research, education, training, and advisory services in any field related to space;

(B) will encourage and follow a regional approach to solving problems or meeting needs relating to space, in cooperation with appropriate space grant colleges, space grant programs, and other persons in the region;

(C) will act in accordance with such guidelines as are prescribed under subsection (b)(2); and

(D) meets such other qualifications as the Administrator considers necessary or appropriate.

(b) QUALIFICATIONS AND GUIDELINES.—The Administrator shall by regulation prescribe—

(1) the qualifications required to be met under paragraphs (2)(C) and (3)(D) of subsection (a);and

(2) guidelines relating to the activities and responsibilities of space grant colleges and space grant regional consortia.

(c) SUSPENSION OR TERMINATION OF DESIGNATION.—The Administrator may, for cause and after an opportunity for hearing, suspend or terminate any designation under subsection (a).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3386.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40306	42 U.S.C. 2486f.	Pub. L. 100–147, title II, § 208, Oct. 30, 1987, 101 Stat. 873.

§ 40307. Space grant fellowship program

(a) AWARD OF FELLOWSHIPS.—The Administrator shall support a space grant fellowship program to provide educational and training assistance to qualified individuals at the graduate level of education in fields related to space. Such fellowships shall be awarded pursuant to guidelines established by the Administrator. Space grant fellowships shall be awarded to individuals at space grant colleges, space grant regional consortia, other colleges and institutions of higher education, professional associations, and institutes in such a manner as to ensure wide geographic and institutional diversity in the pursuit of research under the fellowship program.

(b) LIMITATION ON AMOUNT PROVIDED.—The total amount which may be provided for grants under the space grant fellowship program during any fiscal year shall not exceed an amount equal to 50 percent of the total funds appropriated for such year pursuant to this chapter.

(c) AUTHORITY TO SPONSOR OTHER RESEARCH FELLOWSHIP PROGRAMS UNAFFECTED.—Nothing in this section shall be construed to prohibit the Administrator from sponsoring any research fellowship program, including any special emphasis program, which is established under an authority other than this chapter.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3387.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40307	42 U.S.C. 2486g.	Pub. L. 100–147, title II, § 209, Oct. 30, 1987, 101 Stat. 874.

§ 40308. Space grant review panel

(a) ESTABLISHMENT.—The Administrator shall establish an independent committee known as the space grant review panel, which shall not be subject to the provisions of the Federal Advisory Committee Act (5 App. U.S.C.).

(b) DUTIES.—The panel shall take such steps as may be necessary to review, and shall advise the Administrator with respect to—

(1) applications or proposals for, and performance under, grants and contracts awarded pursuant to sections 40304 and 40305 of this title;

(2) the space grant fellowship program;

(3) the designation and operation of space grant colleges and space grant regional consortia, and the operation of space grant and fellowship programs;

(4) the formulation and application of the planning guidelines and priorities pursuant to subsections (a) and (b)(1) of section 40303 of this title; and

(5) such other matters as the Administrator refers to the panel for review and advice.

(c) PERSONNEL AND ADMINISTRATIVE SERVICES.—The Administrator shall make available to the panel any information, personnel, and administrative services and assistance which is reasonable to carry out the duties of the panel.

(d) MEMBERS.—

(1) APPOINTMENT.—The Administrator shall appoint the voting members of the panel. A majority of the voting members shall be individuals who, by reason of knowledge, experience, or training, are especially qualified in one or more of the disciplines and fields related to space. The other voting members shall be individuals who, by reason of knowledge, experience, or training, are especially qualified in, or representative of, education, extension services, State government, industry, economics, planning, or any other activity related to efforts to enhance the understanding, assessment, development, or utiliza-

tion of space resources. The Administrator shall consider the potential conflict of interest of any individual in making appointments to the panel.

(2) CHAIRMAN AND VICE CHAIRMAN.—The Administrator shall select one voting member to serve as the Chairman and another voting member to serve as the Vice Chairman. The Vice Chairman shall act as Chairman in the absence or incapacity of the Chairman.

(3) REIMBURSEMENT FOR EXPENSES.—Voting members of the panel who are not Federal employees shall be reimbursed for actual and reasonable expenses incurred in the performance of such duties.

(4) MEETINGS.—The panel shall meet on a biannual basis and, at any other time, at the call of the Chairman or upon the request of a majority of the voting members or of the Administrator.

(5) POWERS.—The panel may exercise such powers as are reasonably necessary in order to carry out the duties enumerated in subsection (b).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3387.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40308	42 U.S.C. 2486b.	Pub. L. 109–147, title II, § 210, Oct. 30, 1987, 101 Stat. 874.

In subsection (a), the word "provisions'" is substituted for "provisons'" to correct an error in the law.

REFERENCES IN TEXT

The Federal Advisory Committee Act, referred to in subsec. (a), is Pub. L. 92–463, Oct. 6, 1972, 86 Stat. 770, which is set out in the Appendix to Title 5, Government Organization and Employees.

§ 40309. Availability of other Federal personnel and data

Each department, agency, or other instrumentality of the Federal Government that is engaged in or concerned with, or that has authority over, matters relating to space—

(1) may, upon a written request from the Administrator, make available, on a reimbursable basis or otherwise, any personnel (with their consent and without prejudice to their position and rating), service, or facility which the Administrator considers necessary to carry out any provision of this chapter;

(2) may, upon a written request from the Administrator, furnish any available data or other information which the Administrator considers necessary to carry out any provision of this chapter; and

(3) may cooperate with the Administration.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3388.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40309	42 U.S.C. 2486i.	Pub. L. 109–147, title II, § 211, Oct. 30, 1987, 101 Stat. 875.

§ 40310. Designation or award to be on competitive basis

The Administrator shall not under this chapter designate any space grant college or space grant regional consortium or award any fellowship, grant, or contract unless such designation or award is made in accordance with the competitive, merit-based review process employed by the Administration on October 30, 1987.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3388.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40310	42 U.S.C. 2486k.	Pub. L. 109–147, title II, § 213, Oct. 30, 1987, 101 Stat. 875.

The date "October 30, 1987" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Space Grant College and Fellowship Act, which is title II of the National Aeronautics and Space Administration Authorization Act of 1988 (Public Law 100–147, 101 Stat. 860).

§ 40311. Continuing emphasis

The Administration shall continue its emphasis on the importance of education to expand opportunities for Americans to understand and participate in the Administration's aeronautics and space projects by supporting and enhancing science and engineering education, research, and public outreach efforts.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3388.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40311	42 U.S.C. 17781(c).	Pub. L. 109–422, title VII, § 704(c), Oct. 15, 2008, 122 Stat. 4803.

CHAPTER 405—BIOMEDICAL RESEARCH IN SPACE

Sec.
40501. Biomedical research joint working group.
40502. Biomedical research grants.
40503. Biomedical research fellowships.
40504. Establishment of electronic data archive.
40505. Establishment of emergency medical service telemedicine capability.

§ 40501. Biomedical research joint working group

(a) ESTABLISHMENT.—The Administrator and the Director of the National Institutes of Health shall jointly establish a working group to coordinate biomedical research activities in areas where a microgravity environment may contribute to significant progress in the understanding and treatment of diseases and other medical

conditions. The joint working group shall formulate joint and complementary programs in such areas of research.

(b) MEMBERSHIP.—The joint working group shall include equal representation from the Administration and the National Institutes of Health, and shall include representation from National Institutes of Health councils, as selected by the Director of the National Institutes of Health, and from the National Aeronautics and Space Administration Advisory Council.

(c) ANNUAL BIOMEDICAL RESEARCH SYMPOSIA.—The joint working group shall organize annual symposia on biomedical research described in subsection (a) under the joint sponsorship of the Administration and the National Institutes of Health.

(d) ANNUAL REPORTING REQUIREMENT.—The joint working group shall report annually to Congress on its progress in carrying out this section.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3389.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40501	42 U.S.C. 2487a.	Pub. L. 109–588, title VI, § 602, Nov. 4, 1992, 106 Stat. 5130.

FINDINGS

Pub. L. 102-588, title VI, 601, Nov. 4, 1992, 106 Stat. 5130, provided that: "The Congress finds that—

"(1) the space program can make significant contributions to selected areas of health-related research and should be an integral part of the Nation's health research and development program;

"(2) the continuing development of trained scientists and engineers is essential to carrying out an effective and sustained program of biomedical research in space and on the ground;

"(3) the establishment and maintenance of an electronically accessible archive of data on space-related biomedical research is essential to advancement of the field;

"(4) cooperation with the republics of the former Soviet Union, including use of former Soviet orbital facilities, offers the potential for greatly enhanced biomedical research activities and progress; and

"(5) the establishment and maintenance of an international telemedicine consultation satellite capability to support emergency medical service provision can provide an important aid to disaster relief efforts."

§ 40502. Biomedical research grants

(a) ESTABLISHMENT OF PROGRAM.—The Administrator and the Director of the National Institutes of Health shall establish a joint program of biomedical research grants in areas described in section 40501(a) of this title, where such research requires access to a microgravity environment. Such program shall be consistent with actions taken by the joint working group under section 40501 of this title.

(b) RESEARCH OPPORTUNITY ANNOUNCEMENTS.—The grants program established under subsection (a) shall annually issue joint research opportunity announcements under the sponsorship of the National Institutes of Health and the Administration. Responses to the announcements shall be evaluated by a peer review committee whose members shall be selected by the Director of the National Institutes of Health and the Administrator, and shall include individuals not employed by the Administration or the National Institutes of Health.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3389.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40502	42 U.S.C. 2487b.	Pub. L. 109–588, title VI, § 603, Nov. 4, 1992, 106 Stat. 5130.

§ 40503. Biomedical research fellowships

The Administrator and the Director of the National Institutes of Health shall create a joint program of graduate research fellowships in biomedical research described in section 40501(a) of this title. Fellowships under such program may provide for participation in approved research conferences and symposia.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3389.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40503	42 U.S.C. 2487c.	Pub. L. 109–588, title VI, § 604, Nov. 4, 1992, 106 Stat. 5131.

§ 40504. Establishment of electronic data archive

The Administrator shall create and maintain a national electronic data archive for biomedical research data obtained from space-based experiments.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3389.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40504	42 U.S.C. 2487e.	Pub. L. 109–588, title VI, § 606, Nov. 4, 1992, 106 Stat. 5131.

§ 40505. Establishment of emergency medical service telemedicine capability

The Administrator, the Administrator of the Federal Emergency Management Agency, the Director of the Office of Foreign Disaster Assistance, and the Surgeon General of the United States shall jointly create and maintain an international telemedicine satellite consultation capability to support emergency medical services in disaster-stricken areas.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3389.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40505	42 U.S.C. 2487f.	Pub. L. 109–588, title VI, § 607, NOv. 4, 1992, 106 Stat. 5131; Pub. L. 109–295, title VI, § 612(c), Oct. 4, 2006, 120 Stat. 1410.

The words "Office of Foreign Disaster Assistance" are substituted for "Office of Foreign Disaster" to correct an error in the law.

CHAPTER 407—ENVIRONMENTALLY FRIENDLY AIRCRAFT

Sec.
40701. Research and development initiative.
40702. Additional research and development initiative.
40703. Research alignment.
40704. Research program on perceived impact of sonic booms.

§ 40701. Research and development initiative

The Administrator may establish an initiative with the objective of developing, and demonstrating in a relevant environment, technologies to enable the following commercial aircraft performance characteristics:

(1) NOISE LEVELS.—Noise levels on takeoff and on airport approach and landing that do not exceed ambient noise levels in the absence of flight operations in the vicinity of airports from which such commercial aircraft would normally operate.

(2) ENERGY CONSUMPTION.—Twenty-five percent reduction in the energy required for medium- to long-range flights, compared to aircraft in commercial service as of December 30, 2005.

(3) EMISSIONS.—Nitrogen oxides on take-off and landing that are significantly reduced, without adversely affecting hydrocarbons and smoke, relative to aircraft in commercial service as of December 30, 2005.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3390.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40701	42 U.S.C. 16722(a).	Pub. L. 109–155, title IV, § 422(a), Dec. 30, 2005, 119 Stat. 2924.

In paragraphs (2) and (3), the date "December 30, 2005" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895).

§ 40702. Additional research and development initiative

The Administrator shall establish an initiative involving the Administration, universities, industry, and other research organizations as appropriate, of research, development, and demonstration, in a relevant environment, of technologies to enable the following commercial aircraft performance characteristics:

(1) NOISE LEVELS.—Noise levels on takeoff and on airport approach and landing that do not exceed ambient noise levels in the absence of flight operations in the vicinity of airports from which such commercial aircraft would normally operate, without increasing energy consumption or nitrogen oxide emissions compared to aircraft in commercial service as of October 15, 2008.

(2) GREENHOUSE GAS EMISSIONS.—Significant reductions in greenhouse gas emissions compared to aircraft in commercial services as of October 15, 2008.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3390.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40702	42 U.S.C. 17721.	Pub. L. 110–422, title III, § 302, Oct. 15, 2008, 122 Stat. 4786.

In paragraphs (1) and (2), the date "October 15, 2008" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2008 (Public Law 110–422, 122 Stat. 4779).

§ 40703. Research alignment

In addition to pursuing the research and development initiative described in section 40702 of this title, the Administrator shall, to the maximum extent practicable within available funding, align the fundamental aeronautics research program to address high priority technology challenges of the National Academies' Decadal Survey of Civil Aeronautics, and shall work to increase the degree of involvement of external organizations, and especially of universities, in the fundamental aeronautics research program.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3390.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40703	42 U.S.C. 17722.	Pub. L. 110–422, title III, § 303, Oct. 15, 2008, 122 Stat. 4787.

§ 40704. Research program on perceived impact of sonic booms

(a) ESTABLISHMENT.—The Administrator shall establish a cooperative research program with industry, including the conduct of flight demonstrations in a relevant environment, to collect data on the perceived impact of sonic booms. The data could enable the promulgation of appropriate standards for overland commercial supersonic flight operations.

(b) COORDINATION.—The Administrator shall ensure that sonic boom research is coordinated as appropriate with the Administrator of the Federal Aviation Administration, and as appropriate make use of the expertise of the Partnership for Air Transportation Noise and Emissions Reduction Center of Excellence sponsored by

the Administration and the Federal Aviation Administration. (Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3391.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40704(a)	42 U.S.C. 17723(b).	Pub. L. 110–422, title III, § 304(b), (c), Oct. 15, 2008, 122 Stat. 4787.
40704(b)	42 U.S.C. 17723(c).	

PURPOSE

Pub. L. 110–422, title III, § 304(a), Oct. 15, 2008, 122 Stat. 4787, provided that: "The ability to fly commercial aircraft over land at supersonic speeds without adverse impacts on the environment or on local communities would open new markets and enable new transportation capabilities. In order to have the basis for establishing appropriate sonic boom standards for such flight operations, a research program is needed to assess the impact in a relevant environment of commercial supersonic flight operations."

CHAPTER 409—MISCELLANEOUS

Sec.
40901. Science, Space, and Technology Education Trust Fund.
40902. National Aeronautics and Space Administration Endeavor Teacher Fellowship Trust Fund.
40903. Experimental Program to Stimulate Competitive Research—merit grant competition requirements.
40904. Microgravity research.
40905. Program to expand distance learning in rural underserved areas.
40906. Equal access to the Administration's education programs.
40907. Museums.
40908. Continuation of certain education programs.
40909. Compliance with title IX of Education Amendments of 1972.

NASA INTERNSHIP AND FELLOWSHIP OPPORTUNITIES

Pub. L. 115–303, § 3, Dec. 11, 2018, 132 Stat. 4399, provided that: "Not later than October 1, 2018, the Administrator of the National Aeronautics and Space Administration (in this section referred to as 'NASA') shall institute a process to encourage the recruitment of qualified candidates who are women or individuals who are underrepresented in the fields of science, technology, engineering, and mathematics (STEM) and computer science for internships and fellowships at NASA with relevance to the aerospace sector and related fields."

EDUCATION AND OUTREACH

Pub. L. 115–10, title VIII, § 824, Mar. 21, 2017, 131 Stat. 64, provided that:

"(a) SENSE OF CONGRESS.—It is the sense of Congress that—

"(1) United States competitiveness in the 21st century requires engaging the science, technology, engineering, and mathematics (referred to in this section as 'STEM') talent in all States;

"(2) the [National Aeronautics and Space] Administration is uniquely positioned to educate and inspire students and the broader public on STEM subjects and careers;

"(3) the Administration's Education and Communication Offices, Mission Directorates, and Centers have been effective in delivering educational content because of the strong engagement of Administration scientists and engineers in the Administration's education and outreach activities;

"(4) the Administration's education and outreach programs, including the Experimental Program to Stimulate Competitive Research (EPSCoR) and the Space Grant College and Fellowship Program, reflect the Administration's successful commitment to growing and diversifying the national science and engineering workforce; and

"(5) in order to grow and diversify the Nation's engineering workforce, it is vital for the Administration to bolster programs, such as High Schools United with NASA to Create Hardware (HUNCH) program, that conduct outreach activities to underserved rural communities, vocational schools, and tribal colleges and universities and encourage new participation in the STEM workforce.

"(b) CONTINUATION OF EDUCATION AND OUTREACH ACTIVITIES AND PROGRAMS.—

"(1) IN GENERAL.—The Administrator [of the National Aeronautics and Space Administration] shall continue engagement with the public and education opportunities for students via all the Administration's mission directorates to the maximum extent practicable.

"(2) REPORT.—Not later than 60 days after the date of enactment of this Act [Mar. 21, 2017], the Administrator shall submit to the appropriate committees of Congress [Committee on Commerce, Science, and Transportation of the Senate and Committee on Science, Space, and Technology of the House of Representatives] a report on the Administration's near-term outreach plans for advancing space law education."

INSPIRING THE NEXT SPACE PIONEERS, INNOVATORS, RESEARCHERS, AND EXPLORERS (INSPIRE) WOMEN

Pub. L. 115–7, Feb. 28, 2017, 131 Stat. 13, provided that:

"SECTION 1. SHORT TITLE.

"This Act may be cited as the 'Inspiring the Next Space Pioneers, Innovators, Researchers, and Explorers (INSPIRE) Women Act'.

"SEC. 2. FINDINGS.

"The Congress finds that—

"(1) NASA GIRLS and NASA BOYS are virtual mentoring programs using commercially available video chat programs to pair National Aeronautics and Space Administration mentors with young students anywhere in the country. NASA GIRLS and NASA BOYS give young students the opportunity to interact and learn from real engineers, scientists, and technologists.

"(2) The Aspire to Inspire (A2I) program engages young girls to present science, technology, engineering, and mathematics

(STEM) career opportunities through the real lives and jobs of early career women at NASA.

"(3) The Summer Institute in Science, Technology, Engineering, and Research (SISTER) program at the Goddard Space Flight Center is designed to increase awareness of, and provide an opportunity for, female middle school students to be exposed to and explore nontraditional career fields with Goddard Space Flight Center women engineers, mathematicians, scientists, technicians, and researchers.

"SEC. 3. SUPPORTING WOMEN'S INVOLVEMENT IN THE FIELDS OF AEROSPACE AND SPACE EXPLORATION.

"The Administrator of the National Aeronautics and Space Administration shall encourage women and girls to study science, technology, engineering, and mathematics, pursue careers in aerospace, and further advance the Nation's space science and exploration efforts through support of the following initiatives:

"(1) NASA GIRLS and NASA BOYS.

"(2) Aspire to Inspire.

"(3) Summer Institute in Science, Technology, Engineering, and Research.

"SEC. 4. PLAN.

"Not later than 90 days after the date of enactment of this Act [Feb. 28, 2017], the Administrator shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a plan for how NASA can best facilitate and support both current and retired astronauts, scientists, engineers, and innovators, including early career female astronauts, scientists, engineers, and innovators, to engage with K–12 female STEM students and inspire the next generation of women to consider participating in the fields of science, technology, engineering, and mathematics and to pursue careers in aerospace. This plan shall—

"(1) report on existing activities with current and retired NASA astronauts, scientists, engineers, and innovators;

"(2) identify how NASA could best leverage existing authorities to facilitate and support current and retired astronaut, scientist, engineer, and innovator participation in NASA outreach efforts;

"(3) propose and describe a program specific to retired astronauts, scientists, engineers, and innovators; and

"(4) identify any additional authorities necessary to institute such a program."

NASA'S CONTRIBUTION TO EDUCATION

Pub. L. 111–358, title II, § 202, Jan. 4, 2011, 124 Stat. 3993, provided that:

"(a) SENSE OF CONGRESS.—It is the sense of Congress that NASA [National Aeronautics and Space Administration] is uniquely positioned to interest students in science, technology, engineering, and mathematics, not only by the example it sets, but through its education programs.

"(b) EDUCATIONAL PROGRAM GOALS.—NASA shall develop and maintain educational programs—

"(1) to carry out and support research based programs and activities designed to increase student interest and participation in STEM, including students from minority and underrepresented groups;

"(2) to improve public literacy in STEM;

"(3) that employ proven strategies and methods for improving student learning and teaching in STEM;

"(4) to provide curriculum support materials and other resources that—

"(A) are designed to be integrated with comprehensive STEM education;

"(B) are aligned with national science education standards;

"(C) promote the adoption and implementation of high-quality education practices that build toward college and career-readiness; and

"(5) to create and support opportunities for enhanced and ongoing professional development for teachers using best practices that improve the STEM content and knowledge of the teachers, including through programs linking STEM teachers with STEM educators at the higher education level." [For definition of "STEM" as used in section 202 of Pub. L. 111–358, set out above, see section 2 of Pub. L. 111–358, set out as a note under section 6621 of Title 42, The Public Health and Welfare.]

REPORTS

Pub. L. 109–155, title I, § 102, Dec. 30, 2005, 119 Stat. 2905, provided that:

"(a) NATIONAL AWARENESS CAMPAIGN.—

"(1) IN GENERAL.—The Administrator [of the National Aeronautics and Space Administration] shall implement, beginning not later than May 1, 2006, a national awareness campaign through various media, including print, radio, television, and the Internet, to articulate missions, publicize recent accomplishments, and facilitate efforts to encourage young Americans to enter the fields of science, mathematics, and engineering to help maintain United States leadership in those fields.

"(2) REPORTS.—(A) Not later than April 1, 2006, the Administrator shall transmit a plan to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate describing the activities that will be undertaken as part of the national awareness campaign required by paragraph (1) and the expected cost of those activities. NASA [National Aeronautics and Space Administration] may undertake activities as part of the national awareness campaign prior to the transmittal of the plan required by this subparagraph, but the plan shall include a description of any activities undertaken prior to the transmittal and the estimated cost of those activities.

'(B) Not later than three years after the date of enactment of this Act [Dec. 30, 2005], the Administrator shall

transmit to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate an assessment of the impact of the national awareness campaign.

"(b) BUDGET INFORMATION.—Not later than April 30, 2006, the Administrator shall transmit to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report describing—

"(1) the expected cost of the Crew Exploration Vehicle through fiscal year 2020, based on the public specifications for that development contract; and

"(2) the expected budgets for each fiscal year through 2020 for human spaceflight, aeronautics, space science, and earth science—

"(A) first assuming inflationary growth for the budget of NASA as a whole and including costs for the Crew Exploration Vehicle as projected under paragraph (1); and

"(B) then assuming inflationary growth for the budget of NASA as a whole and including at least two cost estimates for the Crew Exploration Vehicle that are higher than those projected under paragraph (1), based on NASA's past experience with cost increases for similar programs, along with a description of the reasons for selecting the cost estimates used for the calculations under this subparagraph and the confidence level for each of the cost estimates used in this section.

"(c) SPACE COMMUNICATIONS PLAN.—

"(1) PLAN.—The Administrator shall develop a plan, in consultation with relevant Federal agencies, for updating NASA's space communications architecture for both low-Earth orbital operations and deep space exploration so that it is capable of meeting NASA's needs over the next 20 years. The plan shall include life-cycle cost estimates, milestones, estimated performance capabilities, and 5-year funding profiles. The plan shall also include an estimate of the amounts of any reimbursements NASA is likely to receive from other Federal agencies during the expected life of the upgrades described in the plan. At a minimum, the plan shall include a description of the following:

"(A) Projected Deep Space Network requirements for the next 20 years, including those in support of human space exploration missions.

"(B) Upgrades needed to support Deep Space Network requirements.

"(C) Cost estimates for the maintenance of existing Deep Space Network capabilities.

"(D) Cost estimates and schedules for the upgrades described in subparagraph (B).

"(E) Projected Tracking and Data Relay Satellite System requirements for the next 20 years, including those in support of other relevant Federal agencies.

"(F) Cost and schedule estimates to maintain and upgrade the Tracking and Data Relay Satellite System to meet projected requirements.

"(2) CONSULTATIONS.—The Administrator shall consult with other relevant Federal agencies in developing the plan under this subsection.

"(3) SCHEDULE.—The Administrator shall transmit the plan under this subsection to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than February 17, 2007.

"(d) JOINT DARK ENERGY MISSION.—The Administrator and the Director of the Department of Energy Office of Science shall jointly transmit to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, not later than July 15, 2006, a report on plans for a Joint Dark Energy Mission. The report shall include the amount of funds each agency intends to expend on the Joint Dark Energy Mission for each of the fiscal years 2007 through 2011, and any specific milestones for the development and launch of the Mission.

"(e) OFFICE OF SCIENCE AND TECHNOLOGY POLICY.—

"(1) STUDY.—As part of ongoing efforts to coordinate research and development across the Federal agencies, the Director of the Office of Science and Technology Policy shall conduct a study to determine—

"(A) if any research and development programs of NASA are unnecessarily duplicating aspects of programs of other Federal agencies; and

"(B) if any research and development programs of NASA are neglecting any topics of national interest that are related to the mission of NASA.

"(2) REPORT.—Not later than one year after the date of enactment of this Act [Dec. 30, 2005], the Director of the Office of Science and Technology Policy shall transmit to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report that—

"(A) describes the results of the study under paragraph (1);

"(B) lists the research and development programs of Federal agencies other than NASA that were reviewed as part of the study, which shall include any program supporting research and development in an area related to the programs of NASA, and the most recent budget figures for those programs of other agencies;

"(C) recommends any changes to the research and development programs of NASA that should be made in response to the findings of the study required by paragraph (1); and

"(D) describes mechanisms the Office of Science and Technology Policy will use to ensure adequate coordination between NASA and Federal agencies that operate related programs.

"(3) CONTRACT.—The Director of the Office of Science and Technology Policy may contract with a nongovernmental entity to conduct the study required by paragraph (1)."

REVIEW OF MUST PROGRAM

Pub. L. 109–155, title VI, § 617, Dec. 30, 2005, 119 Stat. 2934, provided that: "Not later than 60 days after the date of enactment of this Act [Dec. 30, 2005], the Administrator [of the National Aeronautics and Space Administration] shall transmit a report to Congress on the legal status of the Motivating Undergraduates in Science and Technology program. If the report concludes that the program is in compliance with the laws of the United States, NASA [National Aeronautics and Space Administration] shall implement the program, as planned in the July 5, 2005, NASA Research Announcement."

DENIAL OF FINANCIAL ASSISTANCE TO CAMPUS DISRUPTERS

Pub. L. 92–304, § 6, May 19, 1972, 86 Stat. 161, provided generally that any institution of higher education deny for a two-year period payment under programs authorized by the National Aeronautics and Space Act of 1958 (see 51 U.S.C. 20101 et seq.) to any individual attending or employed by such institution who has been convicted of any crime committed after May 19, 1972, which involved the use of force, disruption or seizure of property to prevent officers or students from engaging in their duties or pursuing their studies. Similar provisions were contained in the following prior appropriation acts:

Pub. L. 92–68, § 6, Aug. 6, 1971, 85 Stat. 177.
Pub. L. 91–303, § 6, July 2, 1970, 84 Stat. 372.
Pub. L. 91–119, § 7, Nov. 18, 1969, 83 Stat. 201.

§ 40901. Science, Space, and Technology Education Trust Fund

There is appropriated, by transfer from funds appropriated in the Department of Housing and Urban Development—Independent Agencies Appropriations Act, 1989 (Public Law 100–404, 102 Stat. 1014), for "Construction of facilities", the sum of $15,000,000 to the "Science, Space, and Technology Education Trust Fund", which is hereby established in the Treasury of the United States. The Secretary of the Treasury shall invest these funds in the United States Treasury special issue securities, and interest shall be credited to the Trust Fund on a quarterly basis. Such interest shall be available for the purpose of making grants for programs directed at improving science, space, and technology education in the United States. The Administrator, after consultation with the Director of the National Science Foundation, shall review applications made for such grants and determine the distribution of available funds on a competitive basis. Grants shall be made available to any awardee only to the extent that the awardee provides matching funds from non-Federal sources to carry out the program for which grants from this Trust Fund are made. Of the funds made available by this Trust Fund, $250,000 shall be disbursed each calendar

quarter to the Challenger Center for Space Science Education. The Administrator shall submit to Congress an annual report on the grants made pursuant to this section.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3391.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40901	42 U.S.C. 2467.	Pub. L. 100–404, title II, (par. under heading "Science, Space, and Technology Education Trust Fund", at 102 Stat. 1028), Aug. 19, 1988, 102 Stat. 1028; Pub. L. 103–327, title III, Sept. 28, 1994, 108 Stat. 2328.

In the first sentence, the words "the Department of Housing and Urban Development—Independent Agencies Appropriations Act, 1989 (Public Law 100–404, 102 Stat. 1014)" are substituted for "this Act" to clarify the reference.

In the second sentence, the words "of the Treasury" are inserted after "the Secretary" for clarity.

In the sixth sentence, the word "hereafter", which appeared after "each calendar quarter", is omitted as unnecessary.

§ 40902. National Aeronautics and Space Administration Endeavor Teacher Fellowship Trust Fund

(a) ESTABLISHMENT.—There is established in the Treasury of the United States, in tribute to the dedicated crew of the Space Shuttle Challenger, a trust fund to be known as the National Aeronautics and Space Administration Endeavor Teacher Fellowship Trust Fund (hereafter in this section referred to as the "Trust Fund"). The Trust Fund shall consist of amounts which may from time to time, at the discretion of the Administrator, be transferred from the National Aeronautics and Space Administration Gifts and Donations Trust Fund.

(b) INVESTMENT OF TRUST FUND.—The Administrator shall direct the Secretary of the Treasury to invest and reinvest funds in the Trust Fund in public debt securities with maturities suitable for the needs of the Trust Fund, and bearing interest at rates determined by the Secretary of the Treasury, taking into consideration the current average market yield on outstanding marketable obligations of the United States of comparable maturities. Interest earned shall be credited to the Trust Fund.

(c) PURPOSE.—Income accruing from the Trust Fund principal shall be used to create the National Aeronautics and Space Administration Endeavor Teacher Fellowship Program, to the extent provided in advance in appropriation Acts. The Administrator is authorized to use such funds to award fellowships to selected United States nationals who are undergraduate students pursuing a course of study leading to certified teaching degrees in elementary education or in secondary education in mathematics, science, or technology disciplines. Awards shall be made pursuant to standards established for the fellowship program by the Administrator.

(d) AVAILABILITY OF FUNDS.—The interest accruing from the National Aeronautics and Space Administration Endeavor Teacher Fellowship Trust Fund principal shall be available in fiscal year

2012 for the purpose of the Endeavor Science Teacher Certificate Program.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3391; Pub. L. 112–55, div. B, title III, Nov. 18, 2011, 125 Stat. 626.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40902	42 U.S.C. 2467a.	Pub. L. 102–195, § 20, Dec. 9, 1991, 105 Stat. 1615.

In subsection (a), the words "The Trust Fund shall consist of amounts" are substituted for "The Trust Fund shall consist of gifts and donations accepted by the National Aeronautics and Space Administration pursuant to section 208 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2476b), as well as other amounts" because the Administration's authority to accept gifts or donations under section 208 of the National Aeronautics and Space Act of 1958 terminated 5 years after October 30, 1987.

AMENDMENTS

2011—Subsec. (d). Pub. L. 112–55 added subsec. (d).

§ 40903. Experimental Program to Stimulate Competitive Research—merit grant competition requirements

(a) DEFINITION OF ELIGIBLE STATE.—In this section, the term "eligible State" means a State designated by the Administrator as eligible to compete in the National Science Foundation's Experimental Program to Stimulate Competitive Research.

(b) COMPETITION.—Making use of the existing infrastructure established in eligible States by the National Science Foundation, the Administrator shall conduct a merit grant competition among the eligible States in areas of research important to the mission of the Administration. With respect to a grant application by an eligible State, the Administrator shall consider—

(1) the application's merit and relevance to the mission of the Administration;

(2) the potential for the grant to serve as a catalyst to enhance the ability of researchers in the State to become more competitive for regular Administration funding;

(3) the potential for the grant to improve the environment for science, mathematics, and engineering education in the State; and

(4) the need to ensure the maximum distribution of grants among eligible States, consistent with merit.

(c) SUPPLEMENTAL GRANTS.—The Administrator shall endeavor, where appropriate, to supplement grants made under subsection (b) with such grants for fellowships, traineeships, equipment, or instrumentation as are available.

(d) INFORMATION IN ANNUAL BUDGET SUBMISSION.—In order to ensure that research expertise and talent throughout the Nation is developed and engaged in Administration research and education activities, the Administration shall, as part of its annual budget submission, detail additional steps that can be taken to further in-

tegrate the participating eligible States in both existing and new or emerging Administration research programs and center activities.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3392.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40903(a)	42 U.S.C. 2467b(c).	Pub. L. 102–588, title III, § 304, Nov. 4, 1992, 106 Stat. 5120.
40903(b)	42 U.S.C. 2467b(a).	
40903(c)	42 U.S.C. 2467b(b).	
40903(d)	42 U.S.C. 17781(b).	Pub. L. 110–422, title VII, § 704(b), Oct. 15, 2008, 122 Stat. 4802.

In subsection (d) the words "eligible States'" are substituted for "EPSCoR States'" for clarity and consistency in the section.

CONGRESSIONAL FINDINGS AND POLICY

Pub. L. 102–588, title III, §§ 301–303, Nov. 4, 1992, 106 Stat. 5119, provided that:

"SEC. 301. SHORT TITLE.

"This title [see Tables for classification] may be cited as the 'Experimental Program to Stimulate Competitive Research on Space and Aeronautics Act'.

"SEC. 302. FINDINGS.

"Congress finds that—

"(1) the report of the Advisory Committee on the Future of the United States Space Program has provided a framework within which a consensus on the goals of the space program can be developed;

"(2) the National Aeronautics and Space Administration's space science and applications, aeronautical research and technology, and space research and technology programs will serve as the fulcrum for future initiatives by the United States in civil space and aviation;

"(3) colleges and universities in many States are currently not able to compete successfully for research grants awarded by the National Aeronautics and Space Administration through its space science and applications, aeronautical research and technology, and space research and technology programs;

"(4) balanced programs of space science and applications, aeronautical research and technology, and space research and technology should include initiatives designed to foster competitive research capacity in all geographic areas of the Nation; and

"(5) by strengthening the competitive research capacity in those geographic areas of the Nation which are not currently fully competitive, the education and training of scientists and engineers important to the future of the United States civil space and aviation programs will be fostered.

"SEC. 303. POLICY.

"It is the policy of the United States that—

"(1) the Administrator [of the National Aeronautics and Space Administration], in planning for national programs in space science and applications, aeronautical research, space flight, and exploration, should ensure the resilience of the space and aeronautics research infrastructure;

"(2) a stable and balanced program of space science and applications, aeronautical research and technology, and space research and technology should include programs to assure that geographic areas of the United States that currently do not successfully participate in competitive space and aeronautical research activities are enabled to become more competitive; and

"(3) programs to improve competitive capabilities should be a part of the research and the educational activities of the National Aeronautics and Space Administration."

§ 40904. Microgravity research

The Administrator shall—

(1) ensure the capacity to support ground-based research leading to space-based basic and applied scientific research in a variety of disciplines with potential direct national benefits and applications that can be advanced significantly from the uniqueness of microgravity and the space environment; and

(2) carry out, to the maximum extent practicable, basic, applied, and commercial International Space Station research in fields such as molecular crystal growth, animal research, basic fluid physics, combustion research, cellular biotechnology, low-temperature physics, and cellular research at a level that will sustain the existing United States scientific expertise and research capability in microgravity research.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3393.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40904(I)	42 U.S.C. 16655(2).	Pub. L. 109–155, title III, § 305(2), (3), Dec. 30, 2005, 119 Stat. 2918.
40904(2)	42U.S.C. 16655(3).	

§ 40905. Program to expand distance learning in rural underserved areas

(a) IN GENERAL.—The Administrator shall develop or expand programs to extend science and space educational outreach to rural communities and schools through video conferencing, interpretive exhibits, teacher education, classroom presentations, and student field trips.

(b) PRIORITIES.—In carrying out subsection (a), the Administrator shall give priority to existing programs, including Challenger Learning Centers—

(1) that utilize community-based partnerships in the field;

(2) that build and maintain video conference and exhibit capacity;

(3) that travel directly to rural communities and serve low-income populations; and

(4) with a special emphasis on increasing the number of women and minorities in the science and engineering professions.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3393.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40905	42 U.S.C. 1679.	Pub. L. 109–155, title VI, § 612, Dec. 30, 2005, 119 Stat. 2932.

§ 40906. Equal access to the Administration's education programs

(a) IN GENERAL.—The Administrator shall strive to ensure equal access for minority and economically disadvantaged students to the Administration's education programs.

(b) REPORT.—Every 2 years, the Administrator shall submit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate describing the efforts by the Administrator to ensure equal access for minority and economically disadvantaged students under this section and the results of such efforts. As part of the report, the Administrator shall provide—

(1) data on minority participation in the Administration's education programs, at a minimum in the categories of—

(A) elementary and secondary education;

(B) undergraduate education; and

(C) graduate education; and

(2) the total value of grants the Administration made to Historically Black Colleges and Universities and to Hispanic Serving Institutions through education programs during the period covered by the report.

(c) PROGRAM.—The Administrator shall establish the Dr. Mae C. Jemison Grant Program to work with Minority Serving Institutions to bring more women of color into the field of space and aeronautics.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3393.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40906	42 U.S.C. 16794.	Pub. L. 109–155, title VI, § 615, Dec. 30, 2005, 119 Stat. 2934.

In subsection (b), in the matter before paragraph (1), the words "Every 2 years" are substituted for "Not later than 1 year after the date of enactment of this Act [December 30, 2005], and every 2 years thereafter" to eliminate obsolete language.

In subsection (b), in the matter before paragraph (1), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 40907 Museums

The Administrator may provide grants to, and enter into cooperative agreements with, museums and planetariums to enable them to enhance programs related to space exploration, aeronautics, space science, Earth science, or microgravity. (Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3394.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40907	42 U.S.C. 16795.	Pub. L. 109–155, title VI, § 616, Dec. 30, 2005, 119 Stat. 2934.

§ 40908. Continuation of certain education programs

From amounts appropriated to the Administration for education programs, the Administrator shall ensure the continuation of the Space Grant Program, the Experimental Program to Stimulate Competitive Research, and, consistent with the results of the review under section 614 of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109-155, 119 Stat. 2933), the Administration Explorer School program, to motivate and develop the next generation of explorers.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3394.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40908	42 U.S.C. 16797.	Pub. L. 109–155, title VI, § 618, Dec. 30, 2005, 119 Stat. 2934.

REFERENCES IN TEXT

Section 614 of the National Aeronautics and Space Administration Authorization Act of 2005, referred to in text, was classified to former section 16793 of Title 42, The Public Health and Welfare, and was omitted from the Code following the enactment of this title by Pub. L. 111–314.

§ 40909. Compliance with title IX of Education Amendments of 1972

To comply with title IX of the Education Amendments of 1972 (20 U.S.C. 1681 et seq.), the Administrator shall conduct compliance reviews of at least 2 grantees annually.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3394.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
40909	42 U.S.C. 16798b.	Pub. L. 109–155, title VI, § 619(b), Dec. 30, 2005, 119 Stat. 2935.

REFERENCES IN TEXT

The Education Amendments of 1972, referred to in text, is Pub. L. 92–318, June 23, 1972, 86 Stat. 235. Title IX of the Act, known as the Patsy Takemoto Mink Equal Opportunity in Education Act, is classified principally to chapter 38 (§ 1681 et seq.) of Title 20, Education. For complete classification of title IX to the Code, see Short Title note set out under section 1681 of Title 20 and Tables.

Subtitle V—Programs Targeting Commercial Opportunities

CHAPTER 501—SPACE COMMERCE

Subchapter I—General

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[50133. Repealed.]
50134. Use of excess intercontinental ballistic missiles.

AMENDMENTS

2017—Pub. L. 115–10, title IV, § 416(c), Mar. 21, 2017, 131 Stat. 35, struck out item 50133 "Shuttle privatization".

Subchapter I—General

§ 50101. Definitions

In this chapter:

(1) COMMERCIAL PROVIDER.—The term "commercial provider" means any person providing space transportation services or other space-related activities, primary control of which is held by persons other than Federal, State, local, and foreign governments.

(2) PAYLOAD.—The term "payload" means anything that a person undertakes to transport to, from, or within outer space, or in suborbital trajectory, by means of a space transportation vehicle, but does not include the space transportation vehicle itself except for its components which are specifically designed or adapted for that payload.

(3) SPACE-RELATED ACTIVITIES.—The term "space-related activities" includes research and development, manufacturing, processing, service, and other associated and support activities.

(4) SPACE TRANSPORTATION SERVICES.—The term "space transportation services" means the preparation of a space transportation vehicle and its payloads for transportation to, from, or within outer space, or in suborbital trajectory, and the

conduct of transporting a payload to, from, or within outer space, or in suborbital trajectory.

(5) SPACE TRANSPORTATION VEHICLE.—The term "space transportation vehicle" means any vehicle constructed for the purpose of operating in, or transporting a payload to, from, or within, outer space, or in suborbital trajectory, and includes any component of such vehicle not specifically designed or adapted for a payload.

(6) STATE.—The term "State" means each of the several States of the Union, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States.

(7) UNITED STATES COMMERCIAL PROVIDER.—The term "United States commercial provider" means a commercial provider, organized under the laws of the United States or of a State, that is—

(A) more than 50 percent owned by United States nationals; or

(B) a subsidiary of a foreign company and the Secretary of Transportation finds that—

(i) such subsidiary has in the past evidenced a substantial commitment to the United States market through—

(I) investments in the United States in long-term research, development, and manufacturing (including the manufacture of major components and subassemblies); and

(II) significant contributions to employment in the United States; and

(ii) the country or countries in which such foreign company is incorporated or organized, and, if appropriate, in which it principally conducts its business, affords reciprocal treatment to companies described in subparagraph (A) comparable to that afforded to such foreign company's subsidiary in the United States, as evidenced by—

(I) providing comparable opportunities for companies described in subparagraph (A) to participate in Government-sponsored research and development similar to that authorized under this chapter;

(II) providing no barriers, to companies described in subparagraph (A) with respect to local investment opportunities, that are not provided to foreign companies in the United States; and

(III) providing adequate and effective protection for the intellectual property rights of companies described in subparagraph (A).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3394.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50101	42 U.S.C. 14701.	Pub. L. 105–303, §2, Oct. 28, 1998, 112 Stat. 2843.

The definition of "Administrator" in section 2 of the Commercial Space Act of 1998 (Public Law 105–303, 112 Stat. 2843) is omitted as unnecessary because of the definition added by section 10101 of title 51.

SPACE POLICY DIRECTIVE—2. STREAMLINING REGULATIONS ON COMMERCIAL USE OF SPACE

Space Policy Directive–2, May 24, 2018, 83 F.R. 24901, provided:

Memorandum for the Vice President[,] the Secretary of State[,] the Secretary of Defense[,] the Secretary of Commerce[,] the Secretary of Transportation[,] the Secretary of Homeland Security[,] the Secretary of Labor[,] the Director of National Intelligence[,] the Director of the Office of Management and Budget[,] the Assistant to the President for National Security Affairs[,] the Administrator of the National Aeronautics and Space Administration[,] the Director of the Office of Science and Technology Policy[,] the Assistant to the President for Homeland Security and Counterterrorism[, and] the Chairman of the Joint Chiefs of Staff

SECTION 1. *Policy*. It is the policy of the executive branch to be prudent and responsible when spending taxpayer funds, and to recognize how government actions, including Federal regulations, affect private resources. It is therefore important that regulations adopted and enforced by the executive branch promote economic growth; minimize uncertainty for taxpayers, investors, and private industry; protect national security, public-safety, and foreign policy interests; and encourage American leadership in space commerce.

SEC. 2. *Launch and Re-entry Licensing*. (a) No later than February 1, 2019, the Secretary of Transportation shall review regulations adopted by the Department of Transportation that provide for and govern licensing of commercial space flight launch and re-entry for consistency with the policy set forth in section 1 of this memorandum and shall rescind or revise those regulations, or publish for notice and comment proposed rules rescinding or revising those regulations, as appropriate and consistent with applicable law.

(b) Consistent with the policy set forth in section 1 of this memorandum, the Secretary of Transportation shall consider the following:

(i) requiring a single license for all types of commercial space flight launch and re-entry operations; and

(ii) replacing prescriptive requirements in the commercial space flight launch and re-entry licensing process with performance-based criteria.

(c) In carrying out the review required by subsection (a) of this section, the Secretary of Transportation shall coordinate with the members of the National Space Council.

(d) The Secretary of Defense, the Secretary of Transportation, and the Administrator of the National Aeronautics and Space Administration shall coordinate to examine all existing U.S. Govern-

ment requirements, standards, and policies associated with commercial space flight launch and re-entry operations from Federal launch ranges and, as appropriate and consistent with applicable law, to minimize those requirements, except those necessary to protect public safety and national security, that would conflict with the efforts of the Secretary of Transportation in implementing the Secretary's responsibilities under this section.

SEC. 3. *Commercial Remote Sensing*. (a) Within 90 days of the date of this memorandum [May 24, 2018], the Secretary of Commerce shall review the regulations adopted by the Department of Commerce under Title II of the Land Remote Sensing Policy Act of 1992 ([now] 51 U.S.C. 60101 *et seq*.) for consistency with the policy set forth in section 1 of this memorandum and shall rescind or revise those regulations, or publish for notice and comment proposed rules rescinding or revising those regulations, as appropriate and consistent with applicable law.

(b) In carrying out the review required by subsection (a) of this section, the Secretary of Commerce shall coordinate with the Secretary of State, the Secretary of Defense, the Administrator of the National Aeronautics and Space Administration, and, as appropriate, the Chairman of the Federal Communications Commission.

(c) Within 120 days of the date of the completion of the review required by subsection (a) of this section, the Secretary of Commerce, in coordination with the Secretary of State and the Secretary of Defense, shall transmit to the Director of the Office of Management and Budget a legislative proposal to encourage expansion of the licensing of commercial remote sensing activities. That proposal shall be consistent with the policy set forth in section 1 of this memorandum.

SEC. 4. *Reorganization of the Department of Commerce*. (a) To the extent permitted by law, the Secretary of Commerce shall consolidate in the Office of the Secretary of Commerce the responsibilities of the Department of Commerce with respect to the Department's regulation of commercial space flight activities.

(b) Within 30 days of the date of this memorandum, the Secretary of Commerce shall transmit to the Director of the Office of Management and Budget a legislative proposal to create within the Department of Commerce an entity with primary responsibility for administering the Department's regulation of commercial space flight activities.

SEC. 5. *Radio Frequency Spectrum*. (a) The Secretary of Commerce, in coordination with the Director of the Office of Science and Technology Policy, shall work with the Federal Communications Commission to ensure that Federal Government activities related to radio frequency spectrum are, to the extent permitted by law, consistent with the policy set forth in section 1 of this memorandum.

(b) Within 120 days of the date of this memorandum, the Secretary of Commerce and the Director of the Office of Science and Technology Policy, in consultation with the Chairman of the Federal Communications Commission, and in coordination with the members of the National Space Council, shall provide to the President, through the Executive Secretary of the National Space Council, a report on improving the global competitiveness of the United

States space sector through radio frequency spectrum policies, regulation, and United States activities at the International Telecommunication Union and other multilateral forums.

SEC. 6. *Review of Export Licensing Regulations*. The Executive Secretary of the National Space Council, in coordination with the members of the National Space Council, shall:

(a) initiate a review of export licensing regulations affecting commercial space flight activity;

(b) develop recommendations to revise such regulations consistent with the policy set forth in section 1 of this memorandum and with applicable law; and

(c) submit such recommendations to the President, through the Vice President, no later than 180 days from the date of this memorandum.

SEC. 7. *General Provisions*. (a) Nothing in this memorandum shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This memorandum shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This memorandum is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

(d) The Secretary of Transportation is authorized and directed to publish this memorandum in the Federal Register.

DONALD J. TRUMP.

Subchapter II—Promotion of Commercial Space Opportunities

§ 50111. Commercialization of Space Station

(a) POLICY.—Congress declares that a priority goal of constructing the International Space Station is the economic development of Earth orbital space. Congress further declares that free and competitive markets create the most efficient conditions for promoting economic development, and should therefore govern the economic development of Earth orbital space. Congress further declares that the use of free market principles in operating, servicing, allocating the use of, and adding capabilities to the Space Station, and the resulting fullest possible engagement of commercial providers and participation of commercial users, will reduce Space Station operational costs for all partners and the Federal Government's share of the United States burden to fund operations.

(b) USE OF UNITED STATES COMMERCIALLY PROVIDED SERVICES.—

(1) IN GENERAL.—In order to stimulate commercial use of space, help maximize the utility and productivity of the International Space Station, and enable a commercial means of pro-

viding crew transfer and crew rescue services for the International Space Station, the Administration shall—

(A) make use of United States commercially provided International Space Station crew transfer and crew rescue services to the maximum extent practicable, if those commercial services have demonstrated the capability to meet Administration-specified ascent, entry, and International Space Station proximity operations safety requirements;

(B) limit, to the maximum extent practicable, the use of the Crew Exploration Vehicle to missions carrying astronauts beyond low Earth orbit once commercial crew transfer and crew rescue services that meet safety requirements become operational;

(C) facilitate, to the maximum extent practicable, the transfer of Administration-developed technologies to potential United States commercial crew transfer and rescue service providers, consistent with United States law; and

(D) issue a notice of intent, not later than 180 days after October 15, 2008, to enter into a funded, competitively awarded Space Act Agreement with 2 or more commercial entities for a Phase 1 Commercial Orbital Transportation Services crewed vehicle demonstration program.

(2) CONGRESSIONAL INTENT.—It is the intent of Congress that funding for the program described in paragraph (1)(D) shall not come at the expense of full funding of the amounts authorized under section 101(3)(A) of the National Aeronautics and Space Administration Authorization Act of 2008 (Public Law 110–422, 122 Stat. 4783), and for future fiscal years, for Orion Crew Exploration Vehicle development, Ares I Crew Launch Vehicle development, or International Space Station cargo delivery.

(3) ADDITIONAL TECHNOLOGIES.—The Administration shall make International Space Station-compatible docking adaptors and other relevant technologies available to the commercial crew providers selected to service the International Space Station.

(4) CREW TRANSFER AND CREW RESCUE SERVICES CONTRACT.—If a commercial provider demonstrates the capability to provide International Space Station crew transfer and crew rescue services and to satisfy Administration ascent, entry, and International Space Station proximity operations safety requirements, the Administration shall enter into an International Space Station crew transfer and crew rescue services contract with that commercial provider for a portion of the Administration's anticipated International Space Station crew transfer and crew rescue requirements from the time the commercial provider commences operations under contract with the Administration through calendar year 2016, with an option to extend the period of performance through calendar year 2020.

(c) ISS TRANSITION PLAN.—

(1) IN GENERAL.—The Administrator, in coordination with the ISS management entity (as defined in section 2 of the National Aeronautics and Space Administration Transition Authorization Act of 2017), ISS partners, the scientific user com-

munity, and the commercial space sector, shall develop a plan to transition in a step-wise approach from the current regime that relies heavily on NASA sponsorship to a regime where NASA could be one of many customers of a low-Earth orbit non-governmental human space flight enterprise.

(2) REPORTS.—Not later than December 1, 2017, and biennially thereafter until 2023, the Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report that includes—

(A) a description of the progress in achieving the Administration's deep space human exploration objectives on ISS and prospects for accomplishing future mission requirements, space exploration objectives, and other research objectives on future commercially supplied low-Earth orbit platforms or migration of those objectives to cis-lunar space;

(B) the steps NASA is taking and will take, including demonstrations that could be conducted on the ISS, to stimulate and facilitate commercial demand and supply of products and services in low-Earth orbit;

(C) an identification of barriers preventing the commercialization of low-Earth orbit, including issues relating to policy, regulations, commercial intellectual property, data, and confidentiality, that could inhibit the use of the ISS as a commercial incubator;

(D) the criteria for defining the ISS as a research success;

(E) the criteria used to determine whether the ISS is meeting the objective under section 301(b)(2) of the National Aeronautics and Space Administration Transition Authorization Act of 2017;

(F) an assessment of whether the criteria under subparagraphs (D) and (E) are consistent with the research areas defined in, and recommendations and schedules under, the current National Academies of Sciences, Engineering, and Medicine Decadal Survey on Biological and Physical Sciences in Space;

(G) any necessary contributions that ISS extension would make to enabling execution of the human exploration roadmap under section 432 of the National Aeronautics and Space Administration Transition Authorization Act of 2017;

(H) the cost estimates for operating the ISS to achieve the criteria required under subparagraphs (D) and (E) and the contributions identified under subparagraph (G);

(I) the cost estimates for extending operations of the ISS to 2024, 2028, and 2030;

(J) an evaluation of the feasible and preferred service life of the ISS beyond the period described in section 503 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18353), through at least 2028, as a unique scientific, commercial, and space exploration-related facility, including—

(i) a general discussion of international partner capabilities and prospects for extending the partnership;

(ii) the cost associated with extending the service life;

(iii) an assessment on the technical limiting factors of the service life of the ISS, including list of critical components and their expected service life and availability; and

(iv) such other information as may be necessary to fully describe the justification for and feasibility of extending the service life of the ISS, including the potential scientific or technological benefits to the Federal Government, public, or to academic or commercial entities;

(K) an identification of the necessary actions and an estimate of the costs to deorbit the ISS once it has reached the end of its service life;

(L) the impact on deep space exploration capabilities, including a crewed mission to Mars in the 2030s, if the preferred service life of the ISS is extended beyond 2024 and NASA maintains a flat budget profile; and

(M) an evaluation of the functions, roles, and responsibilities for management and operation of the ISS and a determination of—

(i) those functions, roles, and responsibilities the Federal Government should retain during the lifecycle of the ISS;

(ii) those functions, roles, and responsibilities that could be transferred to the commercial space sector;

(iii) the metrics that would indicate the commercial space sector's readiness and ability to assume the functions, roles, and responsibilities described in clause (ii); and

(iv) any necessary changes to any agreements or other documents and the law to enable the activities described in subparagraphs (A) and (B).

(3) DEMONSTRATIONS.—If additional Government crew, power, and transportation resources are available after meeting the Administration's requirements for ISS activities defined in the human exploration roadmap and related research, demonstrations identified under paragraph (2) may—

(A) test the capabilities needed to meet future mission requirements, space exploration objectives, and other research objectives described in paragraph (2)(A); and

(B) demonstrate or test capabilities, including commercial modules or deep space habitats, Environmental Control and Life Support Systems, orbital satellite assembly, exploration space suits, a node that enables a wide variety of activity, including multiple commercial modules and airlocks, additional docking or berthing ports for commercial crew and cargo, opportunities for the commercial space sector to cost share for transportation and other services on the ISS, other commercial activities, or services obtained through alternate acquisition approaches.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3396; Pub. L. 115–10, title III, § 303(c), Mar. 21, 2017, 131 Stat. 27.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50111(a)	42 U.S.C. 14711(a).	Pub. L. 105–303, title I, § 101(a), Oct. 28, 1998, 112 Stat. 2845.
50111(b)	42 U.S.C. 17801.	Pub. L. 110–422, title IX, § 902, Oct. 15, 2008, 122 Stat. 4805.

In subsection (b)(1)(D), the date "October 15, 2008" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2008 (Public Law 110–422, 122 Stat. 4779).

REFERENCES IN TEXT

Section 101(3)(A) of the National Aeronautics and Space Administration Authorization Act of 2008, referred to in subsec. (b)(2), is section 101(3)(A) of Pub. L. 110–422, Oct. 15, 2008, 122 Stat. 4783, which was not classified to the Code.

The National Aeronautics and Space Administration Transition Authorization Act of 2017, referred to in subsec. (c)(1), (2)(E), (G), is Pub. L. 115–10, Mar. 21, 2017, 131 Stat. 18. Section 2 of the Act is set out as a note under section 10101 of this title, section 301(b)(2) of the Act is set out in a note under this section, and section 432 of the Act is set out in a note under section 20302 of this title.

AMENDMENTS

2017—Subsec. (c). Pub. L. 115–10 added subsec. (c).

MAXIMIZING UTILIZATION OF ISS

Pub. L. 115–10, title III, §§ 301–303, Mar. 21, 2017, 131 Stat. 22–26, provided that:

"SEC. 301. OPERATION OF THE ISS.

"(a) SENSE OF CONGRESS.—It is the sense of Congress that—

"(1) after 15 years of continuous human presence in low-Earth orbit, the ISS continues to overcome challenges and operate safely;

"(2) the ISS is a unique testbed for future space exploration systems development, including long-duration space travel;

"(3) the expansion of partnerships, scientific research, and commercial applications of the ISS is essential to ensuring the greatest return on investments made by the United States and its international space partners in the development, assembly, and operations of that unique facility;

"(4) utilization of the ISS will sustain United States leadership and progress in human space exploration by—

"(A) facilitating the commercialization and economic development of low-Earth orbit;

"(B) serving as a testbed for technologies and a platform for scientific research and development; and

"(C) serving as an orbital facility enabling research upon—

"(i) the health, well-being, and performance of humans in space; and

"(ii) the development of in-space systems enabling human space exploration beyond low-Earth orbit; and

"(5) the ISS provides a platform for fundamental, microgravity, discovery-based space life and physical sciences research that is critical for enabling space exploration, protecting humans in space, increasing pathways for commercial space development that depend on advances in basic research, and contributes to advancing science, technology, engineering, and mathematics research.

"(b) OBJECTIVES.—The primary objectives of the ISS program shall be—

"(1) to achieve the long term goal and objectives under section 202 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18312); and

"(2) to pursue a research program that advances knowledge and provides other benefits to the Nation.

"(c) CONTINUATION OF THE ISS.—[Amended section 18351 of Title 42, The Public Health and Welfare.]

"SEC. 302. TRANSPORTATION TO ISS.

"(a) FINDINGS.—Congress finds that reliance on foreign carriers for United States crew transfer is unacceptable, and the Nation's human space flight program must acquire the capability to launch United States government astronauts on vehicles using United States rockets from United States soil as soon as is safe, reliable, and affordable to do so.

"(b) SENSE OF CONGRESS ON COMMERCIAL CREW PROGRAM AND COMMERCIAL RESUPPLY SERVICES PROGRAM.—It is the sense of Congress that—

"(1) once developed and certified to meet the Administration's safety and reliability requirements, United States commercially provided crew transportation systems can serve as the primary means of transporting United States government astronauts and international partner astronauts to and from the ISS and serving as ISS crew rescue vehicles;

"(2) previous budgetary assumptions used by the Administration in its planning for the Commercial Crew Program assumed significantly higher funding levels than were authorized and appropriated by Congress;

"(3) credibility in the Administration's budgetary estimates for the Commercial Crew Program can be enhanced by an independently developed cost estimate;

"(4) such credibility in budgetary estimates is an important factor in understanding program risk;

"(5) United States access to low-Earth orbit is paramount to the continued success of the ISS and ISS National Laboratory;

"(6) a stable and successful Commercial Resupply Services Program and Commercial Crew Program are critical to ensuring timely provisioning of the ISS and to reestablishing the capability to launch United States government astronauts from

United States soil into orbit, ending reliance upon Russian transport of United States government astronauts to the ISS which has not been possible since the retirement of the Space Shuttle program in 2011;

"(7) NASA should build upon the success of the Commercial Orbital Transportation Services Program and Commercial Resupply Services Program that have allowed private sector companies to partner with NASA to deliver cargo and scientific experiments to the ISS since 2012;

"(8) the 21st Century Launch Complex Program has enabled significant modernization and infrastructure improvements at launch sites across the United States to support NASA's Commercial Resupply Services Program and other civil and commercial space flight missions; and

"(9) the 21st Century Launch Complex Program should be continued in a manner that leverages State and private investments to achieve the goals of that program.

"(c) REAFFIRMATION.—Congress reaffirms—

"(1) its commitment to the use of a commercially developed, private sector launch and delivery system to the ISS for crew missions as expressed in the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155; 119 Stat. 2895) [see Tables for classification], the National Aeronautics and Space Administration Authorization Act of 2008 (Public Law 110–422; 122 Stat. 4779) [see Tables for classification], and the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18301 et seq.); and

"(2) the requirement under section 50111(b)(1)(A) of title 51, United States Code, that the Administration shall make use of United States commercially provided ISS crew transfer and crew rescue services to the maximum extent practicable.

"(d) USE OF NON-UNITED STATES HUMAN SPACE FLIGHT TRANSPORTATION CAPABILITIES.—[Amended section 18311 of Title 42.]

"(e) COMMERCIAL CREW PROGRAM.—

"(1) OBJECTIVE.—The objective of the Commercial Crew Program shall be to assist in the development and certification of commercially provided transportation that—

"(A) can carry United States government astronauts safely, reliably, and affordably to and from the ISS;

"(B) can serve as a crew rescue vehicle; and

"(C) can accomplish subparagraphs (A) and (B) as soon as practicable.

"(2) PRIMARY CONSIDERATION.—The objective described in paragraph (1) shall be the primary consideration in the acquisition strategy for the Commercial Crew Program.

"(3) SAFETY.—

"(A) IN GENERAL.—The Administrator shall protect the safety of government astronauts by ensuring that each commercially provided transportation system under this subsection meets all applicable human rating requirements in accordance with section 403(b)(1) of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18342(b)(1)).

"(B) LESSONS LEARNED.—Consistent with the findings and recommendations of the Columbia Accident Investigation Board, the Administration shall ensure that safety and the minimization of the probability of loss of crew are the critical priorities of the Commercial Crew Program.

"(4) COST MINIMIZATION.—The Administrator shall strive through the competitive selection process to minimize the life cycle cost to the Administration through the planned period of commercially provided crew transportation services.

"(f) COMMERCIAL CARGO PROGRAM.—[Amended section 18341 of Title 42.]

"(g) COMPETITION.—It is the policy of the United States that, to foster the competitive development, operation, improvement, and commercial availability of space transportation services, and to minimize the life cycle cost to the Administration, the Administrator shall procure services for Federal Government access to and return from the ISS, whenever practicable, via fair and open competition for well-defined, milestone-based, Federal Acquisition Regulation-based contracts under section 201(a) of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18311(a)).

"(h) TRANSPARENCY.—

"(1) SENSE OF CONGRESS.—It is the sense of Congress that cost transparency and schedule transparency aid in effective program management and risk assessment.

"(2) IN GENERAL.—The Administrator shall, to the greatest extent practicable and in a manner that does not add costs or schedule delays to the program, ensure all Commercial Crew Program and Commercial Resupply Services Program providers provide evidence-based support for their costs and schedules.

"(i) ISS CARGO RESUPPLY SERVICES LESSONS LEARNED.—Not later than 120 days after the date of enactment of this Act [Mar. 21, 2017], the Administrator shall submit to the appropriate committees of Congress a report that—

"(1) identifies the lessons learned to date from previous and existing Commercial Resupply Services contracts;

"(2) indicates whether changes are needed to the manner in which the Administration procures and manages similar services prior to the issuance of future Commercial Resupply Services procurement opportunities; and

"(3) identifies any lessons learned from the Commercial Resupply Services contracts that should be applied to the procurement and management of commercially provided crew transfer services to and from the ISS or to other future procurements.

"SEC. 303. ISS TRANSITION PLAN.

"(a) FINDINGS.—Congress finds that—

"(1) NASA has been both the primary supplier and consumer of human space flight capabilities and services of the ISS and in low-Earth orbit; and

"(2) according to the National Research Council report 'Pathways to Exploration: Rationales and Approaches for a U.S. Pro-

gram of Human Space Exploration' extending ISS beyond 2020 to 2024 or 2028 will have significant negative impacts on the schedule of crewed missions to Mars, without significant increases in funding.

"(b) SENSE OF CONGRESS.—It is the sense of Congress that—

"(1) an orderly transition for United States human space flight activities in low-Earth orbit from the current regime, that relies heavily on NASA sponsorship, to a regime where NASA is one of many customers of a low-Earth orbit commercial human space flight enterprise may be necessary; and

"(2) decisions about the long-term future of the ISS impact the ability to conduct future deep space exploration activities, and that such decisions regarding the ISS should be considered in the context of the human exploration roadmap under section 432 of this Act [set out in a note under section 20302 of this title].

"(c) REPORTS.—[Amended this section.]"

[For definitions of terms used in sections 301 to 303 of Pub. L. 115–10, set out above, see section 2 of Pub. L. 115–10, set out as a note under section 10101 of this title.]

§ 50112. Promotion of United States Global Positioning System standards

In order to support and sustain the Global Positioning System in a manner that will most effectively contribute to the national security, public safety, scientific, and economic interests of the United States, Congress encourages the President to—

(1) ensure the operation of the Global Positioning System on a continuous worldwide basis free of direct user fees;

(2) enter into international agreements that promote cooperation with foreign governments and international organizations to—

(A) establish the Global Positioning System and its augmentations as an acceptable international standard; and

(B) eliminate any foreign barriers to applications of the Global Positioning System worldwide; and

(3) provide clear direction and adequate resources to the Assistant Secretary of Commerce for Communications and Information so that on an international basis the Assistant Secretary can—

(A) achieve and sustain efficient management of the electromagnetic spectrum used by the Global Positioning System; and

(B) protect that spectrum from disruption and interference.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3397.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50112	42 U.S.C. 14712(b).	Pub. L. 105–303, title I, § 104(b), Oct. 28, 1998, 112 Stat. 2852.

FINDING

Pub. L. 105–303, title I, § 104(a), Oct. 28, 1998, 112 Stat. 2852, provided that: "The Congress finds that the Global Positioning System, including satellites, signal equipment, ground stations, data links, and associated command and control facilities, has become an essential element in civil, scientific, and military space development because of the emergence of a United States commercial industry which provides Global Positioning System equipment and related services."

§ 50113. Acquisition of space science data

(a) DEFINITION OF SPACE SCIENCE DATA.—In this section, the term "space science data" includes scientific data concerning—

(1) the elemental and mineralogical resources of the moon, asteroids, planets and their moons, and comets;

(2) microgravity acceleration; and(3) solar storm monitoring.

(b) ACQUISITION FROM COMMERCIAL PROVIDERS.—The Administrator shall, to the extent possible and while satisfying the scientific or educational requirements of the Administration, and where appropriate, of other Federal agencies and scientific researchers, acquire, where cost effective, space science data from a commercial provider.

(c) TREATMENT OF SPACE SCIENCE DATA AS COMMERCIAL ITEM UNDER ACQUISITION LAWS.—Acquisitions of space science data by the Administrator shall be carried out in accordance with applicable acquisition laws and regulations (including chapters 137 and 140 of title 10). For purposes of such law and regulations, space science data shall be considered to be a commercial item. Nothing in this subsection shall be construed to preclude the United States from acquiring, through contracts with commercial providers, sufficient rights in data to meet the needs of the scientific and educational community or the needs of other government activities.

(d) SAFETY STANDARDS.—Nothing in this section shall be construed to prohibit the Federal Government from requiring compliance with applicable safety standards.

(e) LIMITATION.—This section does not authorize the Administration to provide financial assistance for the development of commercial systems for the collection of space science data.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3397; Pub. L. 115–232, div. A, title VIII, § 836(g)(10)(A), Aug. 13, 2018, 132 Stat. 1874.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50113	42 U.S.C. 14713.	Pub. L. 105–303, title I, § 105, Oct. 28, 1998, 112 Stat. 2852.

AMENDMENT OF SUBSECTION (C)

Pub. L. 115–232, div. A, title VIII, § 836(g)(10)(A), (h), Aug. 13, 2018, 132 Stat. 1874, provided that, effective Jan. 1, 2020, subject to a savings provision, subsection (c) of this section is amended as follows:

(1) in heading, by striking "Commercial Item" and inserting "Commercial Product or Commercial Service"; and

(2) by striking "commercial item" in the second sentence and inserting "commercial product or commercial service".

See 2018 Amendment note below.

AMENDMENTS

2018—Subsec. (c). Pub. L. 115–232 substituted "Commercial Product or Commercial Service" for "Commercial Item" , in heading and "commercial product or commercial service" for "commercial item" in text.

EFFECTIVE DATE OF 2018 AMENDMENT

Amendment by Pub. L. 115–232 effective Jan. 1, 2020, subject to a savings provision, see section 836(h) of Pub. L. 115–232, set out as an Effective Date of 2018 Amendment; Savings Provision note under section 453b of Title 6, Domestic Security.

§ 50114. Administration of commercial space centers

The Administrator shall administer the Commercial Space Center program in a coordinated manner from Administration headquarters in Washington, D.C.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3398.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50114	42 U.S.C. 14714.	Pub. L. 105–303, title I, § 106, Oct. 28, 1998, 112 Stat. 2853.

§ 50115. Sources of Earth science data

(a) ACQUISITION.—The Administrator shall, to the extent possible and while satisfying the scientific or educational requirements of the Administration, and where appropriate, of other Federal agencies and scientific researchers, acquire, where cost-effective, space-based and airborne Earth remote sensing data, services, distribution, and applications from a commercial provider.

(b) TREATMENT AS COMMERCIAL ITEM UNDER ACQUISITION LAWS.—Acquisitions by the Administrator of the data, services, distribution, and applications referred to in subsection (a) shall be carried out in accordance with applicable acquisition laws and regulations (including chapters 137 and 140 of title 10). For purposes of such law and regulations, such data, services, distribution, and applications shall be considered to be a commercial item. Nothing in this subsection shall be construed to preclude the United States from acquiring, through contracts with commercial providers, sufficient rights in data to meet the needs of the scientific and educational community or the needs of other government activities.

(c) SAFETY STANDARDS.—Nothing in this section shall be construed to prohibit the Federal Government from requiring compliance with applicable safety standards.

(d) ADMINISTRATION AND EXECUTION.—This section shall be carried out as part of the Commercial Remote Sensing Program at the Stennis Space Center.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3398; Pub. L. 115–232, div. A, title VIII, § 836(g)(10)(B), Aug. 13, 2018, 132 Stat. 1874.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50115(a)	42 U.S.C. 14715(a).	Pub. L. 105–303, title I, § 107(a), (b), (d), (e), Oct. 28, 1998, 112 Stat. 2853, 2854.
50115(c)	42 U.S.C. 14715(d).	
50115(d)	42 U.S.C. 14715(e).	

AMENDMENT OF SUBSECTION (B)

Pub. L. 115–232, div. A, title VIII, § 836(g)(10)(B), (h), Aug. 13, 2018, 132 Stat. 1874, provided that, effective Jan. 1, 2020, subject to a savings provision, subsection (b) of this section is amended as follows:

(1) in heading, by striking "Commercial Item" and inserting "Commercial Product or Commercial Service"; and

(2) by striking "commercial item" in the second sentence and inserting "commercial product or commercial service".

See 2018 Amendment note below.

AMENDMENTS

2018—Subsec. (b). Pub. L. 115–232, in heading, substituted "Commercial Product or Commercial Service" for "Commercial Item" and, in text, substituted "commercial product or commercial service" for "commercial item".

EFFECTIVE DATE OF 2018 AMENDMENT

Amendment by Pub. L. 115–232 effective Jan. 1, 2020, subject to a savings provision, see section 836(h) of Pub. L. 115–232, set out as an Effective Date of 2018 Amendment; Savings Provision note under section 453b of Title 6, Domestic Security.

§ 50116. Commercial technology transfer program

(a) IN GENERAL.—The Administrator shall execute a commercial technology transfer program with the goal of facilitating the exchange of services, products, and intellectual property between the Administration and the private sector. This program shall place at least as much emphasis on encouraging the transfer of Administration technology to the private sector ("spinning out") as on encouraging use of private sector technology by the Administration. This program shall be maintained in a manner that provides clear benefits for the Administration, the domestic economy, and the research community, while protecting national security.

(b) PROGRAM STRUCTURE.—In carrying out the program described in subsection (a), the Administrator shall provide program participants with at least 45 days notice of any proposed changes to the structure of the Administration's technology transfer and commercialization organizations that is in effect as of December 30, 2005.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3399; Pub. L. 115–10, title VIII, § 829, Mar. 21, 2017, 131 Stat. 66.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50116	42 U.S.C. 16811.	Pub. L. 105–155, title VI, § 621, Dec. 30, 2005, 119 Stat. 2935.

This section restates provisions originally enacted as part of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109-155, 119 Stat. 2895), and not as part of the Commercial Space Act of 1998 (Public Law 105–303, 112 Stat. 2843), which is generally restated in this chapter.

In subsection (a), in the last sentence, the word "Administration" is substituted for "agency" for clarity and because of the definition of "Administration" added by section 10101 of title 51.

In subsection (b), the date "December 30, 2005" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895).

AMENDMENTS

2017—Subsec. (a). Pub. L. 115–10 inserted ", while protecting national security" after "research community".

Subchapter III—Federal Acquisition of Space Transportation Services

§ 50131. Requirement to procure commercial space transportation services

(a) IN GENERAL.—Except as otherwise provided in this section or in section 70102, the Federal Government shall acquire space transportation services from United States commercial providers whenever such services are required in the course of its activities. To the maximum extent practicable, the Federal Government shall plan missions to accommodate the space transportation services capabilities of United States commercial providers.

(b) EXCEPTIONS.—The Federal Government shall not be required to acquire space transportation services under subsection (a) if, on a case-by-case basis, the Administrator or, in the case of a national security issue, the Secretary of the Air Force, determines that—

(1) a payload requires the unique capabilities of the space shuttle;

(2) cost effective space transportation services that meet specific mission requirements would not be reasonably available from United States commercial providers when required;

(3) the use of space transportation services from United States commercial providers poses an unacceptable risk of loss of a unique scientific opportunity;

(4) the use of space transportation services from United States commercial providers is inconsistent with national security objectives;

(5) the use of space transportation services from United States commercial providers is inconsistent with international agreements for international collaborative efforts relating to science and technology;

(6) it is more cost effective to transport a payload in conjunction with a test or demonstration of a space transportation vehicle owned by the Federal Government; or

(7) a payload can make use of the available cargo space on a space shuttle mission as a secondary payload, and such payload is consistent with the requirements of research, development, demonstration, scientific, commercial, and educational programs authorized by the Administrator.

(c) AGREEMENTS WITH FOREIGN ENTITIES.—Nothing in this section shall prevent the Administrator from planning or negotiating agreements with foreign entities for the launch of Federal Government payloads for international collaborative efforts relating to science and technology.

(d) DELAYED EFFECT.—Subsection (a) shall not apply to space transportation services and space transportation vehicles acquired or owned by the Federal Government before October 28, 1998, or with respect to which a contract for such acquisition or ownership has been entered into before October 28, 1998.

(e) HISTORICAL PURPOSES.—This section shall not be construed to prohibit the Federal Government from acquiring, owning, or maintaining space transportation vehicles solely for historical display purposes.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3399; Pub. L. 114–90, title I, § 117(b)(3), Nov. 25, 2015, 129 Stat. 718.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50131(a)	42 U.S.C. 14731(a).	Pub. L. 105–303, title II, § 201, Oct. 28, 1998, 112 Stat. 2854.
50131(b)	42 U.S.C. 14731(b) (less last sentence).	
50131(c)	42 U.S.C. 14731(b) (last sentence).	
50131(d)	42 U.S.C. 14731(c).	
50131(e)	42 U.S.C. 14731(d).	

In subsection (d), the date "October 28, 1998" is substituted for "the date of the enactment of this Act" and for "such date" to reflect the date of enactment of the Commercial Space Act of 1998 (Public Law 105–303, 112 Stat. 2843).

AMENDMENTS

2015—Subsec. (a). Pub. L. 114–90 inserted "or in section 70102" after "in this section".

NASA LAUNCH CAPABILITIES COLLABORATION

Pub. L. 115–10, title VIII, § 822, Mar. 21, 2017, 131 Stat. 61, provided that:

"(a) FINDINGS.—Congress makes the following findings:

"(1) The Launch Services Program is responsible for the acquisition, management, and technical oversight of commercial launch services for NASA's [National Aeronautics and Space Administration's] science and robotic missions.

"(2) The Commercial Crew Program is responsible for the acquisition, management, and technical oversight of commercial crew transportation systems.

"(3) The Launch Services Program and Commercial Crew Program have worked together to gain exceptional technical insight into the contracted launch service providers that are common to both programs.

"(4) The Launch Services Program has a long history of oversight of 12 different launch vehicles and over 80 launches.

"(5) Co-location of the Launch Services Program and Commercial Crew Program has enabled the Commercial Crew Program to efficiently obtain the launch vehicle technical expertise of and provide engineering and analytical support to the Commercial Crew Program.

"(b) SENSE OF CONGRESS.—It is the sense of Congress that—

"(1) the Launch Services Program and Commercial Crew Program each benefit from communication and coordination of launch manifests, technical information, and common launch vehicle insight between the programs; and

"(2) such communication and coordination is enabled by the co-location of the programs.

"(c) IN GENERAL.—The Administrator [of the National Aeronautics and Space Administration] shall pursue a strategy for acquisition of crewed transportation services and non-crewed launch services that continues to enhance communication, collaboration, and coordination between the Launch Services Program and the Commercial Crew Program."

LEVERAGING COMMERCIAL SATELLITE SERVICING CAPABILITIES ACROSS MISSION DIRECTORATES

Pub. L. 115–10, title VIII, § 825, Mar. 21, 2017, 131 Stat. 65, provided that:

"(a) FINDINGS.—Congress makes the following findings:

"(1) Refueling and relocating aging satellites to extend their operational lifetimes is a capacity that NASA [National Aeronautics and Space Administration] will substantially benefit from and is important for lowering the costs of ongoing scientific, national security, and commercial satellite operations.

"(2) The technologies involved in satellite servicing, such as dexterous robotic arms, propellant transfer systems, and solar electric propulsion, are all critical capabilities to support a human exploration mission to Mars.

"(b) SENSE OF CONGRESS.—It is the sense of Congress that—

"(1) satellite servicing is a vital capability that will bolster the capacity and affordability of NASA's ongoing scientific and human exploration operations while simultaneously enhancing the ability of domestic companies to compete in the global marketplace; and

"(2) future NASA satellites and spacecraft across mission directorates should be constructed in a manner that allows for servicing in order to maximize operational longevity and affordability.

"(c) LEVERAGING OF CAPABILITIES.—The Administrator [of the National Aeronautics and Space administration] shall—

"(1) identify orbital assets in both the Science Mission Directorate and the Human Exploration and Operations Mission Directorate that could benefit from satellite servicing-related technologies; and

"(2) work across all NASA mission directorates to evaluate opportunities for the private sector to perform such services or advance technical capabilities by leveraging the technologies and techniques developed by NASA programs and other industry programs."

§ 50132. Acquisition of commercial space transportation services

(a) TREATMENT OF COMMERCIAL SPACE TRANSPORTATION SERVICES AS COMMERCIAL ITEM UNDER ACQUISITION LAWS.—Acquisitions of space transportation services by the Federal Government shall be carried out in accordance with applicable acquisition laws and regulations (including chapters 137 and 140 of title 10). For purposes of such law and regulations, space transportation services shall be considered to be a commercial item.

(b) SAFETY STANDARDS.—Nothing in this section shall be construed to prohibit the Federal Government from requiring compliance with applicable safety standards.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3400; Pub. L. 115–232, div. A, title VIII, § 836(g)(10)(C), Aug. 13, 2018, 132 Stat. 1874.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50132	42 U.S.C. 14732.	Pub. L. 105–303, title II, § 202, Oct. 28, 1998, 112 Stat. 2855.

AMENDMENT OF SUBSECTION (A)

Pub. L. 115–232, div. A, title VIII, § 836(g)(10)(C), (h), Aug. 13, 2018, 132 Stat. 1874, provided that, effective Jan. 1, 2020, subject to a savings provision, subsection (a) of this section is amended as follows:

(1) in heading, by striking "Commercial Item" and inserting "Commercial Service"; and

(2) by striking "commercial item" in the second sentence and inserting "commercial service".

See 2018 Amendment note below.

AMENDMENTS

2018—Subsec. (a). Pub. L. 115–232 substituted "Commercial Service" for "Commercial Item" in heading and "commercial service" for "commercial item" in text.

EFFECTIVE DATE OF 2018 AMENDMENT

Amendment by Pub. L. 115–232 effective Jan. 1, 2020, subject to a savings provision, see section 836(h) of Pub. L. 115–232, set out as an Effective Date of 2018 Amendment; Savings Provision note under section 453b of Title 6, Domestic Security.

[§ 50133. Repealed. Pub. L. 115–10, title IV, § 416(c), Mar. 21, 2017, 131 Stat. 35]

Section, Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3400, related to shuttle privatization.

§ 50134. Use of excess intercontinental ballistic missiles

(a) IN GENERAL.—The Federal Government shall not—

(1) convert any missile described in subsection (c) to a space transportation vehicle configuration; or

(2) transfer ownership of any such missile to another person, except as provided in subsection(b).

(b) AUTHORIZED FEDERAL USES.—

(1) IN GENERAL.—A missile described in subsection (c) may be converted for use as a space transportation vehicle by the Federal Government if, except as provided in paragraph (2) and at least 30 days before such conversion, the agency seeking to use the missile as a space transportation vehicle transmits to the Committee on Armed Services and the Committee on Science and Technology of the House of Representatives, and to the Committee on Armed Services and the Committee on Commerce, Science, and Transportation of the Senate, a certification that the use of such missile—

(A) would result in cost savings to the Federal Government when compared to the cost of acquiring space transportation services from United States commercial providers;

(B) meets all mission requirements of the agency, including performance, schedule, and risk requirements;

(C) is consistent with international obligations of the United States; and

(D) is approved by the Secretary of Defense or the designee of the Secretary of Defense.

(2) EXCEPTION TO REQUIREMENT THAT CERTIFICATION BE TRANSMITTED 30 DAYS BEFORE CONVERSION.—The requirement under paragraph (1) that the certification described in that paragraph must be transmitted at least 30 days before conversion of the missile shall not apply if the Secretary of Defense determines that compliance with that requirement would be inconsistent with meeting immediate national security requirements.

(c) MISSILES REFERRED TO.—The missiles referred to in this section are missiles owned by the United States that—

(1) were formerly used by the Department of Defense for national defense purposes as intercontinental ballistic missiles; and

(2) have been declared excess to United States national defense needs and are in compliance with international obligations of the United States.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3400.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50134	42 U.S.C. 14734.	Pub. L. 105–303, title II, § 205, Oct. 28, 1998, 112 Stat. 2857; Pub. L., 106–65, div. A, title X, § 1067(21), Oct. 5, 1999, 113 Stat. 775.

In subsection (b)(1), in the matter before subparagraph (A), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

CHAPTER 503—COMMERCIAL REUSABLE IN-SPACE TRANSPORTATION

Sec.
50301. Definitions.
50302. Loan guarantees for production of commercial reusable in-space transportation.

§ 50301. Definitions

In this chapter:

(1) COMMERCIAL PROVIDER.—The term "commercial provider" means any person or entity providing commercial reusable in-orbit space transportation services or systems, primary control of which is held by persons other than the Federal Government, a State or local government, or a foreign government.

(2) IN-SPACE TRANSPORTATION SERVICES.—The term "in-space transportation services" means operations and activities involved in the direct transportation or attempted transportation of a payload or object from one orbit to another by means of an in-space transportation vehicle.

(3) IN-SPACE TRANSPORTATION SYSTEM.—The term "in-space transportation system" means the space and ground elements, including in-space transportation vehicles and support space systems, and ground administration and control facilities and associated equipment, necessary for the provision of in-space transportation services.

(4) IN-SPACE TRANSPORTATION VEHICLE.—The term "in-space transportation vehicle" means a vehicle designed—

(A) to be based and operated in space;

(B) to transport various payloads or objects from one orbit to another orbit; and

(C) to be reusable and refueled in space.

(5) SECRETARY.—The term "Secretary" means the Secretary of Defense.

(6) UNITED STATES COMMERCIAL PROVIDER.—The term "United States commercial provider" means any commercial provider organized under the laws of the United States that is more than 50 percent owned by United States nationals.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3401.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50301	42 U.S.C. 14753.	Pub. L. 107–248, title IX, § 904, Oct. 23, 2002, 116 Stat. 1576.

FINDINGS

Pub. L. 107–248, title IX, § 902, Oct. 23, 2002, 116 Stat. 1573, provided that: "Congress makes the following findings:

"(1) It is in the national interest to encourage the production of cost-effective, in-space transportation systems, which would be built and operated by the private sector on a commercial basis.

"(2) The use of reusable in-space transportation systems will enhance performance levels of in-space operations, enhance efficient and safe disposal of satellites at the end of their useful lives, and increase the capability and reliability of existing ground-to-space launch vehicles.

"(3) Commercial reusable in-space transportation systems will enhance the economic well-being and national security of the United States by reducing space operations costs for commercial and national space programs and by adding new space capabilities to space operations.

"(4) Commercial reusable in-space transportation systems will provide new cost-effective space capabilities (including orbital transfers from low altitude orbits to high altitude orbits and return, the correction of erroneous satellite orbits, and the recovery, refurbishment, and refueling of satellites) and the provision of upper stage functions to increase ground-to-orbit launch vehicle payloads to geostationary and other high energy orbits.

"(5) Commercial reusable in-space transportation systems can enhance and enable the space exploration of the United States by providing lower cost trajectory injection from earth orbit, transit trajectory control, and planet arrival deceleration to support potential National Aeronautics and Space Administration missions to Mars, Pluto, and other planets.

"(6) Satellites stranded in erroneous earth orbit due to deficiencies in their launch represent substantial economic loss to the United States and present substantial concerns for the current backlog of national space assets.

"(7) Commercial reusable in-space transportation systems can provide new options for alternative planning approaches

and risk management to enhance the mission assurance of national space assets.

"(8) Commercial reusable in-space transportation systems developed by the private sector can provide in-space transportation services to the National Aeronautics and Space Administration, the Department of Defense, the National Reconnaissance Office, and other agencies without the need for the United States to bear the cost of production of such systems.

"(9) The availability of loan guarantees, with the cost of credit risk to the United States paid by the private-sector, is an effective means by which the United States can help qualifying private-sector companies secure otherwise unattainable private financing for the production of commercial reusable in-space transportation systems, while at the same time minimizing Government commitment and involvement in the development of such systems."

§ 50302. Loan guarantees for production of commercial reusable in-space transportation

(a) AUTHORITY TO MAKE LOAN GUARANTEES.—The Secretary may guarantee loans made to eligible United States commercial providers for purposes of producing commercial reusable in-space transportation services or systems.

(b) ELIGIBLE UNITED STATES COMMERCIAL PROVIDERS.—The Secretary shall prescribe requirements for the eligibility of United States commercial providers for loan guarantees under this section. Such requirements shall ensure that eligible providers are financially capable of undertaking a loan guaranteed under this section.

(c) LIMITATION ON LOANS GUARANTEED.—The Secretary may not guarantee a loan for a United States commercial provider under this section unless the Secretary determines that credit would not otherwise be reasonably available at the time of the guarantee for the commercial reusable in-space transportation service or system to be produced utilizing the proceeds of the loan.

(d) CREDIT SUBSIDY.—

(1) COLLECTION REQUIRED.—The Secretary shall collect from each United States commercial provider receiving a loan guarantee under this section an amount equal to the amount, as determined by the Secretary, to cover the cost, as defined in section 502(5) of the Federal Credit Reform Act of 1990 (2 U.S.C. 661a(5)), of the loan guarantee.

(2) PERIODIC DISBURSEMENTS.—In the case of a loan guarantee in which proceeds of the loan are disbursed over time, the Secretary shall collect the amount required under this subsection on a pro rata basis, as determined by the Secretary, at the time of each disbursement.

(e) OTHER TERMS AND CONDITIONS.—

(1) PROHIBITION ON SUBORDINATION.—A loan guaranteed under this section may not be subordinated to another debt contracted by the United States commercial provider concerned, or to any other claims against such provider.

(2) RESTRICTION ON INCOME.—A loan guaranteed under this section may not—

(A) provide income which is excluded from gross income for purposes of chapter 1 of the Internal Revenue Code of 1986 (26 U.S.C. 1 et seq.); or

(B) provide significant collateral or security, as determined by the Secretary, for other obligations the income from which is so excluded.

(3) TREATMENT OF GUARANTEE.—The guarantee of a loan under this section shall be conclusive evidence of the following:

(A) That the guarantee has been properly obtained.

(B) That the loan qualifies for the guarantee.

(C) That, but for fraud or material misrepresentation by the holder of the loan, the guarantees valid, legal, and enforceable.

(4) OTHER TERMS AND CONDITIONS.—The Secretary may establish any other terms and conditions for a guarantee of a loan under this section as the Secretary considers appropriate to protect the financial interests of the United States.

(f) ENFORCEMENT OF RIGHTS.—

(1) IN GENERAL.—The Attorney General may take any action the Attorney General considers appropriate to enforce any right accruing to the United States under a loan guarantee under this section.

(2) FORBEARANCE.—The Attorney General may, with the approval of the parties concerned, forbear from enforcing any right of the United States under a loan guaranteed under this section for the benefit of a United States commercial provider if such forbearance will not result in any cost, as defined in section 502(5) of the Federal Credit Reform Act of 1990 (2 U.S.C. 661a(5)), to the United States.

(3) UTILIZATION OF PROPERTY.—Notwithstanding any other provision of law and subject to the terms of a loan guaranteed under this section, upon the default of a United States commercial provider under the loan, the Secretary may, at the election of the Secretary—

(A) assume control of the physical asset financed by the loan; and

(B) complete, recondition, reconstruct, renovate, repair, maintain, operate, or sell the physical asset.

(g) CREDIT INSTRUMENTS.—

(1) AUTHORITY TO ISSUE INSTRUMENTS.—Notwithstanding any other provision of law, the Secretary may, subject to such terms and conditions as the Secretary considers appropriate, issue credit instruments to United States commercial providers of in-space transportation services or systems, with the aggregate cost (as determined under the provisions of the Federal Credit Reform Act of 1990 (2 U.S.C. 661 et seq.)) of such instruments not to exceed $1,500,000,000, but only to the extent that new budget authority to cover such costs is provided in subsequent appropriations Acts or authority is otherwise provided in subsequent appropriations Acts.

(2) CREDIT SUBSIDY.—The Secretary shall provide a credit subsidy for any credit instrument issued under this subsection in accordance with the provisions of the Federal Credit Reform Act of 1990 (2 U.S.C. 661 et seq.).

(3) CONSTRUCTION.—The eligibility of a United States commercial provider of in-space transportation services or systems for a credit instrument under this subsection is in addition to any eligibility of such provider for a loan guarantee under other provisions of this section.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3402.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50302	42 U.S.C. 14752.	Pub. L. 107–248, title IX, § 903, Oct. 23, 2002, 116 Stat. 1574.

In subsection (f)(2), the word "forbear" is substituted for "forebear" to correct an error in the law.

In subsection (g)(1), the words "services or systems" are substituted for "services or system" to correct an error in the law.

REFERENCES IN TEXT

The Federal Credit Reform Act of 1990, referred to in subsec. (g)(1), (2), is title V of Pub. L. 93–344, as added by Pub. L. 101–508, title XIII, § 13201(a), Nov. 5, 1990, 104 Stat. 1388–609, which is classified generally to subchapter III (§ 661 et seq.) of chapter 17A of Title 2, The Congress. For complete classification of this Act to the Code, see Short Title note set out under section 621 of Title 2 and Tables.

CHAPTER 505—COMMERCIAL SPACE COMPETITIVENESS

Sec.
50501. Definitions.
50502. Launch voucher demonstration program.
50503. Anchor tenancy and termination liability.
50504. Use of Government facilities.
50505. Test facilities.
50506. Commercial Space Achievement Award.

§ 50501. Definitions

In this chapter:

(1) AGENCY.—The term "agency" means an executive agency as defined in section 105 of title 5.

(2) ANCHOR TENANCY.—The term "anchor tenancy" means an arrangement in which the United States Government agrees to procure sufficient quantities of a commercial space product or service needed to meet Government mission requirements so that a commercial venture is made viable.

(3) COMMERCIAL.—The term "commercial" means having—

(A) private capital at risk; and

(B) primary financial and management responsibility for the activity reside with the private sector.

(4) COST EFFECTIVE.—The term "cost effective" means costing no more than the available alternatives, determined by a comparison of all related direct and indirect costs including, in the case of Government costs, applicable Government labor and overhead costs as well as contractor charges, and taking into

account the ability of each alternative to accommodate mission requirements as well as the related factors of risk, reliability, schedule, and technical performance.

(5) LAUNCH.—The term "launch" means to place, or attempt to place, a launch vehicle and its payload, if any, in a suborbital trajectory, in Earth orbit in outer space, or otherwise in outer space.

(6) LAUNCH SERVICES.—The term "launch services" means activities involved in the preparation of a launch vehicle and its payload for launch and the conduct of a launch.

(7) LAUNCH SUPPORT FACILITIES.—The term "launch support facilities" means facilities located at launch sites or launch ranges that are required to support launch activities, including launch vehicle assembly, launch vehicle operations and control, communications, flight safety functions, and payload operations, control, and processing.

(8) LAUNCH VEHICLE.—The term "launch vehicle" means any vehicle constructed for the purpose of operating in or placing a payload in outer space or in suborbital trajectories, and includes components of that vehicle.

(9) PAYLOAD.—The term "payload" means an object which a person undertakes to launch, and includes subcomponents of the launch vehicle specifically designed or adapted for that object.

(10) PAYLOAD INTEGRATION SERVICES.—The term "payload integration services" means activities involved in integrating multiple payloads into a single payload for launch or integrating a payload with a launch vehicle.

(11) SPACE RECOVERY SUPPORT FACILITIES.—The term "space recovery support facilities" means facilities required to support activities related to the recovery of payloads returned from space to a space recovery site, including operations and control, communications, flight safety functions, and payload processing.

(12) SPACE TRANSPORTATION INFRASTRUCTURE.—The term "space transportation infrastructure" means facilities, associated equipment, and real property (including launch sites, launch support facilities, space recovery sites, and space recovery support facilities) required to perform launch or space recovery activities.

(13) STATE.—The term "State" means the several States, the District of Columbia, Puerto Rico, American Samoa, the United States Virgin Islands, Guam, the Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States.

(14) UNITED STATES.—The term "United States" means the States, collectively.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3404.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50501	15 U.S.C. 5802.	Pub. L. 102–588, title V, § 502, Nov. 4, 1992, 106 Stat. 5123.

FINDINGS

Pub. L. 102–588, title V, § 501, Nov. 4, 1992, 106 Stat. 5122, provided that: "The Congress finds that—

"(1) commercial activities of the private sector have substantially contributed to the strength of both the United States space program and the national economy;

"(2) a robust United States space transportation capability remains a vital cornerstone of the United States space program;

"(3) the availability of commercial launch services is essential for the continued growth of the United States commercial space sector;

"(4) a timely extension of the excess third party claims payment provisions of the Commercial Space Launch Act [now 51 U.S.C. 50901 et seq.] is appropriate and necessary to enable the private sector to continue covering maximum probable liability risks while protecting the private sector from uninsurable levels of liability which could hinder international competitiveness;

"(5) a program to demonstrate how recipients of Federal grants can purchase launch services directly from the private sector has the potential to improve the capabilities of the United States commercial launch industry;

"(6) improvements and additions to the Nation's space transportation infrastructure contribute to a robust and cost effective space transportation capability for both public sector and private sector users;

"(7) private sector use of available Government facilities on a reimbursable basis contributes to a stronger commercial space sector;

"(8) the Federal Government should purchase space goods and services which are commercially available, or could be made available commercially in response to a Government procurement request, whenever such goods or services meet Government mission requirements in a cost effective manner;

"(9) it is appropriate for the Government to act as an anchor tenant for commercial space development projects which have a reasonable potential to develop non-Federal markets and which meet Federal needs in a cost effective manner; and

"(10) the provision of compensation to commercial providers of space goods and services for termination of contracts at the convenience of the Government assists in enabling the private sector to invest in space activities which are initially dependent on Government purchases."

[For definition of terms used in section 501 of Pub. L. 102–588, set out above, see section 502 of Pub. L. 102–588, title V, Nov. 4, 1992, 106 Stat. 5123, which was classified to former section 5802

of Title 15, Commerce and Trade, and was repealed and reenacted as this section by Pub. L. 111–314, §§ 3, 6, Dec. 18, 2010, 124 Stat. 3328, 3444.]

§ 50502. Launch voucher demonstration program

(a) REQUIREMENT TO ESTABLISH PROGRAM.—The Administrator shall establish a demonstration program to award vouchers for the payment of commercial launch services and payload integration services for the purpose of launching payloads funded by the Administration.

(b) AWARD OF VOUCHERS.—The Administrator shall award vouchers under subsection (a) to appropriate individuals as a part of grants administered by the Administration for the launch of—(1) payloads to be placed in suborbital trajectories; and (2) small payloads to be placed in orbit.

(c) ASSISTANCE.—The Administrator may provide voucher award recipients with such assistance (including contract formulation and technical support during the proposal evaluation) as may be necessary to ensure the purchase of cost effective and reasonably reliable commercial launch services and payload integration services.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3405.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50502	15 U.S.C. 5803(a)–(c).	Pub. L. 102–588, title V, § 504(a)–(c), Nov. 4, 1992, 106 Stat. 5124; Pub. L. 105–303, title I, § 103, Oct. 28, 1998, 112 Stat. 2851.

In subsection (a), the words "to become effective October 1, 1993", which appeared at the end, are omitted as obsolete.

§ 50503. Anchor tenancy and termination liability

(a) ANCHOR TENANCY CONTRACTS.—Subject to appropriations, the Administrator or the Administrator of the National Oceanic and Atmospheric Administration may enter into multiyear anchor tenancy contracts for the purchase of a good or service if the appropriate Administrator determines that—

(1) the good or service meets the mission requirements of the Administration or the National Oceanic and Atmospheric Administration, as appropriate;

(2) the commercially procured good or service is cost effective;

(3) the good or service is procured through a competitive process;

(4) existing or potential customers for the good or service other than the United States Government have been specifically identified;

(5) the long-term viability of the venture is not dependent upon a continued Government market or other nonreimbursable Government support; and

(6) private capital is at risk in the venture.

(b) TERMINATION LIABILITY.—

(1) IN GENERAL.—Contracts entered into under subsection (a) may provide for the payment of termination liability in the event that the Government terminates such contracts for its convenience.

(2) FIXED SCHEDULE OF PAYMENTS AND LIMITATION ON LIABILITY.—Contracts that provide for the payment of termination liability, as described in paragraph (1), shall include a fixed schedule of such termination liability payments. Liability under such contracts shall not exceed the total payments which the Government would have made after the date of termination to purchase the good or service if the contract were not terminated.

(3) USE OF FUNDS.—Subject to appropriations, funds available for such termination liability payments may be used for purchase of the good or service upon successful delivery of the good or service pursuant to the contract. In such case, sufficient funds shall remain available to cover any remaining termination liability.

(c) LIMITATIONS.—

(1) DURATION.—Contracts entered into under this section shall not exceed 10 years in duration.

(2) FIXED PRICE.—Such contracts shall provide for delivery of the good or service on a firm, fixed price basis.

(3) PERFORMANCE SPECIFICATIONS.—To the extent practicable, reasonable performance specifications shall be used to define technical requirements in such contracts.

(4) FAILURE TO PERFORM.—In any such contract, the appropriate Administrator shall reserve the right to completely or partially terminate the contract without payment of such termination liability because of the contractor's actual or anticipated failure to perform its contractual obligations.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3405.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50503	15 U.S.C. 5806.	Pub. L. 102–588, title V, § 507, Nov. 4, 1992, 106 Stat. 5127.

§ 50504. Use of Government facilities

(a) AUTHORITY.—

(1) IN GENERAL.—Federal agencies, including the Administration and the Department of Defense, may allow non-Federal entities to use their space-related facilities on a reimbursable basis if the Administrator, the Secretary of Defense, or the appropriate agency head determines that—

(A) the facilities will be used to support commercial space activities;

(B) such use can be supported by existing or planned Federal resources;

(C) such use is compatible with Federal activities;

(D) equivalent commercial services are not available on reasonable terms; and

(E) such use is consistent with public safety, national security, and international treaty obligations.

(2) CONSULTATION.—In carrying out paragraph (1)(E), each agency head shall consult with appropriate Federal officials.

(b) REIMBURSEMENT PAYMENT.—

(1) AMOUNT.—The reimbursement referred to in subsection (a) may be an amount equal to the direct costs (including salaries of United States civilian and contractor personnel) incurred by the United States as a result of the use of such facilities by the private sector. For the purposes of this paragraph, the term "direct costs" means the actual costs that can be unambiguously associated with such use, and would not be borne by the United States Government in the absence of such use.

(2) CREDIT TO APPROPRIATION.—The amount of any payment received by the United States for use of facilities under this subsection shall be credited to the appropriation from which the cost of providing such facilities was paid.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3406.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50504	15 U.S.C. 5807.	Pub. L. 102–588, title V, § 508, Nov. 4, 1992, 106 Stat. 5128.

§ 50505. Test facilities

(a) CHARGES.—The Administrator shall establish a policy of charging users of the Administration's test facilities for the costs associated with their tests at a level that is competitive with alternative test facilities. The Administrator shall not implement a policy of seeking full cost recovery for a facility until at least 30 days after transmitting a notice to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

(b) FUNDING ACCOUNT.—In planning and budgeting, the Administrator shall establish a funding account that shall be used for all test facilities. The account shall be sufficient to maintain the viability of test facilities during periods of low utilization.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3407.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50505	42 U.S.C. 16634.	Pub. L. 109–155, title II, § 205, Dec. 30, 2005, 119 Stat. 2916.

This section restates provisions originally enacted as part of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895), and not as part of title V of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1993 (Public Law 102–588, 106 Stat. 5107), which is generally restated in this chapter.

In subsection (a), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of

Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 50506. Commercial Space Achievement Award

(a) ESTABLISHMENT.—There is established a Commercial Space Achievement Award. The award shall consist of a medal, which shall be of such design and materials and bear such inscriptions as determined by the Secretary of Commerce. A cash prize may also be awarded if funding for the prize is available under subsection (d).

(b) CRITERIA FOR AWARD.—The Secretary of Commerce shall periodically make awards under this section to individuals, corporations, corporate divisions, or corporate subsidiaries substantially engaged in commercial space activities that in the opinion of the Secretary of Commerce best meet the following criteria:

(1) NON-GOVERNMENTAL REVENUE.—For corporate entities, at least half of the revenues from the space-related activities of the corporation, division, or subsidiary is derived from sources other than the United States Government.

(2) SUBSTANTIAL CONTRIBUTION.—The activities and achievements of the individual, corporation, division, or subsidiary have substantially contributed to the United States gross national product and the stature of United States industry in international markets, with due consideration for both the economic magnitude and the technical quality of the activities and achievements.

(3) SUBSTANTIAL ADVANCEMENT OF TECHNOLOGY.—The individual, corporation, division, or subsidiary has substantially advanced space technology and space applications directly related to commercial space activities.

(c) LIMITATIONS.—No individual or corporate entity may receive an award under this section more than once every 5 years.

(d) FUNDING FOR AWARD.—The Secretary of Commerce may seek and accept gifts of money from public and private sources for the purpose of making cash prize awards under this section. Such money may be used only for that purpose, and only such money may be used for that purpose. The Secretary of Commerce shall make publicly available an itemized list of the sources of such funding.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3407.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50506	15 U.S.C. 5808.	Pub. L. 102–588, title V, § 510, Nov. 4, 1992, 106 Stat. 5129.

In subsection (b), in the matter before paragraph (1), the words "The Secretary of Commerce shall periodically make awards" are substituted for "The Secretary of Commerce shall periodically make, and the Chairman of the National Space Council shall present, awards" to eliminate obsolete language. The reference to the Chairman of the National Space Council is obsolete because the National Space Council (established by section 501 of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989 (Public Law 100–685, 102 Stat. 4102)) has not functioned or been staffed since 1993.

CHAPTER 507—OFFICE OF SPACE COMMERCE

Sec.
50701. Definition of Office.
50702. Establishment.
50703. Annual report.

AMENDMENTS

2015—Pub. L. 114–90, title III, § 301(a)(1), Nov. 25, 2015, 129 Stat. 720, substituted "COMMERCE" for "COMMERCIALIZATION" in chapter heading.

§ 50701. Definition of Office

In this chapter, the term "Office" means the Office of Space Commerce established in section 50702 of this title.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3408; Pub. L. 114–90, title III, § 301(b), Nov. 25, 2015, 129 Stat. 720.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50701	(no source)	

A chapter-wide definition for the term "Office" is added for clarity and convenience.

AMENDMENTS

2015—Pub. L. 114-90 substituted "Commerce" for "Commercialization".

§ 50702. Establishment

(a) IN GENERAL.—There is established within the Department of Commerce an Office of Space Commerce.

(b) DIRECTOR.—The Office shall be headed by a Director, who shall be a senior executive and shall be compensated at a level in the Senior Executive Service under section 5382 of title 5 as determined by the Secretary of Commerce.

(c) FUNCTIONS OF OFFICE.—The Office shall be the principal unit for the coordination of space-related issues, programs, and initiatives within the Department of Commerce, including—

(1) to foster the conditions for the economic growth and technological advancement of the United States space commerce industry;

(2) to coordinate space commerce policy issues and actions within the Department of Commerce;

(3) to represent the Department of Commerce in the development of United States policies and in negotiations with foreign countries to promote United States space commerce;

(4) to promote the advancement of United States geospatial technologies related to space commerce, in cooperation with relevant interagency working groups; and

(5) to provide support to Federal Government organizations working on Space-Based Positioning Navigation, and Timing policy, including the National Coordination Office for Space-Based Position,1 Navigation, and Timing.

(d) DUTIES OF DIRECTOR.—The primary responsibilities of the Director in carrying out the functions of the Office shall include—

(1) promoting commercial provider investment in space activities by collecting, analyzing, and disseminating information on space markets, and conducting workshops and seminars to increase awareness of commercial space opportunities;

(2) assisting United States commercial providers in the efforts of those providers to conduct business with the United States Government;

(3) acting as an industry advocate within the executive branch of the Federal Government to ensure that the Federal Government meets the space-related requirements of the Federal Government, to the fullest extent feasible, using commercially available space goods and services;

(4) ensuring that the United States Government does not compete with United States commercial providers in the provision of space hardware and services otherwise available from United States commercial providers;

(5) promoting the export of space-related goods and services;

(6) representing the Department of Commerce in the development of United States policies and in negotiations with foreign countries to ensure free and fair trade internationally in the area of space commerce; and

(7) seeking the removal of legal, policy, and institutional impediments to space commerce.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3408; Pub. L. 114–90, title III, § 301(c), 302, Nov. 25, 2015, 129 Stat. 720.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50702	15 U.S.C. 1511e.	Pub. L. 105–309, § 8, Oct. 30, 1998, 112 Stat. 2937; Pub. L. 107–305, § 14, Nov. 27, 2002, 116 Stat. 2380; Pub. L. 108–447, div. B, title II, Dec. 8, 2004, 118 Stat. 2878.

AMENDMENTS

2015—Subsec. (a). Pub. L. 114–90, § 301(c), substituted "Space Commerce" for "Space Commercialization".

Subsec. (c). Pub. L. 114–90, § 302, substituted "Commerce, including—" for "Commerce." and added pars. (1) to (5).

COOPERATION WITH FORMER SOVIET REPUBLICS

Pub. L. 102–588, title II, § 218, Nov. 4, 1992, 106 Stat. 5117, provided that:

"(a) REPORT TO CONGRESS.—Within one year after the date of enactment of this Act [Nov. 4, 1992], the President shall submit to Congress a report describing—

"(1) the opportunities for increased space related trade with the independent states of the former Soviet Union;

"(2) a technology procurement plan for identifying and evaluating all unique space hardware, space technology, and space services available to the United States from the independent states of the former Soviet Union, specifically including those technologies the National Aeronautics and Space Administration has identified as high priority in its Space Research and Technology Integrated Technology Plan.[;]

"(3) the trade missions carried out pursuant to subsection (c), including the private participation and the results of such missions;

"(4) the offices and accounts of the National Aeronautics and Space Administration to which expenses for either cooperative activities or procurement actions, involving the independent states of the former Soviet Union, are charged;

"(5) any barriers, regulatory or practical, that inhibit space-related trade between the United States and the independent states of the former Soviet Union, including such barriers in either the United States or the independent states; and

"(6) any anticompetitive issues raised by a potential acquisition.

"(b) NOTIFICATION TO CONGRESS.—If any United States Government agency denies a request for a license or other approval that may be necessary to conduct discussions on space-related matters with the independent states of the former Soviet Union, that agency shall immediately notify the Speaker of the House of Representatives and President of the Senate. Each such notification shall include a statement of the reasons for the denial.

"(c) ROLE OF THE OFFICE OF SPACE COMMERCE.—The Office of Space Commerce of the Department of Commerce is authorized and encouraged to conduct trade missions to appropriate independent states of the former Soviet Union for the purpose of familiarizing United States aerospace industry representatives with space hardware, space technologies, and space services that may be available from the independent states, and with the business practices and overall business climate in the independent states. The Office of Space Commerce shall also advise the Administrator [of the National Aeronautics and Space Administration] as to the impact on United States industry of each potential acquisition of space hardware, space technology, or space services from the independent states of the former Soviet Union, specifically including any anticompetitive issues the Office may observe."

§ 50703. Annual report

The Secretary of Commerce shall submit an annual report on the activities of the Office, including planned programs and expendi-

tures, to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science and Technology of the House of Representatives.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3408.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
50703	15 U.S.C. 1535.	Pub. L. 101–611, title I, § 115(b), Nov. 16, 1990, 104 Stat. 3201.

The words "The Secretary of Commerce shall submit an annual report" are substituted for "Commencing in fiscal year 1992, and every fiscal year thereafter, the Secretary of Commerce shall submit . . . a report" to eliminate unnecessary words.

The word "Office", meaning the Office of Space Commercialization, is substituted for "Office of Space Commerce" to correct an error in the law.

The words "Committee on Science and Technology" are substituted for "Committee on Science, Space, and Technology" on authority of section 1(a)(10) of Public Law 104–14 (2 U.S.C. note prec. 21), Rule X(1)(n) of the Rules of the House of Representatives, adopted by House Resolution No. 5 (106th Congress, January 6, 1999), and Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

CHAPTER 509—COMMERCIAL SPACE LAUNCH ACTIVITIES

Sec.
50901. Findings and purposes.
50902. Definitions.
50903. General authority.
50904. Restrictions on launches, operations, and reentries.
50905. License applications and requirements.
50906. Experimental permits.
50907. Monitoring activities.
50908. Effective periods, and modifications, suspensions, and revocations, of licenses.
50909. Prohibition, suspension, and end of launches, operation of launch sites and reentry sites, and reentries.
50910. Preemption of scheduled launches or reentries.
50911. Space advertising.
50912. Administrative hearings and judicial review.
50913. Acquiring United States Government property and services.
50914. Liability insurance and financial responsibility requirements.
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50916. Disclosing information.
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50918. Consultation.
50919. Relationship to other executive agencies, laws, and international obligations.

50920. User fees.
50921. Office of Commercial Space Transportation.
50922. Regulations.
50923. Report to Congress.

AMENDMENTS

2010—Pub. L. 111–314, § 4(d)(2), (3), Dec. 18, 2010, 124 Stat. 3440, transferred analysis for chapter 701 of Title 49, Transportation, and renumbered as analysis for chapter 509 of this title and renumbered items 70101 to 70105, 70105a, 70106 to 70109, 70109a, and 70110 to 70121 as 50901 to 50923, respectively.

2004—Pub. L. 108–492, § 2(c)(26), Dec. 23, 2004, 118 Stat. 3982, added item 70105a.

2000—Pub. L. 106–405, § 3(b), Nov. 1, 2000, 114 Stat. 1752, substituted "Office of Commercial Space Transportation" for "Authorization of appropriations" in item 70119.

Pub. L. 106–391, title III, § 322(d), Oct. 30, 2000, 114 Stat. 1598, added item 70109a.

1998—Pub. L. 105–303, title I, § 102(a)(1), Oct. 28, 1998, 112 Stat. 2846, substituted "launches, operations, and reentries" for "launches and operations" in item 70104, "launches, operation of launch sites and reentry sites, and reentries" for "launches and operation of launch sites" in item 70108, inserted "or reentries" after "scheduled launches" in item 70109, and added items 70120 and 70121.

1994—Pub. L. 103–429, § 6(78), Oct. 31, 1994, 108 Stat. 4388, made technical amendment to chapter heading.

§ 50901. Findings and purposes

(a) FINDINGS.—Congress finds that—

(1) the peaceful uses of outer space continue to be of great value and to offer benefits to all mankind;

(2) private applications of space technology have achieved a significant level of commercial and economic activity and offer the potential for growth in the future, particularly in the United States;

(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 launching, reentry, and associated services that would complement the launching, reentry, and associated capabilities of the United States Government;

(5) the development of commercial launch vehicles, reentry vehicles, and associated services would enable the United States to retain its competitive position internationally, contributing to the national interest and economic well-being of the United States;

(6) providing launch services and reentry services by the private sector is consistent with the national security and foreign policy interests of the United States and would be facilitated

by stable, minimal, and appropriate regulatory guidelines that are fairly and expeditiously applied;

(7) the United States should encourage private sector launches, reentries, and associated services and, only to the extent necessary, regulate those launches, reentries, and services to ensure compliance with international obligations of the United States and to protect the public health and safety, safety of property, and national security and foreign policy interests of the United States;

(8) space transportation, including the establishment and operation of launch sites, reentry sites, and complementary facilities, the providing of launch services and reentry services, the establishment of support facilities, and the providing of support services, is an important element of the transportation system of the United States, and in connection with the commerce of the United States there is a need to develop a strong space transportation infrastructure with significant private sector involvement;

(9) the participation of State governments in encouraging and facilitating private sector involvement in space-related activity, particularly through the establishment of a space transportation-related infrastructure, including launch sites, reentry sites, complementary facilities, and launch site and reentry site support facilities, is in the national interest and is of significant public benefit;

(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, and the future of the commercial human spaceflight industry will depend on its ability to continually improve its safety performance;

(13) a critical area of responsibility for the Department of 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 must evolve as the industry matures so that regulations neither stifle technology development nor expose crew, government astronauts, or space flight participants to avoidable risks as the public comes to expect greater safety for crew, government astronauts, and space flight participants from the industry.

(b) PURPOSES.—The purposes of this chapter are—

(1) to promote economic growth and entrepreneurial activity through use of the space environment for peaceful purposes;

(2) to encourage the United States private sector to provide launch vehicles, reentry vehicles, and associated services by—

(A) simplifying and expediting the issuance and transfer of commercial licenses;

(B) facilitating and encouraging the use of Government-developed space technology; and

(C) promoting the continuous improvement of the safety of launch vehicles designed to carry humans, including through the issuance of regulations, to the extent permitted by this chapter;

(3) to provide that the Secretary of Transportation is to oversee and coordinate the conduct of commercial launch and reentry operations, issue permits and commercial licenses and transfer commercial licenses authorizing those operations, and protect the public health and safety, safety of property, and national security and foreign policy interests of the United States; and

(4) to facilitate the strengthening and expansion of the United States space transportation infrastructure, including the enhancement of United States launch sites and launch-site support facilities, and development of reentry sites, with Government, State, and private sector involvement, to support the full range of United States space-related activities.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1330, § 70101 of title 49; Pub. L. 105–303, title I, § 102(a)(2), Oct. 28, 1998, 112 Stat. 2846; Pub. L. 108–492, § 2(a), Dec. 23, 2004, 118 Stat. 3974; renumbered § 70101 then § 50901 of title 51, Pub. L. 111–314, § 4(d)(2), (3)(A), Dec. 18, 2010, 124 Stat. 3440; Pub. L. 114–90, title I, § 112(a), Nov. 25, 2015, 129 Stat. 711.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70101(a)	49 App.:2601.	Oct. 30, 1984, Pub. L. 98–575, §§ 2, 3, 98 Stat. 3055; Nov. 16, 1990, Pub. L. 101–611, § 117(c), (d), 104 Stat. 3202.
70101(b)	49 App.:2602.	

In subsection (a), before clause (1), the words "and declares" are omitted as surplus. In subsection (b), before clause (1), the word "therefore" is omitted as surplus.

AMENDMENTS

2015—Subsec. (a)(15). Pub. L. 114–90, which directed amendment of section "50901(15)" by inserting ", government astronauts," after "crew" wherever appearing, was executed by making the insertion in subsec. (a)(15) in two places, to reflect the probable intent of Congress.

2010—Pub. L. 111–314 successively renumbered section 70101 of title 49 and section 70101 of this title as this section.

2004—Subsec. (a)(3). Pub. L. 108–492, § 2(a)(1), inserted "human space flight," after "microgravity research,".

Subsec. (a)(4). Pub. L. 108–492, § 2(a)(2), struck out "satellite" after "providing private" and substituted "capabilities of" for "services now available from".

Subsec. (a)(10) to (15). Pub. L. 108–492, § 2(a)(3)–(5), added pars. (10) to (15).

Subsec. (b)(2)(C). Pub. L. 108–492, § 2(a)(6), added subpar. (C).

Subsec. (b)(3). Pub. L. 108–492, § 2(a)(7), substituted "issue permits and commercial licenses and transfer" for "issue and transfer".

1998—Subsec. (a)(3). Pub. L. 105–303, § 102(a)(2)(A), inserted "microgravity research," after "information services,".

Subsec. (a)(4). Pub. L. 105–303, § 102(a)(2)(B), inserted ", reentry," after "launching" in two places.

Subsec. (a)(5). Pub. L. 105–303, § 102(a)(2)(C), inserted ", reentry vehicles," after "launch vehicles".

Subsec. (a)(6). Pub. L. 105–303, § 102(a)(2)(D), inserted "and reentry services" after "launch services".

Subsec. (a)(7). Pub. L. 105–303, § 102(a)(2)(E), inserted ", reentries," after "launches" in two places.

Subsec. (a)(8). Pub. L. 105–303, § 102(a)(2)(F), (G), inserted ", reentry sites," after "launch sites" and "and reentry services" after "launch services".

Subsec. (a)(9). Pub. L. 105–303, § 102(a)(2)(H), (I), inserted "reentry sites," after "launch sites," and "and reentry site" after "launch site".

Subsec. (b)(2). Pub. L. 105–303, § 102(a)(2)(J), inserted ", reentry vehicles," after "launch vehicles" in introductory provisions.

Subsec. (b)(2)(A). Pub. L. 105–303, § 102(a)(2)(K), struck out "launch" before "licenses".

Subsec. (b)(3). Pub. L. 105–303, § 102(a)(2)(L), (M), inserted "and reentry" after "conduct of commercial launch" and struck out "launch" before "licenses".

Subsec. (b)(4). Pub. L. 105–303, § 102(a)(2)(N), inserted "and development of reentry sites," after "launch-site support facilities,".

FINDINGS

Pub. L. 106–405, § 2, Nov. 1, 2000, 114 Stat. 1751, provided that: "The Congress finds that—

"(1) a robust United States space transportation industry is vital to the Nation's economic well-being and national security;

"(2) enactment of a 5-year extension of the excess third party claims payment provision of [former] chapter 701 of title 49, United States Code [now 51 U.S.C. 50901 et seq.] (Commercial Space Launch Activities), will have a beneficial impact on the international competitiveness of the United States space transportation industry;

"(3) space transportation may evolve into airplane-style operations;

"(4) during the next 3 years the Federal Government and the private sector should analyze the liability risk-sharing regime to determine its appropriateness and effectiveness, and, if needed, develop and propose a new regime to Congress at least 2 years prior to the expiration of the extension contained in this Act [see Tables for classification];

"(5) the areas of responsibility of the Office of the Associate Administrator for Commercial Space Transportation have significantly increased as a result of—

"(A) the rapidly expanding commercial space transportation industry and associated government licensing requirements;

"(B) regulatory activity as a result of the emerging commercial reusable launch vehicle industry; and

"(C) the increased regulatory activity associated with commercial operation of launch and reentry sites; and

"(6) the Office of the Associate Administrator for Commercial Space Transportation should continue to limit its promotional activities to those which support its regulatory mission."

§ 50902. Definitions

In this chapter—

(1) "citizen of the United States" means—

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

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

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

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

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

(4) "government astronaut" means an individual who—

(A) is designated by the National Aeronautics and Space Administration under section 20113(n);

(B) is carried within a launch vehicle or reentry vehicle in the course of his or her employment, which may include performance of activities directly relating to the launch, reentry, or other operation of the launch vehicle or reentry vehicle; and

(C) is either—

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

(ii) an international partner astronaut.

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

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

(7) "launch" means to place or try to place a launch vehicle or reentry vehicle and any payload or human being from Earth—

(A) in a suborbital trajectory;

(B) in Earth orbit in outer space; or

(C) otherwise in outer space, including activities involved in the preparation of a launch vehicle or payload for launch, when those activities take place at a launch site in the United States.

(8) "launch property" means an item built for, or used in, the launch preparation or launch of a launch vehicle.

(9) "launch services" means—

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

(B) the conduct of a launch.

(10) "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.

(11) "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.

(12) "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.

(13) "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.

(14) except in section 50904(c), "permit" means an experimental permit issued under section 50906.

(15) "person" means an individual and an entity organized or existing under the laws of a State or country.

(16) "reenter" and "reentry" mean to return or attempt to return, purposefully, a reentry vehicle and its payload or human beings, if any, from Earth orbit or from outer space to Earth.

(17) "reentry services" means—

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

(B) the conduct of a reentry.

(18) "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).

(19) "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.

(20) "space flight participant" means an individual, who is not crew or a government astronaut, carried within a launch vehicle or reentry vehicle.

(21) "space support vehicle flight" means a flight in the air that—

(A) is not a launch or reentry; but

(B) is conducted by a space support vehicle.

(22) "space support vehicle" means a vehicle that is—

(A) a launch vehicle;

(B) a reentry vehicle; or

(C) a component of a launch or reentry vehicle.

(23) "State" means a State of the United States, the District of Columbia, and a territory or possession of the United States.

(24) unless and until regulations take effect under section 50922(c)(2), "suborbital rocket" means a vehicle, rocket-propelled in whole or in part, intended for flight on a suborbital trajectory, and the thrust of which is greater than its lift for the majority of the rocket-powered portion of its ascent.

(25) "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.

(26) "third party" means a person except—

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

(B) a licensee or transferee under this chapter;

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

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

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

(27) "United States" means the States of the United States, the District of Columbia, and the territories and possessions of the United States.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1331, § 70102 of title 49; Pub. L. 104–287, § 5(92), Oct. 11, 1996, 110 Stat. 3398; Pub. L. 105–303, title I, § 102(a)(3), Oct. 28, 1998, 112 Stat. 2846; Pub. L. 106–391, title III, § 322(a), Oct. 30, 2000, 114 Stat. 1598; Pub. L. 108–492, § 2(b), Dec. 23, 2004, 118 Stat. 3975; renumbered § 70102 then § 50902 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(B), (5)(A), (B), Dec. 18, 2010, 124 Stat. 3440, 3441; Pub. L. 114–90, title I, § 112(c), (e)–(j), Nov. 25, 2015, 129 Stat. 712, 713; Pub. L. 115–254, div. B, title V, § 581(a), Oct. 5, 2018, 132 Stat. 3397.)

HISTORICAL AND REVISION NOTES PUB. L. 103–272

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70102(1)	49 App.: 2603(9)	Oct. 30, 1984, Pub. L. 98–575, § 4(I)–(9), 98 Stat. 3056
.....	49 App.: 2603(12)	Oct. 30, 1984, Pub. L. 98–575, § 4(12), 98 Stat. 3056; Nov. 15, 1988, Pub. L., 100–657, § 3(2), 102 Stat. 3900
70102(2)–(9)	49 App.: 2603(1)–(8)	
70102(10)	49 App.: 2603(10)	Oct. 30, 1984, Pub. L. 98–575, § 4(10), 98 Stat. 3056, 98 Stat. 3056; Nov. 15, 1988, Pub. L., 100–657, § 3(1), 102 Stat. 3900.

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70102(11)	49 App.: 2603(11).	Oct. 30, 1984, Pub. L. 98–575, 98 Stat. 3055, § 4(11); added Nov. 15, 1988, Pub. L., 100–657, § 3(3), 102 Stat. 3900.
70102(12)	49 App.: 2603(10).	

In this chapter, the word "country" is substituted for "nation" for consistency in the revised title and with other titles of the United States Code.

In clause (1), before subclause (A), the text of 49 App.:2603(9) is omitted as surplus because the complete name of the Secretary of Transportation is used the first time the term appears in a section. In subclauses (B) and (C), the words "corporation, partnership, joint venture, association, or other" are omitted as surplus. In subclause (C), the words "in regulations" and "in such entity" are omitted as surplus.

In clause (4), the words "propellants, launch vehicles and components thereof, and other physical" are omitted as surplus.

In clause (6), the words "includes all . . . located on a launch site which are . . . to conduct a launch" are omitted as surplus.

In clause (9), the words "corporation, partnership, joint venture, association, or other" are omitted as surplus.

Clauses (10) and (12) are substituted for 49 App.:2603(10) to eliminate unnecessary words.

In clause (11), before subclause (A), the words "or entity" are omitted as surplus. In subclause (A), the words "its agencies" are omitted as surplus.

PUB. L. 104–287

This amends 49:70102(6) to correct an error in the codification enacted by section 1 of the Act of July 5, 1994 (Public Law 103–272, 108 Stat. 1331).

AMENDMENTS

2018—Pars. (21) to (27). Pub. L. 115–254 added pars. (21) and (22) and redesignated former pars. (21) to (25) as (23) to (27), respectively.

2015—Pars. (4) to (6). Pub. L. 114–90, § 112(c)(2), added pars. (4) to (6). Former pars. (4) to (6) redesignated (7) to (9), respectively.

Par. (7). Pub. L. 114–90, § 112(c)(1), (e), redesignated par. (4) as (7) and substituted "and any payload or human being" for "and any payload, crew, or space flight participant" in introductory provisions. Former par. (7) redesignated (10).

Par. (8). Pub. L. 114–90, § 112(c)(1), redesignated par. (5) as (8). Former par. (8) redesignated (11).

Par. (9). Pub. L. 114–90, § 112(c)(1), (f), redesignated par. (6) as (9) and substituted "payload, crew (including crew training), government astronaut, or space flight participant" for "payload, crew (including crew training), or space flight participant" in subpar. (A). Former par. (9) redesignated (12).

Pars. (10) to (15). Pub. L. 114–90, § 112(c)(1), redesignated pars. (7) to (12) as (10) to (15), respectively.

Former pars. (10) to (15) redesignated (13) to (18), respectively.

Par. (16). Pub. L. 114–90, § 112(c)(1), (g), redesignated par. (13) as (16) and substituted "and its payload or human beings, if any," for "and its payload, crew, or space flight participants, if any,". Former par. (16) redesignated (19).

Par. (17). Pub. L. 114–90, § 112(c)(1), (h), redesignated par. (14) as (17) and substituted "payload, crew (including crew training), government astronaut, or space flight participant, if any," for "payload, crew (including crew training), or space flight participant, if any," in subpar. (A). Former par. (17) redesignated (20).

Pars. (18), (19). Pub. L. 114–90, § 112(c)(1), redesignated pars. (15) and (16) as (18) and (19), respectively.

Former pars. (18) and (19) redesignated (21) and (22), respectively.

Par. (20). Pub. L. 114–90, § 112(c)(1), (i), redesignated par. (17) as (20) and amended it generally. Prior to amendment, par. (20) read as follows: "'space flight participant' means an individual, who is not crew, carried within a launch vehicle or reentry vehicle."

Pars. (21) to (23). Pub. L. 114–90, § 112(c)(1), redesignated pars. (18) to (20) as (21) to (23), respectively.

Former pars. (21) and (22) redesignated (24) and (25), respectively.

Par. (24). Pub. L. 114–90, § 112(c)(1), (j), redesignated par. (21) as (24) and inserted ", government astronauts," after "crew" in subpar. (E).

Par. (25). Pub. L. 114–90, § 112(c)(1), redesignated par. (22) as (25).

2010—Pub. L. 111–314, § 4(d)(2), (3)(B), successively renumbered section 70102 of title 49 and section 70102 of this title as this section.

Par. (11). Pub. L. 111–314, § 4(d)(5)(A), substituted "section 50904(c)" for "section 70104(c)" and "section 50906" for "section 70105a".

Par. (19). Pub. L. 111–314, § 4(d)(5)(B), substituted "section 50922(c)(2)" for "section 70120(c)(2)".

2004—Par. (2). Pub. L. 108–492, § 2(b)(2), added par. (2). Former par. (2) redesignated (3).

Par. (3). Pub. L. 108–492, § 2(b)(1), redesignated par. (2) as (3). Former par. (3) redesignated (4).

Par. (4). Pub. L. 108–492, § 2(b)(1), (3), redesignated par. (3) as (4) and inserted ", crew, or space flight participant" after "any payload" in introductory provisions. Former par. (4) redesignated (5).

Par. (5). Pub. L. 108–492, § 2(b)(1), redesignated par. (4) as (5). Former par. (5) redesignated (6).

Par. (6). Pub. L. 108–492, § 2(b)(1), (4), redesignated par. (5) as (6) and substituted ", payload, crew (including crew training), or space flight participant" for "and payload" in subpar. (A). Former par. (6) redesignated (7).

Par. (7). Pub. L. 108–492, § 2(b)(1), redesignated par. (6) as (7). Former par. (7) redesignated (8).

Par. (8). Pub. L. 108–492, § 2(b)(1), (5), redesignated par. (7) as (8) and inserted "or human beings" after "place a payload" in subpar. (A). Former par. (8) redesignated (9).

Pars. (9), (10). Pub. L. 108–492, § 2(b)(1), redesignated pars. (8) and (9) as (9) and (10), respectively.

Former par. (10) redesignated (12).

Par. (11). Pub. L. 108–492, § 2(b)(6), added par. (11). Former par. (11) redesignated (13).

Par. (12). Pub. L. 108–492, § 2(b)(1), redesignated par. (10) as (12). Former par. (12) redesignated (14).

Par. (13). Pub. L. 108–492, § 2(b)(1), (7), redesignated par. (11) as (13) and inserted "crew, or space flight participants," after "and its payload,". Former par. (13) redesignated (15).

Par. (14). Pub. L. 108–492, § 2(b)(1), (8), redesignated par. (12) as (14) and substituted "and payload, crew (including crew training), or space flight participant" for "and its payload" in subpar. (A). Former par. (14) redesignated (16).

Pars. (15), (16). Pub. L. 108–492, § 2(b)(1), redesignated pars. (13) and (14) as (15) and (16), respectively.

Former pars. (15) and (16) redesignated (18) and (21), respectively.

Par. (17). Pub. L. 108–492, § 2(b)(9), added par. (17). Former par. (17) redesignated (22).

Par. (18). Pub. L. 108–492, § 2(b)(1), redesignated par. (15) as (18).

Pars. (19), (20). Pub. L. 108–492, § 2(b)(10), added pars. (19) and (20).

Par. (21). Pub. L. 108–492, § 2(b)(1), (11), redesignated par. (16) as (21) and added subpar. (E).

Par. (22). Pub. L. 108–492, § 2(b)(1), redesignated par. (17) as (22).

2000—Pars. (8) to (17). Pub. L. 106–391 added par. (8) and redesignated former pars. (8) to (16) as (9) to (17), respectively.

1998—Par. (3). Pub. L. 105–303, § 102(a)(3)(A), substituted "or reentry vehicle and any payload from Earth" for "and any payload" in introductory provisions and a comma for the period at end of subpar. (C) and inserted concluding provisions.

Par. (8). Pub. L. 105–303, § 102(a)(3)(B), inserted "or reentry vehicle" after "means of a launch vehicle".

Pars. (10) to (13). Pub. L. 105–303, § 102(a)(3)(D), added pars. (10) to (13). Former pars. (10) to (12) redesignated (14) to (16), respectively.

Par. (14). Pub. L. 105–303, § 102(a)(3)(C), redesignated par. (10) as (14).

Par. (15). Pub. L. 105–303, § 102(a)(3)(C), (E), redesignated par. (11) as (15) and inserted "or reentry services" after "launch services" wherever appearing.

Par. (16). Pub. L. 105–303, § 102(a)(3)(C), redesignated par. (12) as (16).

1996—Par. (6). Pub. L. 104–287 substituted "facilities at that location" for "facilities".

EFFECTIVE DATE OF 1996 AMENDMENT

Amendment by Pub. L. 104–287 effective July 5, 1994, see section 8(1) of Pub. L. 104–287, set out as a note under section 5303 of Title 49, Transportation.

§ 50903. General authority

(a) GENERAL.—The Secretary of 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

(2) take actions to facilitate private sector involvement in commercial space transportation activity, and to promote public-private partnerships involving the United States Government, State governments, and the private sector to build, expand, modernize, or operate a space launch and reentry infrastructure.

(c) SAFETY.—In carrying out the responsibilities under subsection (b), the Secretary shall encourage, facilitate, and promote the continuous improvement of the safety of launch vehicles designed to carry humans, and the Secretary may, consistent with this chapter, promulgate regulations to carry out this subsection.

(d) EXECUTIVE AGENCY ASSISTANCE.—When necessary, the head of an executive agency shall assist the Secretary in carrying out this chapter.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1332, § 70103 of title 49; Pub. L. 105–303, title I, § 102(a)(4), Oct. 28, 1998, 112 Stat. 2847; Pub. L. 108–492, § 2(c)(1), (2), Dec. 23, 2004, 118 Stat. 3976; renumbered § 70103 then § 50903 of title 51, Pub. L. 111–314, § 4(d)(2), (3)(C), Dec. 18, 2010, 124 Stat. 3440.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70103(a)	49 App.:2604(a) (1st–10th words).	Oct. 30, 1984, Pub. L. 98–575, § 5(a) (1st–10th words, (b)), 98 Stat. 3057.
70103(b)	49 App.:2604(a) (11th–15th words, cls. (1), (3)).	Oct. 30, 1984, Pub. L. 98–575, § 5(a) (11th–15th words, cls. (1), (3)), 98 Stat. 3057; Nov. 16, 1990, Pub. L. 101–611, § 117(e)(1), (3), 104 Stat, 3203.
70103(c)	49 App.:2604(b).	

In subsection (a), the words "be responsible for" are omitted as surplus.

In subsection (c), the words "To the extent permitted by law" are omitted as surplus. The words "the head of an executive agency" are substituted for "Federal agencies" for consistency in the revised title and with other titles of the United States Code.

AMENDMENTS

2010—Pub. L. 111–314 successively renumbered section 70103 of title 49 and section 70103 of this title as this section.

2004—Subsec. (b)(1). Pub. L. 108–492, § 2(c)(1), inserted ", including those involving space flight participants" after "private sector".

Subsecs. (c), (d). Pub. L. 108–492, § 2(c)(2), added subsec. (c) and redesignated former subsec. (c) as (d).

1998—Subsec. (b). Pub. L. 105–303, § 102(a)(4)(A), inserted "and Reentries" after "Launches" in heading.

Subsec. (b)(1). Pub. L. 105–303, § 102(a)(4)(B), inserted "and reentries" after "commercial space launches". Subsec. (b)(2). Pub. L. 105–303, § 102(a)(4)(C), inserted "and reentry" after "space launch".

LAUNCH SERVICES STRATEGY

Pub. L. 110–422, title VI, § 621, Oct. 15, 2008, 122 Stat. 4801, provided that:

"(a) IN GENERAL.—In preparation for the award of contracts to follow up on the current NASA [National Aeronautics and Space Administration] Launch Services (NLS) contracts, the Administrator shall develop a strategy for providing domestic commercial launch services in support of NASA's small and medium-sized Science, Space Operations, and Exploration missions, consistent with current law and policy.

"(b) REPORT.—The Administrator [of NASA] shall transmit a report to the Committee on Science and Technology [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate describing the strategy developed under subsection (a) not later than 90 days after the date of enactment of this Act [Oct. 15, 2008]. The report shall provide, at a minimum—

"(1) the results of the Request for Information on small to medium-sized launch services released on April 22, 2008;

"(2) an analysis of possible alternatives to maintain small and medium-sized lift capabilities after June 30, 2010, including the use of the Department of Defense's Evolved Expendable Launch Vehicle (EELV);

"(3) the recommended alternatives, and associated 5-year budget plans starting in October 2010 that would enable their implementation; and

"(4) a contingency plan in the event the recommended alternatives described in paragraph (3) are not available when needed."

EX. ORD. NO. 12465. COORDINATION AND ENCOURAGEMENT OF COMMERCIAL EXPENDABLE LAUNCH VEHICLE ACTIVITIES

Ex. Ord. No. 12465, Feb. 24, 1984, 49 F.R. 7211, provided:

By the authority vested in me as President by the Constitution and laws of the United States of America, and in order to encourage, facilitate and coordinate the development of commercial expendable launch vehicle (ELV) operations by private United States enterprises, it is hereby ordered as follows:

SECTION 1. The Department of Transportation is designated as the lead agency within the Federal government for encouraging and facilitating commercial ELV activities by the United States private sector.

SEC. 2. *Responsibilities of Lead Agency.* The Secretary of Transportation shall, to the extent permitted by law and subject to the availability of appropriations, perform the following functions:

(a) act as a focal point within the Federal government for private sector space launch contacts related to commercial ELV operations;

(b) promote and encourage commercial ELV operations in the same manner that other private United States commercial enterprises are promoted by United States agencies;

(c) provide leadership in the establishment, within affected departments and agencies, of procedures that expedite the processing of private sector requests to obtain licenses necessary for commercial ELV launches and the establishment and operation of commercial launch ranges;

(d) consult with other affected agencies to promote consistent application of ELV licensing requirements for the private sector and assure fair and equitable treatment for all private sector applicants;

(e) serve as a single point of contact for collection and dissemination of documentation related to commercial ELV licensing applications;

(f) make recommendations to affected agencies and, as appropriate, to the President, concerning administrative measures to streamline Federal government procedures for licensing of commercial ELV activities;

(g) identify Federal statutes, treaties, regulations and policies which may have an adverse impact on ELV commercialization efforts and recommend appropriate changes to affected agencies and, as appropriate, to the President; and

(h) conduct appropriate planning regarding long-term effects of Federal activities related to ELV commercialization.

SEC. 3. An interagency group, chaired by the Secretary of Transportation and composed of representatives from the Department of State, the Department of Defense, the Department of Commerce, the Federal Communications Commission, and the National Aeronautics and Space Administration, is hereby established. This group shall meet at the call of the Chair and shall advise and assist the Department of Transportation in performing its responsibilities under this Order.

SEC. 4. *Responsibilities of Other Agencies.* All executive departments and agencies shall assist the Secretary of Transportation in carrying out this Order. To the extent permitted by law and in consultation with the Secretary of Transportation, they shall:

(a) provide the Secretary of Transportation with information concerning agency regulatory actions which may affect development of commercial ELV operations;

(b) review and revise their regulations and procedures to eliminate unnecessary regulatory obstacles to the development of commercial ELV operations and to ensure that those regulations and procedures found essential are administered as efficiently as possible; and

(c) establish timetables for the expeditious handling of and response to applications for licenses and approvals for commercial ELV activities.

SEC. 5. The powers granted to the Secretary of Transportation to encourage, facilitate and coordinate the overall ELV commercialization process shall not diminish or abrogate any statutory or operational authority exercised by any other Federal agency.

SEC. 6. Nothing contained in this Order or in any procedures promulgated hereunder shall confer any substantive or procedural

right or privilege on any person or organization, enforceable against the United States, its agencies, its officers or any person.

SEC. 7. This Order shall be effective immediately.

RONALD REAGAN.

§ 50904. Restrictions on launches, operations, and reentries

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

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

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

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

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

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

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

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

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

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1332, § 70104 of title 49; Pub. L. 105–303, title I, § 102(a)(5), Oct. 28, 1998, 112 Stat. 2847; Pub. L. 108–492, § 2(c)(3)–(5), Dec. 23, 2004, 118 Stat. 3976; renumbered § 70104 then § 50904 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(D), (5)(C)–(E), Dec. 18, 2010, 124 Stat. 3440, 3441; Pub. L. 114–90, title I, § 112(k), Nov. 25, 2015, 129 Stat. 713.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70104(a)	49 App.:2605(a).	Oct. 30, 1984, Pub. L. 98–575, § 6(a), (b), 98 Stat. 3057.
70104(b)	49 App.:2605(b)(1) (1st sentence).	
70104(c)	49 App.:2605(b)(1) (last sentence), (2).	

In subsection (a)(2)–(4), the cross-reference is to section 70102(1) of the revised title (restating 49

App.:2603(12)) rather than to section 70102(11) (restating 49 App.:2603(11)) to correct a mistake. Section 3(2) of the Commercial Space Launch Act Amendments of 1988 (Public Law 100–657, 102 Stat. 3900) redesignated 49 App.:2603(11) as 49 App.:2603(12) but did not amend the cross-reference in 49 App.:2605(a).

In subsection (a)(3) and (4), the words "the government of" are added for consistency in the revised title and with other titles of the United States Code. The words "in force" are omitted as surplus. In subsection (a)(3), the words "at any place which is both" are omitted as surplus.

In subsection (a)(4), the text of 49 App.:2605(a)(3)(B)(i) is omitted as surplus.

In subsection (c), the words "by Federal law", "which is to be launched", "by any Federal law", "take such action under this chapter as the Secretary deems necessary to", and "of a payload by a holder of a launch license under this chapter" are omitted as surplus.

AMENDMENTS

2015—Subsec. (d). Pub. L. 114–90 substituted "activities involving crew, government astronauts, or space flight participants" for "activities involving crew or space flight participants".

2010—Pub. L. 111–314, § 4(d)(2), (3)(D), successively renumbered section 70104 of title 49 and section 70104 of this title as this section.

Subsec. (a)(2). Pub. L. 111–314, § 4(d)(5)(C), substituted "section 50902(1)(A) or (B)" for "section 70102(1)(A) or (B)".

Subsec. (a)(3). Pub. L. 111–314, § 4(d)(5)(D), substituted "section 50902(1)(C)" for "section 70102(1)(C)".

Subsec. (a)(4). Pub. L. 111–314, § 4(d)(5)(E), substituted "section 50902(1)(C)" for "section 70102(1)(C)".

2004—Subsec. (a). Pub. L. 108–492, § 2(c)(3), substituted "Requirement" for "License Requirement" in heading and "A license issued or transferred under this chapter, or a permit," for "A license issued or transferred under this chapter" in introductory provisions and inserted concluding provisions.

Subsec. (b). Pub. L. 108–492, § 2(c)(4), inserted "or permit" after "holder of a license".

Subsec. (d). Pub. L. 108–492, § 2(c)(5), added subsec. (d).

1998—Pub. L. 105–303, § 102(a)(5)(A), substituted "Restrictions on launches, operations, and reentries" for "Restrictions on launches and operations" in section catchline.

Subsec. (a)(1), (2). Pub. L. 105–303, § 102(a)(5)(B), inserted "or reentry site, or to reenter a reentry vehicle," after "operate a launch site".

Subsec. (a)(3), (4). Pub. L. 105–303, § 102(a)(5)(B), (C), inserted "or reentry site, or to reenter a reentry vehicle," after "operate a launch site" and "or reentry" after "launch or operation".

Subsec. (b). Pub. L. 105–303, § 102(a)(5)(D), struck out "launch" before "license" and inserted "or reenter" after "may launch" and "or reentering" after "related to launching".

Subsec. (c). Pub. L. 105–303, § 102(a)(5)(E), substituted "Preventing Launches and Reentries" for "Preventing Launches" in heading and inserted "or reentry" after "prevent the launch" and after "decides the launch" in second sentence.

§ 50905. License applications and requirements

(a) APPLICATIONS.—

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

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

(b) REQUIREMENTS.—

(1) Except as provided in this subsection, all requirements of the laws of the United States applicable to the launch of a launch vehicle or the operation of a launch site or a reentry

site, or the reentry of a reentry vehicle, are requirements for a license or permit under this chapter.

(2) The Secretary may prescribe—

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(c) SAFETY REGULATIONS.—

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

(2) REGULATIONS.—Regulations issued under this subsection shall—

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

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

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

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

(ii) contributed to an unplanned event or series of events during a licensed or permitted commercial human space flight that posed a high risk of causing a serious or fatal injury (as defined in 49 CFR 830, as in effect on November 10, 2004) to crew, government astronauts, or space flight participants; and (D) be issued with a description of the instance or instances when the design feature or operating practice being restricted or prohibited contributed to a result or event described in subparagraph (C).

(3) FACILITATION OF STANDARDS.—The Secretary shall continue to work with the commercial space sector, including the Commercial Space Transportation Advisory Committee, or its successor organization, to facilitate the development of voluntary industry consensus standards based on recommended best practices to improve the safety of crew, government astronauts, and space flight participants as the commercial space sector continues to mature.

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

(5) INTERIM VOLUNTARY INDUSTRY CONSENSUS STANDARDS REPORTS.—

(A) IN GENERAL.—Not later than December 31, 2016, and every 30 months thereafter until December 31, 2021, the Secretary, in consultation and coordination with the commercial space sector, including the Commercial Space Transportation Advisory Committee, or its successor organization, shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report on the progress of the commercial space transportation industry in developing voluntary industry consensus standards that promote best practices to improve industry safety.

(B) CONTENTS.—The report shall include, at a minimum—

(i) any voluntary industry consensus standards that have been accepted by the industry at large;

(ii) the identification of areas that have the potential to become voluntary industry consensus standards that are currently under consideration by the industry at large;

(iii) an assessment from the Secretary on the general progress of the industry in adopting voluntary industry consensus standards;

(iv) any lessons learned about voluntary industry consensus standards, best practices, and commercial space launch operations;

(v) any lessons learned associated with the development, potential application, and acceptance of voluntary industry consensus standards, best practices, and commercial space launch operations; and recommendations, findings, or observations from the Commercial Space

(vi) Transportation Advisory Committee, or its successor organization, on the progress of the industry in developing voluntary industry consensus standards that promote best practices to improve industry safety.

(6) REPORT.—Not later than 270 days after the date of enactment of the SPACE Act of 2015, the Secretary, in consultation and coordination with the commercial space sector, including the Commercial Space Transportation Advisory Committee, or its successor organization, shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report specifying key industry metrics that might indicate readiness of the commercial space sector and the Department of Transportation to transition to a safety framework that may include regulations under paragraph (9) that considers space flight participant, government astronaut, and crew safety.

(7) REPORTS.—Not later than March 31 of each of 2018 and 2022, the Secretary, in consultation and coordination with the commercial space sector, including the Commercial Space Transportation Advisory Committee, or its successor organization, shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report that identifies the activities, described in this subsection and subsection (d) most appropriate for a new safety framework that may include regulatory action, if any, and a proposed transition plan for such safety framework.

(8) INDEPENDENT REVIEW.—Not later than December 31, 2022, an independent systems engineering and technical assistance organization or standards development organization contracted by the Secretary shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives an assessment of the readiness of the commercial space industry and the Federal Government to transition to a safety framework that may include regulations. As part of the review, the contracted organization shall evaluate—

(A) the progress of the commercial space industry in adopting voluntary industry consensus standards as reported by the Secretary in the interim assessments included in the reports under paragraph (5);

(B) the progress of the commercial space industry toward meeting the key industry metrics identified by the report under paragraph (6), including the knowledge and operational experience obtained by the commercial space industry while providing services for compensation or hire; and

(C) whether the areas identified in the reports under paragraph (5) are appropriate for regulatory action, or further development of voluntary industry consensus standards, considering the progress evaluated in subparagraphs (A) and (B) of this paragraph.

(9) LEARNING PERIOD.—Beginning on October 1, 2023, the Secretary may propose regulations under this subsection without regard to subparagraphs (C) and (D) of paragraph (2). The development of any such regulations shall take into consideration the evolving standards of the commercial space flight industry as identified in the reports published under paragraphs (5), (6), and (7).

(10) RULE OF CONSTRUCTION.—Nothing in this subsection shall be construed to limit the authority of the Secretary to issue requirements or regulations to protect the public health and safety, safety of property, national security interests, and foreign policy interests of the United States.

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

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1333, § 70105 of title 49; Pub. L. 105–303, title I, § 102(a)(6), Oct. 28, 1998, 112 Stat. 2848; Pub. L. 108–492, § 2(c)(6)–(15), Dec. 23, 2004, 118 Stat. 3976–3979; renumbered § 70105 then § 50905 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(E), (5)(F), Dec. 18, 2010, 124 Stat. 3440, 3441; Pub. L. 112–95, title VIII, § 827, Feb. 14, 2012, 126 Stat. 133; Pub. L. 114–55, title I, § 102(e), Sept. 30, 2015, 129 Stat. 523; Pub. L. 114–90, title I, §§ 111, 112(l), Nov. 25, 2015, 129 Stat. 709, 713.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70105(a)	49 App.:2606 (1st sentence). 49 App.:2608(a) (1st sentence), (b) (1st, 3d, last sentences).	Oct. 30, 1984, Pub. L. 98–575, §§ 7 (1st sentence), 8, 9(a), (b), 98 Stat. 3058.
70105(b)(1)	49 App.:2607(a)(1).	
70105(b)(2)(A)	49 App.:2608(b) (2d sentence).	
70105(b)(2)(B)	49 App.:2607(b).	
70105(b)(2)(C)	49 App.:2607(a)(2).	
70105(b)(3)	49 App.:2607(c).	
70105(c)	49 App.:2608(a) (last sentence).	

In subsection (a), the words "for launching one or more launch vehicles or for operating one or more launch sites, or both" in 49 App.:2606 are omitted as surplus.

In subsection (b)(2)(C), the words "that would otherwise apply to the launch of a launch vehicle or the operation of a launch site" are omitted as surplus. The words "the head of" are added for consistency in the revised title and with other titles of the United States Code.

REFERENCES IN TEXT

Subsection (b)(2)(D), referred to in subsec. (a)(1), was redesignated subsection (b)(2)(E) by Pub. L. 108–492, § 2(c)(10), Dec. 23, 2004, 118 Stat. 3977.

The date of enactment of the Commercial Space Launch Amendments Act of 2004, referred to in subsec. (b)(4)(B), (6), is the date of enactment of Pub. L. 108–492, which was approved Dec. 23, 2004.

The date of enactment of the SPACE Act of 2015, referred to in subsec. (c)(6), is the date of enactment of title I of Pub. L. 114–90, which was approved Nov. 25, 2015.

AMENDMENTS

2015—Subsec. (a)(2). Pub. L. 114–90, § 112(l)(1), substituted "crew, government astronauts, and space flight participants" for "crews and space flight participants".

Subsec. (b)(2)(D). Pub. L. 114–90, § 112(l)(2), substituted "crew, government astronauts, or space flight participants" for "crew or space flight participants".

Subsec. (c)(1). Pub. L. 114–90, § §111(1), 112(l)(3)(A), inserted "IN GENERAL.—" before "The Secretary" and substituted "crew, government astronauts, and space flight participants" for "crew and space flight participants".

Subsec. (c)(2). Pub. L. 114–90, § 111(2), inserted "REGULATIONS.—" before "Regulations" in introductory provisions.

Subsec. (c)(2)(C). Pub. L. 114–90, § 112(l)(3)(B), substituted "to crew, government astronauts, or space flight participants" for "to crew or space flight participants" in cls. (i) and (ii).

Subsec. (c)(3). Pub. L. 114–90, § 111(3), (5), added par. (3) and struck out former par. (3) which read as follows: "Beginning on April 1, 2016, the Secretary may propose regulations under this subsection without regard to paragraph (2)(C) and (D). Any such regulations shall take into consideration the evolving standards of safety in the commercial space flight industry."

Pub. L. 114–55 substituted "April 1, 2016," for "October 1, 2015,".

Subsec. (c)(4). Pub. L. 114–90, § 111(5), added par. (4). Former par. (4) redesignated (10).

Subsec. (c)(5) to (9). Pub. L. 114–90, § 111(5), added pars. (5) to (9).

Subsec. (c)(10). Pub. L. 114–90, § 111(4), (6), redesignated par. (4) as (10) and inserted "RULE OF CONSTRUCTION.—" before "Nothing".

2012—Subsec. (c)(3). Pub. L. 112–95 substituted "Beginning on October 1, 2015," for "Beginning 8 years after the date of enactment of the Commercial Space Launch Amendments Act of 2004,".

2010—Pub. L. 111–314, § 4(d)(2), (3)(E), successively renumbered section 70105 of title 49 and section 70105 of this title as this section.

Subsec. (b)(5)(A). Pub. L. 111–314, § 4(d)(5)(F), substituted "section 50914(a)(2) and (c)" for "section 70112(a)(2) and (c)".

2004—Subsec. (a)(1). Pub. L. 108–492, § 2(c)(6)(A), substituted "the Secretary has not taken action on a license application" for "a license is not issued".

Subsec. (a)(2). Pub. L. 108–492, § 2(c)(6)(B), inserted "(including approval procedures for the purpose of protecting the health and safety of crews and space flight participants, to the extent permitted by subsections (b) and (c))" after "or personnel".

Subsec. (b)(1). Pub. L. 108–492, § 2(c)(7), inserted "or permit" after "for a license".

Subsec. (b)(2)(B). Pub. L. 108–492, § 2(c)(8), substituted "any" for "an".

Subsec. (b)(2)(C). Pub. L. 108–492, § 2(c)(9), inserted "or permit" after "for a license" and struck out "and" at end.

Subsec. (b)(2)(D). Pub. L. 108–492, § 2(c)(10), added subpar. (D). Former subpar. (D) redesignated (E).

Subsec. (b)(2)(E). Pub. L. 108–492, § 2(c)(10), (11), redesignated subpar. (D) as (E) and inserted "or permit" after "for a license".

Subsec. (b)(3). Pub. L. 108–492, § 2(c)(12), inserted at end "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."

Subsec. (b)(4) to (6). Pub. L. 108–492, § 2(c)(13), added pars. (4) to (6).

Subsec. (c). Pub. L. 108–492, § 2(c)(14), added subsec. (c). Former subsec. (c) redesignated (d).

Subsec. (d). Pub. L. 108–492, § 2(c)(14), (15), redesignated subsec. (c) as (d) and inserted "or permit" after "of a license".

1998—Subsec. (a). Pub. L. 105–303, § 102(a)(6)(B), substituted "accepting an application in accordance with criteria established pursuant to subsection (b)(2)(D)" for "receiving an application" in two places.

Pub. L. 105–303, § 102(a)(6)(A), (C), designated existing provisions as par. (1), inserted "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." at end of par. (1), and added par. (2).

Subsec. (b)(1). Pub. L. 105–303, § 102(a)(6)(D), inserted "or a reentry site, or the reentry of a reentry vehicle," after "operation of a launch site".

Subsec. (b)(2)(A). Pub. L. 105–303, § 102(a)(6)(E), substituted ", operation, or reentry" for "or operation".

Subsec. (b)(2)(D). Pub. L. 105–303, § 102(a)(6)(F)–(H), added subpar. (D).

Subsec. (b)(3). Pub. L. 105–303, § 102(a)(6)(I), inserted ", including the requirement to obtain a license," after "waive a requirement".

CHANGE OF NAME

Committee on Science of House of Representatives changed to Committee on Science and Technology of House of Representatives by House Resolution No. 6, One Hundred Tenth Congress, Jan. 5, 2007. Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 50906. Experimental permits

(a) A person may apply to the Secretary of Transportation for an experimental permit under this section in the form and manner the Secretary prescribes. Consistent with the protection of the public health and safety, safety of property, and national security and foreign policy interests of the United States, the Secretary, not later than 120 days after receiving an application pursuant to this section, shall issue a permit if the Secretary decides in writing that the applicant complies, and will continue to comply, with this 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 written notice not later than 15 days after any occurrence when the Secretary has failed to act on a permit within the deadline established by this section.

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

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

(d) The Secretary may issue a permit only for reusable suborbital rockets or reusable launch vehicles that will be launched into a suborbital trajectory or reentered under that permit solely for—

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

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

(3) crew training for a launch or reentry using the design of the rocket or vehicle 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 or suborbital rocket design, or for a particular reusable launch vehicle or reusable launch vehicle design, for the uses described in subsection (d); and

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

(f) Permits shall not be transferable.

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

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

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

(1) a permit shall be considered a license;

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

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

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

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

(Added Pub. L. 108–492, § 2(c)(16), Dec. 23, 2004, 118 Stat. 3979, § 70105a of title 49; renumbered § 70105a then § 50906 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(F), (5)(G), (H), Dec. 18, 2010, 124 Stat. 3440–3442; Pub. L. 114–90, title I, § 104, Nov. 25, 2015, 129 Stat. 706.)

AMENDMENTS

2015—Subsec. (d). Pub. L. 114–90, § 104(1)(A), substituted "or reusable launch vehicles that will be launched into a suborbital trajectory or reentered under that permit" for "that will be launched or reentered" in introductory provisions.

Subsec. (d)(1). Pub. L. 114–90, § 104(1)(B), amended par. (1) generally. Prior to amendment, par. (1) read as follows: "research and development to test new design concepts, new equipment, or new operating techniques;".

Subsec. (d)(3). Pub. L. 114–90, § 104(1)(C), struck out "prior to obtaining a license" after "crew training" and inserted "or vehicle" after "design of the rocket".

Subsec. (e)(1). Pub. L. 114–90, § 104(2)(A), substituted "suborbital rocket or suborbital rocket design, or for a particular reusable launch vehicle or reusable launch vehicle design," for "suborbital rocket design".

Subsec. (e)(2). Pub. L. 114–90, § 104(2)(B), inserted "or launch vehicle" after "the suborbital rocket".

Subsec. (g). Pub. L. 114–90, § 104(3), amended subsec. (g) generally. Prior to amendment, subsec. (g) read as follows: "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."

Subsec. (h). Pub. L. 114–90, § 104(4), inserted "or reusable launch vehicle" after "suborbital rocket".

2010—Pub. L. 111–314, § 4(d)(2), (3)(F), successively renumbered section 70105a of title 49 and section 70105a of this title as this section.

Subsec. (c). Pub. L. 111–314, § 4(d)(5)(G), substituted "section 50905(b)(2)(C)" for "section 70105(b)(2)(C)".

Subsec. (i). Pub. L. 111–314, § 4(d)(5)(H), substituted "sections 50907, 50908, 50909, 50910, 50912, 50914, 50917, 50918, 50919,

and 50923" for "sections 70106, 70107, 70108, 70109, 70110, 70112, 70115, 70116, 70117, and 70121" in introductory provisions.

CHANGE OF NAME

Committee on Science of House of Representatives changed to Committee on Science and Technology of House of Representatives by House Resolution No. 6, One Hundred Tenth Congress, Jan. 5, 2007. Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 50907. Monitoring activities

(a) GENERAL REQUIREMENTS.—A licensee under this chapter must allow the Secretary of Transportation to place an officer or employee of the United States Government or another individual as an observer at a launch site or reentry site the licensee uses, at a production facility or assembly site a contractor of the licensee uses to produce or assemble a launch vehicle or reentry vehicle, at a site not owned or operated by the Federal Government or a foreign government used for crew, government astronaut, or space flight participant training, or at a site at which a payload is integrated with a launch vehicle or reentry vehicle. The observer will monitor the activity of the licensee or contractor at the time and to the extent the Secretary considers reasonable to ensure compliance with the license or to carry out the duties of the Secretary under sections 50904(c), 50905, and 50906 of this title. A licensee must cooperate with an observer carrying out this subsection.

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

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1334, § 70106 of title 49; Pub. L. 105–303, title I, § 102(a)(7), Oct. 28, 1998, 112 Stat. 2848; Pub. L. 108–492, § 2(c)(17), Dec. 23, 2004, 118 Stat. 3980; renumbered § 70106 then § 50907 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(G), (5)(I), Dec. 18, 2010, 124 Stat. 3440–3442; Pub. L. 114–90, title I, § 112(m), Nov. 25, 2015, 129 Stat. 713.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70106(a)	49 App.:2613(a).	Oct. 30, 1984, Pub. L. 98–575, § 14, 98 Stat. 3060.
70106(b)	49 App.:2613(b).	

In subsection (a), the word "duties" is substituted for "responsibilities" for consistency in the revised title and with other titles of the United States Code.

AMENDMENTS

2015—Subsec. (a). Pub. L. 114–90 substituted "at a site not owned or operated by the Federal Government or a foreign government used for crew, government astronaut, or space flight participant training" for "at a site used for crew or space flight participant training".

2010—Pub. L. 111–314, § 4(d)(2), (3)(G), successively renumbered section 70106 of title 49 and section 70106 of this title as this section.

Subsec. (a). Pub. L. 111–314, § 4(d)(5)(I), substituted "sections 50904(c), 50905, and 50906" for "sections 70104(c), 70105, and 70105a".

2004—Subsec. (a). Pub. L. 108–492 inserted "at a site used for crew or space flight participant training," after "assemble a launch vehicle or reentry vehicle," and substituted "sections 70104(c), 70105, and 70105a" for "section 70104(c)".

1998—Subsec. (a). Pub. L. 105–303, in first sentence, inserted "or reentry site" after "observer at a launch site" and "or reentry vehicle" after "assemble a launch vehicle" and after "with a launch vehicle".

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

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

(b) MODIFICATIONS.—

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

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

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

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

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

(d) ADDITIONAL SUSPENSIONS.—

(1) The Secretary may suspend a license when a previous launch or reentry under the license has resulted in a serious or fatal injury (as defined in 49 CFR 830, as in effect on November 10, 2004) to any human being and the Secretary has determined that continued operations under the license are likely to cause additional serious or fatal injury (as defined in 49 CFR 830, as in effect on November 10, 2004) to any human being.

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

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

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

(3) This subsection shall not apply to permits.

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

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

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1334, § 70107 of title 49; Pub. L. 108–492, § 2(c)(18), (19), Dec. 23, 2004, 118 Stat. 3980; renumbered § 70107 then § 50908 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(H), (5)(J), (K), Dec. 18, 2010, 124 Stat. 3440–3442; Pub. L. 114–90, title I, § 112(n), Nov. 25, 2015, 129 Stat. 713.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70107(a)	49 App.:2606 (last sentence).	Oct. 30, 1984, Pub. L. 98–575, §§ 7 (last sentence), 10, 98 Stat. 3058, 3059.
70107(b)	49 App.:2609(b).	
70107(c)	49 App.:2609(a).	
70107(d)	49 App.:2609(c).	
70107(e)	49 App.:2609(d).	

In subsection (a), the words "of time" and "in accordance with regulations issued under this chapter" are omitted as surplus.

In subsection (b), the words "the requirements of" are omitted as surplus.

In subsection (e), the words "Whenever the Secretary takes any action" are omitted as surplus.

AMENDMENTS

2015—Subsec. (d)(1). Pub. L. 114–90 substituted "to any human being" for "to crew or space flight participants" in two places.

2010—Pub. L. 111–314, § 4(d)(2), (3)(H), successively renumbered section 70107 of title 49 and section 70107 of this title as this section.

Subsec. (b)(2). Pub. L. 111–314, § 4(d)(5)(J), substituted "section 50905(c)" for "section 70105(c)".

Subsec. (e). Pub. L. 111–314, § 4(d)(5)(K), substituted "section 50912" for "section 70110".

2004—Subsec. (b). Pub. L. 108–492, § 2(c)(18), designated existing text as par. (1) and added par. (2).

Subsecs. (d) to (f). Pub. L. 108–492, § 2(c)(19), added subsec. (d) and redesignated former subsecs. (d) and (e) as (e) and (f), respectively.

§ 50909. Prohibition, suspension, and end of launches, operation of launch sites and reentry sites, and reentries

(a) GENERAL AUTHORITY.—The Secretary of Transportation may prohibit, suspend, or end immediately the launch of a launch vehicle or the operation of a launch site or reentry site, or reentry of a reentry vehicle, licensed under this chapter if the Secretary decides the launch or operation or reentry is detrimental to the public health and safety, the safety of property, or a national security or foreign policy interest of the United States.

(b) EFFECTIVE PERIODS OF ORDERS.—An order under this section takes effect immediately and remains in effect during a review under section 50912 of this title.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1334, § 70108 of title 49; Pub. L. 105–303, title I, § 102(a)(8), Oct. 28, 1998, 112 Stat. 2848; renumbered § 70108 then § 50909 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(I), (5)(L), Dec. 18, 2010, 124 Stat. 3440–3442.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70108(a)	49 App.:2610(a).	Oct. 30, 1984, Pub. L. 98–575, § 11, 98 Stat. 3059.
70108(b)	49 App.:2610(b).	

AMENDMENTS

2010—Pub. L. 111–314, § 4(d)(2), (3)(I), successively renumbered section 70108 of title 49 and section 70108 of this title as this section.

Subsec. (b). Pub. L. 111–314, § 4(d)(5)(L), substituted "section 50912" for "section 70110".

1998—Pub. L. 105–303, § 102(a)(8)(A), substituted "Prohibition, suspension, and end of launches, operation of launch sites and reentry sites, and reentries" for "Prohibition, suspension, and end of launches and operation of launch sites" in section catchline.

Subsec. (a). Pub. L. 105–303, § 102(a)(8)(B), inserted "or reentry site, or reentry of a reentry vehicle," after "operation of a launch site" and "or reentry" after "launch or operation".

§ 50910. Preemption of scheduled launches or reentries

(a) GENERAL.—With the cooperation of the Secretary of Defense and the Administrator of the National Aeronautics and Space Administration, the Secretary of Transportation shall act to ensure that a launch or reentry of a payload is not preempted from access to a United States Government launch site, reentry site, or launch property, except for imperative national need, when a launch date commitment or reentry date commitment from the Government has been obtained for a launch or reentry licensed under this chapter. A licensee or transferee preempted from access to a launch site, reentry site, or launch property does not have to pay the Government any amount for launch services, or services related to a reentry, attributable only to the scheduled launch or reentry prevented by the preemption.

(b) IMPERATIVE NATIONAL NEED DECISIONS.—In consultation with the Secretary of Transportation, the Secretary of Defense or the Administrator shall decide when an imperative national need requires preemption under subsection (a) of this section. That decision may not be delegated.

(c) REPORTS.—In cooperation with the Secretary of Transportation, the Secretary of Defense or the Administrator, as appropriate, shall submit to Congress not later than 7 days after a decision to preempt under subsection (a) of this section, a report that includes an explanation of the circumstances justifying the decision and a schedule for ensuring the prompt launching or reentry of a preempted payload.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1335, § 70109 of title 49; Pub. L. 105–303, title I, § 102(a)(9), Oct. 28, 1998, 112 Stat. 2849; renumbered § 70109 then § 50910 of title 51, Pub. L. 111–314, § 4(d)(2), (3)(J), Dec. 18, 2010, 124 Stat. 3440, 3441.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70109(a)	49 App.:2614(b)(4)(A) (1st, last sentences).	Oct. 30, 1984, Pub. L. 98–575, 98 Stat. 3055, § 15(b)(4); added Nov. 15, 1988, Pub. L. 100–657, § 7, 102 Stat. 3906.
70109(b)	49 App.:2614(b)(4)(A) (2d sentence).	
70109(c)	49 App.:2614(b)(4)(B).	

AMENDMENTS

2010—Pub. L. 111–314 successively renumbered section 70109 of title 49 and section 70109 of this title as this section.

1998—Pub. L. 105–303, § 102(a)(9)(A), substituted "Preemption of scheduled launches or reentries" for "Preemption of scheduled launches" in section catchline.

Subsec. (a). Pub. L. 105–303, § 102(a)(9)(B), inserted "or reentry" after "ensure that a launch", ", reentry site," after "United States Government launch site", "or reentry date commitment" after "launch date commitment", "or reentry" after "obtained for a launch", ", reentry site," after "access to a launch site", ", or services related to a reentry," after "amount for launch services", and "or reentry" after "the scheduled launch". Subsec. (c). Pub. L. 105–303, § 102(a)(9)(C), inserted "or reentry" after "prompt launching".

§ 50911. Space advertising

(a) LICENSING.—Notwithstanding the provisions of this chapter or any other provision of law, the Secretary may not, for the launch of a payload containing any material to be used for the purposes of obtrusive space advertising—

(1) issue or transfer a license under this chapter; or

(2) waive the license requirements of this chapter.

(b) LAUNCHING.—No holder of a license under this chapter may launch a payload containing any material to be used for purposes of obtrusive space advertising.

(c) COMMERCIAL SPACE ADVERTISING.—Nothing in this section shall apply to nonobtrusive commercial space advertising, including advertising on—

(1) commercial space transportation vehicles;

(2) space infrastructure payloads;

(3) space launch facilities; and

(4) launch support facilities.

(Added Pub. L. 106–391, title III, § 322(b), Oct. 30, 2000, 114 Stat. 1598, § 70109a of title 49; renumbered § 70109a then § 50911 of title 51, Pub. L. 111–314, § 4(d)(2), (3)(K), Dec. 18, 2010, 124 Stat. 3440, 3441.)

AMENDMENTS

2010—Pub. L. 111–314 successively renumbered section 70109a of title 49 and section 70109a of this title as this section.

NEGOTIATION WITH FOREIGN LAUNCHING NATIONS

Pub. L. 106–391, title III, § 322(c), Oct. 30, 2000, 114 Stat. 1598, provided that:

"(1) The President is requested to negotiate with foreign launching nations for the purpose of reaching one or more agreements that prohibit the use of outer space for obtrusive space advertising purposes.

"(2) It is the sense of the Congress that the President should take such action as is appropriate and feasible to enforce the terms of any agreement to prohibit the use of outer space for obtrusive space advertising purposes.

"(3) As used in this subsection, the term 'foreign launching nation' means a nation—

"(A) that launches, or procures the launching of, a payload into outer space; or

"(B) from the territory or facility of which a payload is launched into outer space."

§ 50912. 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 50905(a) or 50906 of this title to issue or transfer a license with terms or deny the issuance or transfer of a license;

(2) an owner or operator of a payload under this chapter, for a decision of the Secretary under section 50904(c) of this title to prevent the launch or reentry of the payload; and

(3) a licensee under this chapter, for a decision of the Secretary under—

(A) section 50908(b) or (c) of this title to modify, suspend, or revoke a license; or

(B) section 50909(a) of this title to prohibit, suspend, or end a launch or operation of a launch site or reentry site, or reentry of a reentry vehicle, licensed by the Secretary.

(b) JUDICIAL REVIEW.—A final action of the Secretary under this chapter is subject to judicial review as provided in chapter 7 of title 5.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1335, § 70110 of title 49; Pub. L. 105–303, title I, § 102(a)(10), Oct. 28, 1998, 112 Stat. 2849; Pub. L. 108–492, § 2(c)(20), Dec. 23, 2004, 118 Stat. 3981; renumbered § 70110 then § 50912 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(L), (5)(M)–(P), Dec. 18, 2010, 124 Stat. 3440–3442.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70110(a)(1)	49 App.:2611(a)(1) (1st sentence).	Oct. 30, 1984, Pub. L. 98–575, § 12, 98 Stat. 3060.
70110(a)(2)	49 App.:2611(a)(1) (last sentence).	
70110(a)(3)	49 App.:2611(a)(2).	
70110(b)	49 App.:2611(b).	

In subsection (a), before clause (1), the words "The Secretary of Transportation shall provide an opportunity for a hearing on the record to" are substituted for "shall be entitled to a determination on the record after an opportunity for a hearing" for consistency in the revised title. The words "in accordance with section 554 of title 5" are omitted for consistency and because 5:554 applies to a hearing on the record unless otherwise stated. In clause (1), the words "and a proposed transferee of a license" are omitted as being included in "applicant".

In subsection (b), the words "to issue, transfer, deny the issuance or transfer of, suspend, revoke, or modify a license or to terminate, prohibit, or suspend any launch or operation of a launch site licensed by the Secretary or to prevent the launch of a payload" are omitted as surplus.

AMENDMENTS

2010—Pub. L. 111–314, § 4(d)(2), (3)(L), successively renumbered section 70110 of title 49 and section 70110 of this title as this section.

Subsec. (a)(1). Pub. L. 111–314, § 4(d)(5)(M), substituted "section 50905(a) or 50906" for "section 70105(a) or 70105a".

Subsec. (a)(2). Pub. L. 111–314, § 4(d)(5)(N), substituted "section 50904(c)" for "section 70104(c)".

Subsec. (a)(3)(A). Pub. L. 111–314, § 4(d)(5)(O), substituted "section 50908(b) or (c)" for "section 70107(b) or (c)".

Subsec. (a)(3)(B). Pub. L. 111–314, § 4(d)(5)(P), substituted "section 50909(a)" for "section 70108(a)".

2004—Subsec. (a)(1). Pub. L. 108–492 inserted "or 70105a" after "70105(a)".

1998—Subsec. (a)(2). Pub. L. 105–303, § 102(a)(10)(A), inserted "or reentry" after "prevent the launch".

Subsec. (a)(3)(B). Pub. L. 105–303, § 102(a)(10)(B), inserted "or reentry site, or reentry of a reentry vehicle," after "operation of a launch site"

§ 50913. Acquiring United States Government property and services

(a) GENERAL REQUIREMENTS AND CONSIDERATIONS.—

(1) The Secretary of Transportation shall facilitate and encourage the acquisition by the private sector and State governments of—

(A) launch or reentry property of the United States Government that is excess or otherwise is not needed for public use; and

(B) launch services and reentry services, including utilities, of the Government otherwise not needed for public use.

(2) In acting under paragraph (1) of this subsection, the Secretary shall consider the commercial availability on reasonable terms of substantially equivalent launch property or launch services or reentry services from a domestic source, whether such source is located on or off a Federal range.

(b) PRICE.—

(1) In this subsection, "direct costs" means the actual costs that—

(A) can be associated unambiguously with a commercial launch or reentry effort; and

(B) the Government would not incur if there were no commercial launch or reentry effort.

(2) In consultation with the Secretary, the head of the executive agency providing the property or service under subsection (a) of this section shall establish the price for the property or service. The price for—

(A) acquiring launch property by sale or transaction instead of sale is the fair market value;

(B) acquiring launch property (except by sale or transaction instead of sale) is an amount equal to the direct costs, including specific wear and tear and property damage, the Government incurred because of acquisition of the property; and

(C) launch services or reentry services is an amount equal to the direct costs, including the basic pay of Government civilian and contractor personnel, the Government incurred because of acquisition of the services.

(3) The Secretary shall ensure the establishment of uniform guidelines for, and consistent implementation of, this section by all Federal agencies.

(c) COLLECTION BY SECRETARY.—The Secretary may collect a payment under this section with the consent of the head of the executive agency establishing the price. Amounts collected under this subsection shall be deposited in the Treasury. Amounts (except for excess launch property) shall be credited to the appropriation from which the cost of providing the property or services was paid.

(d) COLLECTION BY OTHER GOVERNMENTAL HEADS.—The head of a department, agency, or instrumentality of the Government may collect a payment for an activity involved in producing a launch vehicle or reentry vehicle, or the payload of either, for launch or reentry if the activity was agreed to by the owner or manufacturer of the launch vehicle, reentry vehicle, or payload.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1335, § 70111 of title 49; Pub. L. 105–303, title I, § 102(a)(11), Oct. 28, 1998, 112 Stat. 2849; renumbered § 70111 then

§ 50913 of title 51, Pub. L. 111–314, § 4(d)(2), (3)(M), Dec. 18, 2010, 124 Stat. 3440, 3441.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70111(a)	49 App.:2614(a).	Oct. 30, 1984, Pub. L. 98–575, § 15(a), 98 Stat. 3060; Nov. 15, 1988, Pub. L. 100–657, § 4(a), 102 Stat. 3900; Nov. 16, 1990, Pub. L. 101–611, § 117(b), 104 Stat. 3202.
70111(b)	49 App.:2614(b)(1).	Oct. 30, 1984, Pub. L. 98–575, § 15(b)(1), 98 Stat. 3061; Nov. 15, 1988, Pub. L. 100–657, § 4(b), 102 Stat. 3901.
70111(c)	49 App.:2614(b)(2), (3).	Oct. 30, 1984, Pub. L. 98–575, § 15(b)(2), (3), 98 Stat. 3061.
70111(d)	49 App.:2614(d).	Oct. 30, 1984, Pub. L. 98–575, 98 Stat. 3055, § 15(d); added Nov. 15, 1988, Pub. L. 100–657, § 4(c), 102 Stat. 3901.

In subsection (a)(1), before clause (A), the words "take such actions as may be necessary to" and "(by lease, sale, transaction in lieu of sale, or otherwise)" are omitted as surplus.

In subsections (b)(2) and (c), the words "the head of" are added for consistency in the revised title and with other titles of the United States Code.

In subsection (b)(2), before clause (A), the word "price" is substituted for "amount to be paid to the United States" and "the amount of such payment" to eliminate unnecessary words. The words "by any person who acquires launch property or launch services, including utilities" are omitted as surplus. In clause (C), the words "including utilities" are omitted as surplus. The words "basic pay" are substituted for "salaries" for clarity.

In subsection (c), the word "collected" is substituted for "received" for consistency in this section. The words "by the United States for launch property or launch services, including utilities" and "the general fund of" are omitted as surplus.

In subsection (d), the words "department, agency, or instrumentality of the Government" are substituted for "Federal agency or department" for consistency in the revised title and with other titles of the Code.

AMENDMENTS

2010—Pub. L. 111–314 successively renumbered section 70111 of title 49 and section 70111 of this title as this section.

1998—Subsec. (a)(1)(A). Pub. L. 105–303, § 102(a)(11)(A), inserted "or reentry" after "launch".

Subsec. (a)(1)(B). Pub. L. 105–303, § 102(a)(11)(B), inserted "and reentry services" after "launch services".

Subsec. (a)(2). Pub. L. 105–303, § 102(a)(11)(C), (D), inserted "or reentry services" after "or launch services" and substituted "source, whether such source is located on or off a Federal range" for "source".

Subsec. (b)(1)(A), (B). Pub. L. 105–303, § 102(a)(11)(E), inserted "or reentry" after "commercial launch".

Subsec. (b)(2)(C). Pub. L. 105–303, § 102(a)(11)(F), inserted "or reentry services" after "launch services".

Subsec. (b)(3). Pub. L. 105–303, § 102(a)(11)(G), added par. (3).

Subsec. (d). Pub. L. 105–303, § 102(a)(11)(H), (I), substituted "or reentry vehicle, or the payload of either, for launch or reentry" for "or its payload for launch" and inserted ", reentry vehicle," after "manufacturer of the launch vehicle".

§ 50914. Liability insurance and financial responsibility requirements

(a) GENERAL REQUIREMENTS.—

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

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

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

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

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

(A) (i) $500,000,000 under paragraph (1)(A) of this subsection; or (ii) $100,000,000 under paragraph (1)(B) of this subsection; or

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

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

(A) the Government.

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

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

(D) contractors and subcontractors of the customer.

(E) space flight participants.

(5) Subparagraph (E) of paragraph (4) ceases to be effective September 30, 2025.

(b) RECIPROCAL WAIVER OF CLAIMS.—

(1)(A) 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 applicable parties involved in launch services or reentry services under which each party to the waiver agrees to be respon-

sible for personal injury to, death of, or property damage or loss sustained by it or its own employees resulting from an activity carried out under the applicable license.

(B) In this paragraph, the term "applicable parties" means—

(i) contractors, subcontractors, and customers of the licensee or transferee;

(ii) contractors and subcontractors of the customers; and

(iii) space flight participants.

(C) Clause (iii) of subparagraph (B) ceases to be effective September 30, 2025.

(2) The Secretary of Transportation shall make, for the Government, executive agencies of the Government involved in launch services or reentry services, and contractors and subcontractors involved in launch services or reentry services, a reciprocal waiver of claims with the licensee or transferee, contractors, subcontractors, crew, space flight participants, and customers of the licensee or transferee, and contractors and subcontractors of the customers, involved in launch services or reentry services under which each party to the waiver agrees to be responsible for property damage or loss it sustains, or for personal injury to, death of, or property damage or loss sustained by its own employees or by space flight participants, resulting from an activity carried out under the applicable license. The waiver applies only to the extent that claims are more than the amount of insurance or demonstration of financial responsibility required under subsection (a)(1)(B) of this section. After consulting with the Administrator and the Secretary of the Air Force, the Secretary of Transportation may waive, for the Government and a department, agency, and instrumentality of the Government, the right to recover damages for damage or loss to Government property to the extent insurance is not available because of a policy exclusion the Secretary of Transportation decides is usual for the type of insurance involved.

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

(d) ANNUAL REPORT.—

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

(2) Not later than May 15 of each year, the Secretary of Transportation shall review the amounts specified in subsection (a)(3)(A) of this section and submit a report to Congress that contains proposed adjustments in the amounts to conform with changed liability expectations and availability of insur-

ance on the world market. The proposed adjustment takes effect 30 days after a report is submitted.

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

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

(g) FEDERAL JURISDICTION.—Any claim by a third party or space flight participant for death, bodily injury, or property damage or loss resulting from an activity carried out under the license shall be the exclusive jurisdiction of the Federal courts.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1336, § 70112 of title 49; Pub. L. 104–287, § 5(74), (93), Oct. 11, 1996, 110 Stat. 3396, 3398; Pub. L. 105–303, title I, § 102(a)(12), Oct. 28, 1998, 112 Stat. 2850; Pub. L. 108–492, § 2(c)(21), Dec. 23, 2004, 118 Stat. 3981; renumbered § 70112 then § 50914 of title 51, Pub. L. 111–314, 4(d)(2), (3)(N), Dec. 18, 2010, 124 Stat. 3440, 3441; Pub. L. 114–90, title I, §§ 103(a)(1), 106, 107, Nov. 25, 2015, 129 Stat. 706, 707.)

HISTORICAL AND REVISION NOTES PUB. L. 103–272

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70112(a)(1), (2) ...	49 App.:2615(a)(1)(A) (1st sentence), (B) (1st sentence).	Oct. 30, 1984, Pub. L. 98–575, § 16(a), (c), 98 Stat. 3061; restated Nov. 15, 1988, Pub. L. 100–657, 5(a), 102 Stat. 3901, 3905.
70112(a)(3)	49 App.:2615(a)(1)(A) (last sentence), (B) (last sentence).	
70112(a)(4)	49 App.:2615(a)(2).	
70112(b)(1)	49 App.:2615(a)(1)(C).	
70112(b)(2)	49 App.:2615(a)(1)(D).	
70112(c)	49 App.:2615(a)(3) (1st, 2d sentences).	
70112(d)(1)	49 App.:2615(a)(3) (last sentence).	
70112(d)(2)	49 App.:2615(a)(4).	
70112(e)	49 App.:2614(c).	Oct. 30, 1984, Pub. L. 98–575, § 15(c), 98 Stat. 3061; restated Nov. 15, 1988, Pub. L. 100–657, § 5(b), 102 Stat. 3905.
70112(f)	49 App.:2615(c).	

In subsection (a), the word "particular" is omitted as surplus.

In subsection (a)(1), before clause (A), the word "sufficient" is omitted as surplus. In clauses (A) and (B), the words "in connection with any particular launch" are omitted as surplus.

In subsection (a)(4), before clause (A), the words "made . . . a requirement described in" are omitted as surplus.

In subsection (b)(2), the words "department, agency, and instrumentality of the Government" are substituted for "Federal agency" for consistency in the revised title and with other titles of the United States Code.

In subsection (d)(2), the words "if appropriate" are omitted as surplus.

In subsection (f), the words "department, agency, or instrumentality of the Government" are substituted for "Federal agency or department" for consistency in the revised title and with other titles of the Code. The words "insurance proceeds or . . . other" and "proceeds or other" are omitted as surplus.

PUB. L. 104–287, § 5(93)

This amends 49:70112(a)(3)(B) to clarify a cross-reference in the codification enacted by section 1 of the Act of July 5, 1994 (Public Law 103–272, 108 Stat. 1337).

AMENDMENTS

2015—Subsec. (a)(4)(E). Pub. L. 114–90, § 103(a)(1)(A), added subpar. (E).

Subsec. (a)(5). Pub. L. 114–90, § 103(a)(1)(B), added par. (5).

Subsec. (b)(1). Pub. L. 114–90, § 107, amended par. (1) generally. Prior to amendment, par. (1) read as follows: "A launch or reentry license issued or transferred under this chapter shall contain a provision requiring the licensee or transferee to make a reciprocal waiver of claims with its contractors, subcontractors, and customers, and contractors and subcontractors of the customers, involved in launch services or reentry services under which each party to the waiver agrees to be responsible for property damage or loss it sustains, or for personal injury to, death of, or property damage or loss sustained by its own employees resulting from an activity carried out under the applicable license."

Subsec. (g). Pub. L. 114–90, § 106, added subsec. (g).

2010—Pub. L. 111–314 successively renumbered section 70112 of title 49 and section 70112 of this title as this section.

2004—Subsec. (b)(2). Pub. L. 108–492 inserted "crew, space flight participants," after "transferee, contractors, subcontractors," and "or by space flight participants," after "its own employees".

1998—Subsec. (a)(1). Pub. L. 105–303, § 102(a)(12)(A), inserted "launch or reentry" before "license is issued".

Subsec. (a)(3). Pub. L. 105–303, § 102(a)(12)(B), inserted "or reentry" after "one launch" in introductory provisions.

Subsec. (a)(4). Pub. L. 105–303, § 102(a)(12)(C), inserted "or reentry services" after "launch services" in introductory provisions.

Subsec. (b)(1). Pub. L. 105–303, § 102(a)(12)(D)–(F), inserted "launch or reentry" before "license issued or transferred", "or reentry services" after "launch services", and "applicable" after "carried out under the".

Subsec. (b)(2). Pub. L. 105–303, § 102(a)(12)(E), (F), inserted "or reentry services" after "launch services" wherever appearing and "applicable" after "carried out under the".

Subsec. (e). Pub. L. 105–303, § 102(a)(12)(G), (H), inserted "or Reentries" after "Launches" in heading and "or reentry site or a reentry" after "launch site" in text.

Subsec. (f). Pub. L. 105–303, § 102(a)(12)(I), inserted "launch or reentry" before "license issued or transferred".

1996—Subsec. (a)(3)(B). Pub. L. 104–287, § 5(93), substituted "clause (A)(i) or (ii)" for "clause (A)".

Subsec. (d)(1). Pub. L. 104–287, § 5(74), substituted "Committee on Science" for "Committee on Science, Space, and Technology".

CHANGE OF NAME

Committee on Science of House of Representatives changed to Committee on Science and Technology of House of Representatives by House Resolution No. 6, One Hundred Tenth Congress, Jan. 5, 2007. Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

EFFECTIVE DATE OF 1996 AMENDMENT

Amendment by section 5(93) of Pub. L. 104–287 effective July 5, 1994, see section 8(1) of Pub. L. 104-287, set out as a note under section 5303 of Title 49, Transportation.

TERMINATION OF REPORTING REQUIREMENTS

For termination, effective May 15, 2000, of provisions of law requiring submittal to Congress of any annual, semiannual, or other regular periodic report listed in House Document No. 103–7 (in which the 2nd item on page 133 identifies a reporting provision which, as subsequently amended, is contained in subsec. (d)(1) of this section), see section 3003 of Pub. L. 104–66, as amended, set out as a note under section 1113 of Title 31, Money and Finance.

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

(a) GENERAL REQUIREMENTS.—

(1) To the extent provided in advance in an appropriation law or to the extent additional legislative authority is enacted providing for paying claims in a compensation plan submitted under subsection (d) of this section, the Secretary of Transportation shall provide for the payment by the United States Government of a successful claim (including reasonable litigation or settlement expenses) of a third party against a person described in paragraph (3)(A) resulting from an activity carried out under the license issued or transferred under this chapter for death, bodily injury, or property damage or loss resulting from an activity carried out under the license. However, claims may be paid under this section only to the extent the total amount of successful claims related to one launch or reentry—

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

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

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

(3)(A) A person described in this subparagraph is—

(i) a licensee or transferee under this chapter;

(ii) a contractor, subcontractor, or customer of the licensee or transferee; (iii) a contractor or subcontractor of a customer; or (iv) a space flight participant.

(B) Clause (iv) of subparagraph (A) ceases to be effective September 30, 2025.

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

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

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

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

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

(d) SURVEYS, REPORTS, AND COMPENSATION PLANS.—

(1) If as a result of an activity carried out under a license issued or transferred under this chapter the total of claims related to one launch or reentry is likely to be more than the amount of required insurance or demonstration of financial responsibility, the Secretary shall—

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

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

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

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

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

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

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

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

(A) have an identification number; and

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

(e) CONGRESSIONAL RESOLUTIONS.—

(1) In this subsection, "resolution"—

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(f) APPLICATION.—This section applies to a license issued or transferred under this chapter for which the Secretary receives a complete and valid application not later than September 30, 2025. This section does not apply to permits.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1338, § 70113 of title 49; Pub. L. 104–287, § 5(94), Oct. 11, 1996, 110 Stat. 3398; Pub. L. 105–303, title I, 102(a)(13), Oct. 28, 1998, 112 Stat. 2850; Pub. L. 106–74, title IV, § 433, Oct. 20, 1999, 113 Stat. 1097; Pub. L. 106–377, § 1(a)(1) [title IV, 429], Oct. 27, 2000, 114 Stat. 1441, 1441A–56; Pub. L. 106–405, §§ 5(b), 6(a), Nov. 1, 2000, 114 Stat. 1752; Pub. L. 108–428, § 1, Nov. 30, 2004, 118 Stat. 2432; Pub. L. 108–492, § 2(c)(22), (23), Dec. 23, 2004, 118 Stat. 3981; Pub. L. 111–125, § 1, Dec. 28, 2009, 123 Stat. 3486; renumbered § 70113 then § 50915 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(O), (5)(Q), (R), Dec. 18, 2010, 124 Stat. 3440–3442; Pub. L. 112–273, § 3, Jan. 14, 2013, 126 Stat. 2454; Pub. L. 113–76, § 8, Jan. 17, 2014, 128 Stat. 7; Pub. L. 114–90, title I, §§ 102(d), 103(a)(2), Nov. 25, 2015, 129 Stat. 706.)

HISTORICAL AND REVISION NOTES PUB. L. 103–272

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70113(a)	49 App.:2615(b)(1).	Oct. 30, 1984, Pub. L. 98–575, 16(b)(1)–(4), 98 Stat. 3061; restated Nov. 15, 1988, Pub. L. 100–657, 5(a), 102 Stat. 3903.
70113(b)	49 App.:2615(b)(2).	
70113(c)	49 App.:2615(b)(3).	
70113(d)(1)	49 App.:2615(b)(4)(A).	
70113(d)(2)	49 App.:2615(b)(4)(B).	
70113(d)(3)	49 App.:2615(b)(4)(C).	
70113(e)(1)	49 App.:2615(b) (4)(D)(i), (iii).	
70113(e)(2)	49 App.:2615(b) (4)(D)(ii).	
70113(e)(3)	49 App.:2615(b) (4)(D)(iv).	
70113(e)(4)	49 App.:2615(b) (4)(D)(v).	
70113(e)(5)	49 App.:2615(b) (4)(D)(vi).	
70113(e)(6)	49 App.:2615(b) (4)(D)(vii).	
70113(f)	49 App.:2615(b)(5).	Oct. 30, 1984, Pub. L. 98–575, § 16(b)(5), 98 Stat. 3061; restated Nov. 15, 1988, Pub. L. 100–657, § 5(a), 102 Stat. 3903; Nov. 4, 1992, Pub. L. 102–588, § 503, 106 Stat. 5124.

In subsection (a)(1), before clause (A), the word "particular" is omitted as surplus. In clause (B), the words "the level that is" are omitted as surplus.

In subsection (b)(1), the words "civil action" are substituted for "suit" for consistency in the revised title and with other titles of the United States Code and rule 2 of the Federal Rules of Civil Procedure (28 App. U.S.C.).

In subsection (b)(2), the words "the Government must be given an opportunity" are substituted for "by the United States, at its election" for clarity.

In subsection (c), the words "just and" and "judgment" are omitted as surplus.

In subsection (d), the word "particular" is omitted as surplus.

In subsection (d)(2), before clause (A), the words "or plans" are omitted because of 1:1.

In subsection (e)(1), before clause (A), the text of 49 App.:2615(b)(4)(D)(i) is omitted as surplus. In clause (A), the word "only" is omitted as surplus. The word "Congress" is substituted for "the first blank space therein being filled with the name of the resolving House" to correct an error in the law.

In subsection (e)(3), the words "once introduced with respect to a compensation plan" are omitted as surplus.

In subsection (e)(4)(A), the word "either" is omitted as surplus. In subsection (f), the word "only" is omitted as surplus.

PUB. L. 104–287

This amends 49:70113(e)(6)(D) to correct an error in the codification enacted by section 1 of the Act of July 5, 1994 (Public Law 103–272, 108 Stat. 1340).

AMENDMENTS

2015—Subsec. (a)(1). Pub. L. 114-90, § 103(a)(2)(A), in introductory provisions, substituted "a person described in paragraph (3)(A)" for "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,".

Subsec. (a)(3). Pub. L. 114–90, § 103(a)(2)(B), added par. (3).

Subsec. (f). Pub. L. 114–90, § 102(d), substituted "September 30, 2025" for "December 31, 2016".

2014—Subsec. (f). Pub. L. 113–76 substituted "December 31, 2016" for "December 31, 2013".

2013—Subsec. (f). Pub. L. 112–273 substituted "December 31, 2013" for "December 31, 2012".

2010—Pub. L. 111–314, § 4(d)(2), (3)(O), successively renumbered section 70113 of title 49 and section 70113 of this title as this section.

Subsec. (a)(1)(A). Pub. L. 111–314, § 4(d)(5)(Q), substituted "section 50914(a)(1)(A)" for "section 70112(a)(1)(A)".

Subsec. (a)(2). Pub. L. 111–314, § 4(d)(5)(R), substituted "section 50914(a)(1)(A)" for "section 70112(a)(1)(A)" and "section 50914(a)(1)" for "section 70112(a)(1)".

2009—Subsec. (f). Pub. L. 111–125 substituted "December 31, 2012." for "December 31, 2009."

2004—Subsec. (a)(1). Pub. L. 108–492, § 2(c)(22), inserted "but not against a space flight participant," after "subcontractor of a customer,".

Subsec. (f). Pub. L. 108–492, § 2(c)(23), inserted at end "This section does not apply to permits." Pub. L. 108–428 substituted "December 31, 2009" for "December 31, 2004".

2000—Subsec. (e)(1)(A). Pub. L. 106–405, § 6(a), substituted "20__" for "19__".

Subsec. (f). Pub. L. 106–405, § 5(b), substituted "December 31, 2004" for "December 31, 2001". Pub. L. 106–377 substituted "December 31, 2001" for "December 31, 2000".

1999—Subsec. (f). Pub. L. 106–74 substituted "December 31, 2000" for "December 31, 1999".

1998—Subsecs. (a)(1), (d)(1), (2). Pub. L. 105–303 inserted "or reentry" after "one launch".

1996—Subsec. (e)(6)(D). Pub. L. 104–287 substituted "related to a resolution" for "related to resolution".

EFFECTIVE DATE OF 2000 AMENDMENT

Pub. L. 106–405, § 6(b), Nov. 1, 2000, 114 Stat. 1752, provided that: "The amendment made by subsection (a) [amending this section] takes effect on January 1, 2000."

§ 50916. Disclosing information

The Secretary of Transportation, an officer or employee of the United States Government, or a person making a contract with the Secretary under section 50907(b) of this title may disclose information under this chapter that qualifies for an exemption under section 552(b)(4) of title 5 or is designated as confidential by the person or head of the executive agency providing the information only if the Secretary decides withholding the information is contrary to the public or national interest.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1340, § 70114 of title 49; renumbered § 70114 then § 50916 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(P), (5)(S), Dec. 18, 2010, 124 Stat. 3440–3442.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70114	49 App.:2608(c).	Oct. 30, 1984, Pub. L. 98–575, § 9(c), 98 Stat. 3059.

The words "data or" are omitted as surplus. The words "the head of" and "executive" are added for consistency in the revised title and with other titles of the United States Code.

AMENDMENTS

2010—Pub. L. 111–314, § 4(d)(5)(S), substituted "section 50907(b)" for "section 70106(b)". Pub. L. 111–314, § 4(d)(2), (3)(P), successively renumbered section 70114 of title 49 and section 70114 of this title as this section.

§ 50917. Enforcement and penalty

(a) PROHIBITIONS.—A person may not violate this chapter, a regulation prescribed under this chapter, or any term of a license issued or transferred under this chapter.

(b) GENERAL AUTHORITY.—

(1) In carrying out this chapter, the Secretary of Transportation may—

(A) conduct investigations and inquiries;

(B) administer oaths;

(C) take affidavits; and

(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 or space flight participant 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

(ii) seize the object, record, or report when there is probable cause to believe the object, record, or report was used, is being used, or likely will be used in violation of this chapter.

(2) The Secretary may delegate a duty or power under this chapter related to enforcement to an officer or employee of another executive agency with the consent of the head of the agency.

(c) CIVIL PENALTY.—

(1) After notice and an opportunity for a hearing on the record, a person the Secretary finds to have violated subsection (a) of this section is liable to the United States Government for a civil penalty of not more than $100,000. A separate violation occurs for each day the violation continues.

(2) In conducting a hearing under paragraph (1) of this subsection, the Secretary may—

(A) subpoena witnesses and records; and

(B) enforce a subpoena in an appropriate district court of the United States.

(3) The Secretary shall impose the civil penalty by written notice. The Secretary may compromise or remit a penalty imposed, or that may be imposed, under this section.

(4) The Secretary shall recover a civil penalty not paid after the penalty is final or after a court enters a final judgment for the Secretary.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1341, § 70115 of title 49; Pub. L. 105–303, title I, § 102(a)(14), Oct. 28, 1998, 112 Stat. 2850; Pub. L. 108–492, § 2(c)(24), Dec. 23, 2004, 118 Stat. 3981; renumbered § 70115 then § 50917 of title 51, Pub. L. 111–314, § 4(d)(2), (3)(Q), Dec. 18, 2010, 124 Stat. 3440, 3441.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70115(a)	49 App.:2617.	Oct. 30, 1984, Pub. L. 98–575, §§ 17–19, 98 Stat. 3061.

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70115(b)(1)	49 App.:2616(b).	
70115(b)(2)	49 App.:2616(a).	
70115(c)(1)	49 App.:2618(a) (1st, 2d sentences).	
70115(c)(2)	49 App.:2618(c).	
70115(c)(3)	49 App.:2618(a) (3d, last sentences).	
70115(c)(4)	49 App.:2618(b).	

In subsection (a), the words "a requirement of" are omitted as surplus. The word "prescribed" is substituted for "issued" for consistency in the revised title and with other titles of the United States Code. The words "condition, or restriction" are omitted as surplus.

In subsection (b)(1)(A)–(C), the words "concerning any matter relating to enforcement of this chapter" are omitted as surplus.

In subsection (b)(1)(B) and (C), the words "from any person" are omitted as surplus.

In subsection (b)(1)(B), the word "affirmation" is omitted because of 1:1.

In subsection (b)(2), the text of 49 App.:2616(a) (1st sentence) is omitted as surplus because the Secretary of Transportation enforces programs the Secretary carries out unless otherwise provided. The words "the exercise of" are omitted as surplus. The words "duty or power" are substituted for "authority" for consistency in the revised title and with other titles of the Code. The words "to any officer or employee of the Department of Transportation" are omitted as surplus because of 49:322(b).

In subsection (c)(1), the words "in accordance with section 554 of title 5" are omitted for consistency in the revised title and because 5:554 applies to a hearing on the record unless otherwise stated. The words "for each violation" are omitted as surplus.

In subsection (c)(2), the words "relevant papers, books, documents, and other" are omitted as surplus. The words "(3) administer oaths and affirmatives" are omitted as surplus because of subsection (b)(1)(B) of this section.

In subsection (c)(3), the word "impose" is substituted for "assessed" for consistency in the revised title and with other titles of the Code. The words "amount of such" and "modify . . . with or without conditions" are omitted as surplus.

Subsection (c)(4) is substituted for 49 App.:2618(b) to eliminate unnecessary words.

AMENDMENTS

2010—Pub. L. 111–314 successively renumbered section 70115 of title 49 and section 70115 of this title as this section.

2004—Subsec. (b)(1)(D)(i). Pub. L. 108–492 inserted "crew or space flight participant training site," after "site of a launch vehicle or reentry vehicle,".

1998—Subsec. (b)(1)(D)(i). Pub. L. 105–303 inserted "reentry site," after "launch site," and inserted "or reentry vehicle" after "launch vehicle" in two places.

§ 50918. Consultation

(a) MATTERS AFFECTING NATIONAL SECURITY.—The Secretary of Transportation shall consult with the Secretary of Defense on a matter under this chapter affecting national security. The Secretary of Defense shall identify and notify the Secretary of Transportation of a national security interest relevant to an activity under this chapter.

(b) MATTERS AFFECTING FOREIGN POLICY.—The Secretary of Transportation shall consult with the Secretary of State on a matter under this chapter affecting foreign policy. The Secretary of State shall identify and notify the Secretary of Transportation of a foreign policy interest or obligation relevant to an activity under this chapter.

(c) OTHER MATTERS.—In carrying out this chapter, the Secretary of Transportation shall consult with the head of another executive agency—

(1) to provide consistent application of licensing requirements under this chapter;

(2) to ensure fair treatment for all license applicants; and

(3) when appropriate.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1341, § 70116 of title 49; renumbered § 70116 then § 50918 of title 51, Pub. L. 111–314, § 4(d)(2), (3)(R), Dec. 18, 2010, 124 Stat. 3440, 3441.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70116(a)	49 App.:2619(a).	Oct. 30, 1984, Pub. L. 98–575, § 20, 98 Stat. 3062.
70116(b)	49 App.:2619(b).	
70116(c)	49 App.:2604(a)(2).	Oct. 30, 1984, Pub. L. 98–575, § 5(a)(2), 98 Stat. 3057; Nov. 16, 1990, Pub. L. 101–611, § 117(e)(2), 104 Stat. 3203.
	49 App.:2619(c).	

In subsections (a) and (b), the words "including the issuance or transfer of each license" and "be responsible for" are omitted as surplus.

In subsection (c), before clause (1), the words "the head of" and "executive" are added for consistency in the revised title and with other titles of the United States Code. In clause (2), the words "and equitable" in 49 App.:2604(a)(2) are omitted as surplus.

AMENDMENTS

2010—Pub. L. 111–314 successively renumbered section 70116 of title 49 and section 70116 of this title as this section.

STREAMLINE COMMERCIAL SPACE LAUNCH ACTIVITIES

Pub. L. 114–92, div. A, title XVI, § 1617, Nov. 25, 2015, 129 Stat. 1106, as amended by Pub. L. 115–232, div. A, title XVI, § 1606, Aug. 13, 2018, 132 Stat. 2107, provided that:

"(a) SENSE OF CONGRESS.—It is the sense of Congress that eliminating duplicative requirements and approvals for commercial

launch and reentry operations will promote and encourage the development of the commercial space sector.

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

"(1) promote commercial space launches and reentries by the private sector;

"(2) facilitate Government, State, and private sector involvement in enhancing United States launch sites and facilities;

"(3) protect public health and safety, safety of property, national security interests, and foreign policy interests of the United States; and

"(4) consult with the head of another executive agency, including the Secretary of Defense or the Administrator of the National Aeronautics and Space Administration, as necessary to provide consistent application of licensing requirements under chapter 509 of title 51, United States Code.

"(c) REQUIREMENTS.—

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

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

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

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

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

"(2) STREAMLINING.—

"(A) IN GENERAL.—With respect to any licensed activity under chapter 509 of title 51, United States Code, the Secretary of Defense may not impose any requirement on a licensee or transferee that is duplicative of, or overlaps in intent with, any requirement imposed by the Secretary of Transportation under that chapter.

"(B) WAIVER.—The Secretary of the Air Force may waive the limitation under subparagraph (A) if—

"(i) the Secretary determines that imposing a requirement described in that subparagraph is necessary to avoid negative consequences for the national security space program; and

"(ii) the Secretary notifies the Secretary of Transportation of such determination before making such waiver.

"(3) REPORTS.—Not later than 180 days after the date of enactment of this Act [Nov. 25, 2015], and annually thereafter until the Secretary of Transportation determines no outmoded or duplicative requirements or approvals of the Federal Government exist, the Secretary of Transportation, in consultation with the Secretary of Defense, the Administrator of the National Aeronautics and Space Administration, the commercial space sector, and the heads of other executive agencies, as appropriate, shall submit to the appropriate congressional committees a report that includes the following:

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

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

"(ii) any inconsistent, outmoded, or duplicative requirements or approvals.

"(B) A description of current efforts, if any, to coordinate and work across executive agencies to define interagency processes and procedures for sharing information, avoiding duplication of effort, and resolving common agency requirements.

"(C) Recommendations for legislation that may further—

"(i) streamline requirements in order to improve efficiency, reduce unnecessary costs, resolve inconsistencies, remove duplication, and minimize unwarranted constraints; and

"(ii) consolidate or modify requirements across affected agencies into a single application set that satisfies the requirements identified in paragraph (1)(A).

"(4) DEFINITIONS.—For purposes of this subsection—

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

"(B) the term 'appropriate congressional committees' means—

"(i) the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives];

"(ii) the Committee on Commerce, Science, and Transportation of the Senate;

"(iii) the Committee on Science, Space, and Technology of the House of Representatives; and

"(iv) the Committee on Transportation and Infrastructure of the House of Representatives;

"(C) the terms 'launch', 'reenter', and 'reentry' include landing of a launch vehicle or reentry vehicle; and

"(D) the terms 'United States Government launch site' and 'United States Government reentry site' include any

necessary facility, at that location, that is commercially operated on United States Government property.

"(d) RULE OF CONSTRUCTION.—Nothing in this section shall be construed to limit the ability of the Secretary of Defense to consult with the Secretary of Transportation with respect to requirements and approvals under chapter 509 of title 51, United States Code."

Substantially identical provisions were contained in the following act: Pub. L. 114–90, title I, § 113, Nov. 25, 2015, 129 Stat. 714.

§ 50919. Relationship to other executive agencies, laws, and international obligations

(a) EXECUTIVE AGENCIES.—Except as provided in this chapter, a person is not required to obtain from an executive agency a license, approval, waiver, or exemption to launch a launch vehicle or operate a launch site or reentry site, or to reenter a reentry vehicle.

(b) FEDERAL COMMUNICATIONS COMMISSION AND SECRETARY OF COMMERCE.—This chapter does not affect the authority of—

(1) the Federal Communications Commission under the Communications Act of 1934 (47 U.S.C. 151 et seq.); or

(2) the Secretary of Commerce under chapter 601 of this title.

(c) STATES AND POLITICAL SUBDIVISIONS.—A State or political subdivision of a State—

(1) may not adopt or have in effect a law, regulation, standard, or order inconsistent with this chapter; but

(2) may adopt or have in effect a law, regulation, standard, or order consistent with this chapter that is in addition to or more stringent than a requirement of, or regulation prescribed under, this chapter.

(d) CONSULTATION.—The Secretary of Transportation is encouraged to consult with a State to simplify and expedite the approval of a space launch or reentry activity.

(e) FOREIGN COUNTRIES.—The Secretary of Transportation shall—

(1) carry out this chapter consistent with an obligation the United States Government assumes in a treaty, convention, or agreement in force between the Government and the government of a foreign country; and

(2) consider applicable laws and requirements of a foreign country when carrying out this chapter.

(f) LAUNCH NOT AN EXPORT; REENTRY NOT AN IMPORT.—A launch vehicle, reentry vehicle, or payload that is launched or reentered is not, because of the launch or reentry, an export or import, respectively, for purposes of a law controlling exports or imports, except that payloads launched pursuant to foreign trade zone procedures as provided for under the Foreign Trade Zones Act (19 U.S.C. 81a–81u) shall be considered exports with regard to customs entry.

(g) NONAPPLICATION.—

(1) IN GENERAL.—This chapter does not apply to—

(A) a launch, reentry, operation of a launch vehicle or reentry vehicle, operation of a launch site or reentry site, or other space activity the Government carries out for the Government; or

(B) planning or policies related to the launch, reentry, operation, or activity under subparagraph (A).

(2) RULE OF CONSTRUCTION.—The following activities are not space activities the Government carries out for the Government under paragraph (1):

(A) A government astronaut being carried within a launch vehicle or reentry vehicle under this chapter.

(B) A government astronaut performing activities directly relating to the launch, reentry, or other operation of the launch vehicle or reentry vehicle under this chapter.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1342, § 70117 of title 49; Pub. L. 104–287, § 5(95), Oct. 11, 1996, 110 Stat. 3398; Pub. L. 105–303, title I, § 102(a)(15), Oct. 28, 1998, 112 Stat. 2850; renumbered § 70117 then § 50919 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(S), (5)(T), Dec. 18, 2010, 124 Stat. 3440–3442; Pub. L. 114–90, title I, § 112(o), Nov. 25, 2015, 129 Stat. 713.)

HISTORICAL AND REVISION NOTES PUB. L. 103–272

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70117(a)	49 App.:2605(c)(1).	Oct. 30, 1984, Pub. L. 98–575, §§ 6(c), 21, 98 Stat. 3058, 3063.
70117(b)	49 App.:2605(c)(2).	
70117(c)	49 App.:2620(a) (1st, 2d sentences).	
70117(d)	49 App.:2620(a) (last sentence).	
70117(e)	49 App.:2620(d).	
70117(f)	49 App.:2620(b).	
70117(g)	49 App.:2620(c).	

In subsection (e)(1), the words "government of a foreign country" are substituted for "foreign nation" for consistency in the revised title and with other titles of the United States Code.

PUB. L. 104–287

This amends 49:70117(b)(2) by updating a cross-reference. Section 4 of the Land Remote Sensing Policy Act of 1992 (Public Law 102–555, 106 Stat. 4166) repealed the Land Remote-Sensing Commercialization Act of 1984 (15 U.S.C. 4201 et seq.). The substantive provisions of the Land Remote Sensing Policy Act of 1992, which replaced the Land Remote-Sensing Commercialization Act of 1984, were classified to the United States Code at 15 U.S.C. 5601 et seq.

REFERENCES IN TEXT

The Communications Act of 1934, referred to in subsec. (b)(1), is act June 19, 1934, ch. 652, 48 Stat. 1064, which is classified principally to section 151 et seq. of Title 47, Telecommunications. For complete classification of this Act to the Code, see section 609 of Title 47 and Tables.

The Foreign Trade Zones Act, referred to in subsec. (f), is act June 18, 1934, ch. 590, 48 Stat. 998, which is classified generally to chapter 1A (§ 81a et seq.) of Title 19, Customs Duties. For complete classification of this Act to the Code, see Tables.

AMENDMENTS

2015—Subsec. (g). Pub. L. 114–90 amended subsec. (g) generally. Prior to amendment, text read as follows: "This chapter does not apply to—

"(1) a launch, reentry, operation of a launch vehicle or reentry vehicle, operation of a launch site or reentry site, or other space activity the Government carries out for the Government; or

"(2) planning or policies related to the launch, reentry, operation, or activity."

2010—Pub. L. 111–314, § 4(d)(2), (3)(S), successively renumbered section 70117 of title 49 and section 70117 of this title as this section.

Subsec. (b)(2). Pub. L. 111–314, § 4(d)(5)(T), substituted "chapter 601 of this title" for "the Land Remote Sensing Policy Act of 1992 (15 U.S.C. 5601 et seq.)".

1998—Subsec. (a). Pub. L. 105–303, § 102(a)(15)(A), inserted "or reentry site, or to reenter a reentry vehicle" after "operate a launch site".

Subsec. (d). Pub. L. 105–303, § 102(a)(15)(B), inserted "or reentry" after "approval of a space launch".

Subsec. (f). Pub. L. 105–303, § 102(a)(15)(C), amended heading and text of subsec. (f) generally. Prior to amendment, text read as follows: "A launch vehicle or payload that is launched is not, because of the launch, an export for purposes of a law controlling exports."

Subsec. (g)(1). Pub. L. 105–303, § 102(a)(15)(D)(i), substituted "reentry, operation of a launch vehicle or reentry vehicle, operation of a launch site or reentry site," for "operation of a launch vehicle or launch site,".

Subsec. (g)(2). Pub. L. 105–303, § 102(a)(15)(D)(ii), inserted "reentry," after "launch,".

1996—Subsec. (b)(2). Pub. L. 104–287 substituted "Land Remote Sensing Policy Act of 1992 (15 U.S.C. 5601 et seq.)" for "Land Remote-Sensing Commercialization Act of 1984 (15 U.S.C. 4201 et seq.)".

§ 50920. User fees

The Secretary of Transportation may collect a user fee for a regulatory or other service conducted under this chapter only if specifically authorized by this chapter.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1342, § 70118 of title 49; renumbered § 70118 then § 50920 of title 51, Pub. L. 111–314, § 4(d)(2), (3)(T), Dec. 18, 2010, 124 Stat. 3440, 3441.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70118	49 App.:2623 (last sentence).	Oct. 30, 1984, Pub. L. 98–575, § 24, (last sentence), 98 Stat. 3064; Dec. 5, 1985, Pub. L. 99–170, § 301, 99 Stat. 1018; Oct. 30, 1987, Pub. L. 100–147, § 120, 101 Stat. 868; Nov. 17, 1988, Pub. L. 100–685, § 213, 102 Stat. 4093; Nov. 16, 1990, Pub. L. 101–611, § 117(a), 104 Stat. 3202; restated Dec. 9, 1991, Pub. L. 102–195, § 13, 105 Stat. 1613; Nov. 4, 1992, Pub. L. 102–588, § 211, 106 Stat. 5115.

AMENDMENTS

2010—Pub. L. 111–314 successively renumbered section 70118 of title 49 and section 70118 of this title as this section.

§ 50921. 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) $11,941,000 for fiscal year 2005;
(2) $12,299,000 for fiscal year 2006;
(3) $12,668,000 for fiscal year 2007;
(4) $13,048,000 for fiscal year 2008; and
(5) $13,440,000 for fiscal year 2009.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1343, § 70119 of title 49, Pub. L. 105–303, title I, § 102(b), Oct. 28, 1998, 112 Stat. 2851; Pub. L. 106–405, § 3(a), Nov. 1, 2000, 114 Stat. 1752; Pub. L. 108–360, title III, § 301, Oct. 25, 2004, 118 Stat. 1680; renumbered § 70119 then § 50921 of title 51, Pub. L. 111–314, § 4(d)(2), (3)(U), Dec. 18, 2010, 124 Stat. 3440, 3441.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70119	49 App.:2623 (less last sentence).	Oct. 30, 1984, Pub. L. 98–575, § 24, (less last sentence), 98 Stat. 3064; Dec. 5, 1985, Pub. L. 99–170, § 301, 99 Stat. 1018; Oct. 30, 1987, Pub. L. 100–147, § 120, 101 Stat. 868; Nov. 17, 1988, Pub. L. 100–685, § 213, 102 Stat. 4093; Nov. 16, 1990, Pub. L. 101–611, § 117(a), 104 Stat. 3202; restated Dec. 9, 1991, Pub. L. 102–195, § 13, 105 Stat. 1613; Nov. 4, 1992, Pub. L. 102–588, § 211, 106 Stat. 5115.

In this section, the amendment by section 211 of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1993 (Pub. L. 102–588, 106 Stat. 5115) was executed to carry out the probable intent of Congress by omitting the period after "1993".

As to the applicability of section 219 of the Act (Pub. L. 102–588, 106 Stat. 5118) to amounts authorized by this section for fiscal year 1993, see section 6(b) of the bill.

AMENDMENTS

2010—Pub. L. 111–314 successively renumbered section 70119 of title 49 and section 70119 of this title as this section.

2004—Pars. (1) to (5). Pub. L. 108–360 added pars. (1) to (5) and struck out former pars. (1) and (2) which read as follows:

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

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

2000—Pub. L. 106–405 amended section catchline and text generally. Prior to amendment, text read as follows: "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) $6,275,000 for the fiscal year ending September 30, 1999; and

"(2) $6,600,000 for the fiscal year ending September 30, 2000."

1998—Pub. L. 105– 303 reenacted section catchline without change and amended text generally. Prior to amendment, text read as follows: "The following amounts may be appropriated to the Secretary of Transportation for the fiscal year ending September 30, 1993:

"(1) $4,900,000 to carry out this chapter.

"(2) $20,000,000 for a program to ensure the resiliency of the space launch infrastructure of the United States if a law is enacted to establish that program in the Department of Transportation."

§ 50922. Regulations

(a) IN GENERAL.—The Secretary of Transportation, within 9 months after the date of the enactment of this section, shall issue regulations to carry out this chapter that include—

(1) guidelines for industry and State governments to obtain sufficient insurance coverage for potential damages to third parties;

(2) procedures for requesting and obtaining licenses to launch a commercial launch vehicle;

(3) procedures for requesting and obtaining operator licenses for launch;

(4) procedures for requesting and obtaining launch site operator licenses; and

(5) procedures for the application of government indemnification.

(b) REENTRY.—The Secretary of Transportation, within 6 months after the date of the enactment of this section, shall issue a notice of proposed rulemaking to carry out this chapter that includes—

(1) procedures for requesting and obtaining licenses to reenter a reentry vehicle;

(2) procedures for requesting and obtaining operator licenses for reentry; and

(3) procedures for requesting and obtaining reentry site operator licenses.

(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 50902 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 (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.

(Added Pub. L. 105–303, title I, § 102(a)(16), Oct. 28, 1998, 112 Stat. 2850, § 70120 of title 49; amended Pub. L. 108–492, § 2(c)(25), Dec. 23, 2004, 118 Stat. 3981; renumbered § 70120 then § 50922 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (3)(V), (5)(U), Dec. 18, 2010, 124 Stat. 3440–3442.)

REFERENCES IN TEXT

The date of the enactment of this section, referred to in subsecs. (a) and (b), is the date of enactment of Pub. L. 105–303, which was approved Oct. 28, 1998.

The Commercial Space Launch Amendments Act of 2004, referred to in subsecs. (c) and (d), is Pub. L. 108–492, Dec. 23, 2004, 118 Stat. 3974, which was approved Dec. 23, 2004. For complete classification of this Act to the Code, see Short Title of 2004 Act note set out under section 10101 of this title and Tables.

AMENDMENTS

2010—Pub. L. 111–314, § 4(d)(2), (3)(V), successively renumbered section 70120 of title 49 and section 70120 of this title as this section.

Subsec. (c)(2)(B). Pub. L. 111–314, § 4(d)(5)(U), substituted "section 50902" for "section 70102".

2004—Subsecs. (c), (d). Pub. L. 108–492 added subsecs. (c) and (d).

§ 50923. Report to Congress

The Secretary of Transportation shall submit to Congress an annual report to accompany the President's budget request that—

(1) describes all activities undertaken under this chapter, including a description of the process for the application for and approval of licenses under this chapter and recommendations for legislation that may further commercial launches and reentries; and

(2) reviews the performance of the regulatory activities and the effectiveness of the Office of Commercial Space Transportation.

(Added Pub. L. 105–303, title I, § 102(a)(16), Oct. 28, 1998, 112 Stat. 2851, § 70121 of title 49; renumbered § 70121 then § 50923 of title 51, Pub. L. 111–314, § 4(d)(2), (3)(W), Dec. 18, 2010, 124 Stat. 3440, 3441.)

AMENDMENTS

2010—Pub. L. 111–314 successively renumbered section 70121 of title 49 and section 70121 of this title as this section.

CHAPTER 511—SPACE TRANSPORTATION INFRASTRUCTURE MATCHING GRANTS

Sec.
51101. Definitions.
51102. Grant authority.
51103. Grant applications.
51104. Environmental requirements.
51105. Authorization of appropriations.

AMENDMENTS

2010—Pub. L. 111–314, 4(d)(2), (4), Dec. 18, 2010, 124 Stat. 3440, 3441, transferred analysis for chapter 703 of Title 49, Transportation, and renumbered as analysis for chapter 511 of this title and renumbered items 70301 to 70305 as 51101 to 51105, respectively.

§ 51101. Definitions

In this chapter—

(1) the definitions in section 50501 of this title apply.

(2) "commercial space transportation infrastructure development" includes—

(A) construction, improvement, design, and engineering of space transportation infrastructure in the United States; and

(B) technical studies to define how new or enhanced space transportation infrastructure can best meet the needs of the United States commercial space transportation industry.

(3) "project" means a project (or separate projects submitted together) to carry out commercial space transportation infra-

structure development, including the combined submission of all projects to be undertaken at a particular site in a fiscal year.

(4) "project grant" means a grant of an amount by the Secretary of Transportation to a sponsor for one or more projects.

(5) "public agency" means a State or an agency of a State, a political subdivision of a State, or a tax-supported organization.

(6) "sponsor" means a public agency that, individually or jointly with one or more other public agencies, submits to the Secretary under this chapter an application for a project grant.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1343, § 70301 of title 49; renumbered § 70301 then § 51101 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (4)(A), (6)(A), Dec. 18, 2010, 124 Stat. 3440–3442.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70301	15:5804(a).	Nov. 4, 1992, Pub. L., 102–588, § 505(a), 106 Stat. 5124.

Clause (1) is added to incorporate the definitions in 15:5802.

In clause (2), the word "includes" is substituted for "may include" for consistency in the revised title and with other titles of the United States Code.

In clause (5), the words "municipality or other" are omitted for consistency.

The text of 15:5804(5) is omitted as unnecessary because the complete name of the Secretary of Transportation is used the first time the term appears in a section.

AMENDMENTS

2010—Pub. L. 111–314, § 4(d)(2), (4)(A), successively renumbered section 70301 of title 49 and section 70301 of this title as this section.

Par. (1). Pub. L. 111–314, § 4(d)(6)(A), substituted "section 50501 of this title" for "section 502 of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1993 (15 U.S.C. 5802)".

§ 51102. Grant authority

(a) GENERAL AUTHORITY.—To ensure the resiliency of the space transportation infrastructure of the United States, the Secretary of Transportation may make project grants to sponsors as provided in this chapter.

(b) LIMITATIONS.—The Secretary may make a project grant under this chapter only if—

(1) at least 10 percent of the total cost of the project will be paid by the private sector; and

(2) the grant will not be for more than 50 percent of the total cost of the project.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1343, § 70302 of title 49; renumbered § 70302 then § 51102 of title 51, Pub. L. 111–314, § 4(d)(2), (4)(B), Dec. 18, 2010, 124 Stat. 3440, 3441.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70302(a)	15:5804(b) (1st sentence).	Nov. 4, 1992, Pub. L., 102–588, § 505(b) (1st sentence), (f), 106 Stat. 5125, 5127.
70302(b)	15:5804(f).	

In subsection (a), the words "of the United States" are substituted for "Nation's" for consistency.

AMENDMENTS

2010—Pub. L. 111-314 successively renumbered section 70302 of title 49 and section 70302 of this title as this section.

§ 51103. Grant applications

(a) GENERAL.—A sponsor may submit to the Secretary of Transportation an application for a project grant. The application must state the project to be undertaken and be in the form and contain the information the Secretary requires.

(b) CONSIDERATIONS AND CONSULTATION.—

(1) In selecting proposed projects for grants under this section, the Secretary of Transportation shall consider—

(A) the contribution of the project to industry capabilities that serve the United States Government's space transportation needs;

(B) the extent of industry's financial contribution to the project;

(C) the extent of industry's participation in the project;

(D) the positive impact of the project on the international competitiveness of the United States space transportation industry;

(E) the extent of State contributions to the project; and

(F) the impact of the project on launch operations and other activities at Government launch ranges.

(2) The Secretary of Transportation shall consult with the Secretary of Defense, the Administrator of the National Space and Aeronautics Administration, and the heads of other appropriate agencies of the Government about paragraph (1)(A) and (F) of this subsection.

(c) REQUIREMENTS.—The Secretary of Transportation may approve an application only if the Secretary is satisfied that—

(1) the project will contribute to the purposes of this chapter;

(2) the project is reasonably consistent with plans (existing at the time of approval of the project) of public agencies that are—

(A) authorized by the State in which the project is located; and

(B) responsible for the development of the area surrounding the project site;

(3) if the application proposes to use Government property, the specific consent of the head of the appropriate agency has been obtained;

(4) the project will be completed without unreasonable delay;

(5) the sponsor submitting the application has the legal authority to engage in the project; and

(6) any additional requirements prescribed by the Secretary have been met.

(d) PREFERENCE FOR INDUSTRY CONTRIBUTIONS.—The Secretary of Transportation shall give preference to applications for projects for which there will be greater industry financial contributions, all other factors being equal.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1344, § 70303 of title 49; renumbered § 70303 then § 51103 of title 51, Pub. L. 111–314, § 4(d)(2), (4)(C), Dec. 18, 2010, 124 Stat. 3440, 3441.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70303(a)	15:5804(d)(1).	Nov. 4, 1992, Pub. L. 102–588, § 505(c), (d), 106 Stat. 5125.
70303(b)(1)	15:5804(c)(1).	
70303(b)(2)	15:5804(c)(2).	
70303(c)	15:5804(d)(2).	
70303(d)	15:5804(c)(3).	

In subsection (a), the words "for one or more projects" are omitted as unnecessary because of the definition of "project" in section 70301 of the revised title.

In subsection (c)(5), the words "as proposed" are omitted as surplus.

AMENDMENTS

2010—Pub. L. 111–314 successively renumbered section 70303 of title 49 and section 70303 of this title as this section.

§ 51104. Environmental requirements

(a) POLICY.—It is the policy of the United States that projects selected under this chapter shall provide for the protection and enhancement of the natural resources and the quality of the environment of the United States. In carrying out this policy, the Secretary of Transportation shall consult with the Secretary of the Interior and the Administrator of the Environmental Protection Agency about a project that may have a significant effect on natural resources, including fish and wildlife, natural, scenic, and recreational assets, water and air quality, and other factors affecting the environment. If the Secretary of Transportation finds that a project will have a significant adverse effect, the Secretary may approve the application for the project only if, after a complete review that is a matter of public record, the Secretary makes a written finding that no feasible and prudent alternative to the project exists and that all reasonable steps have been taken to minimize the adverse effect.

(b) PUBLIC HEARING REQUIREMENT.—The Secretary of Transportation may approve an application only if the sponsor of the project certifies to the Secretary that an opportunity for a public hearing has been provided to consider the economic, social, and environmental effects of the project and its consistency with the goals of any planning carried out by the community. When a hearing is

held under this paragraph, the sponsor shall submit a copy of the transcript of the hearing to the Secretary.

(c) COMPLIANCE WITH AIR AND WATER QUALITY STANDARDS.—

(1) The Secretary of Transportation may approve an application only if the chief executive officer of the State in which the project is located certifies in writing to the Secretary that there is reasonable assurance that the project will be located, designed, constructed, and operated to comply with applicable air and water quality standards. If the Administrator has not prescribed those standards, certification shall be obtained from the Administrator. Notice of certification or refusal to certify shall be provided not later than 60 days after the Secretary receives the application.

(2) The Secretary of Transportation shall condition the approval of an application on compliance with applicable air and water quality standards during construction and operation.

(d) COMPLIANCE WITH LAWS AND REGULATIONS.—The Secretary of Transportation may require a certification from a sponsor that the sponsor will comply with all applicable laws and regulations. The Secretary may rescind at any time acceptance of a certification from a sponsor under this subsection. This subsection does not affect any responsibility of the Secretary under another law, including—

(1) section 303 of title 49;

(2) title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.);

(3) title VIII of the Act of April 11, 1968 (42 U.S.C. 3601 et seq.);

(4) the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.); and

(5) the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. 4601 et seq.).

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1344, § 70304 of title 49; renumbered § 70304 then § 51104 of title 51 and amended Pub. L. 111–314, § 4(d)(2), (4)(D), (6)(B), Dec. 18, 2010, 124 Stat. 3440, 3441, 3443.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70304	15:5804(e).	Nov. 4, 1992, Pub. L. 102–588, § 505(e), 106 Stat. 5126.

In subsection (a), the words "policy of the United States" are substituted for "national policy", and the words "of the United States" are substituted for "of the Nation", for consistency. The words "included in a project grant application" and "full and" are omitted as surplus.

In subsection (b), the words "of objectives" are omitted as surplus.

In subsection (c), the words "chief executive officer" are substituted for "Governor" for consistency in the revised title and because the word "State" includes the territories and possessions of the United States.

In subsection (d), before clause (1), the words "in connection with any project", "imposed on such sponsor under this section in connection with such project", and "or discharge" are omitted as surplus. The words "laws and regulations" are substituted for "statutory and administrative requirements" for consistency in the revised title.

REFERENCES IN TEXT

The Civil Rights Act of 1964, referred to in subsec. (d)(2), is Pub. L. 88–352, July 2, 1964, 78 Stat. 241. Title VI of the Act is classified to subchapter V (§ 2000d et seq.) of chapter 21 of Title 42, The Public Health and Welfare. For complete classification of this Act to the Code, see Short Title note set out under section 2000a of Title 42 and Tables.

Title VIII of the Act of April 11, 1968, referred to in subsec. (d)(3), is title VIII of Pub. L. 90–284, Apr. 11, 1968, 82 Stat. 81, known as the Fair Housing Act, which is classified principally to subchapter I (§ 3601 et seq.) of chapter 45 of Title 42, The Public Health and Welfare. For complete classification of this Act to the Code, see Short Title note set out under section 3601 of Title 42 and Tables.

The National Environmental Policy Act of 1969, referred to in subsec. (d)(4), is Pub. L. 91–190, Jan. 1, 1970, 83 Stat. 852, which is classified generally to chapter 55 (§ 4321 et seq.) of Title 42, The Public Health and Welfare. For complete classification of this Act to the Code, see Short Title note set out under section 4321 of Title 42 and Tables.

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, referred to in subsec. (d)(5), is Pub. L. 91–646, Jan. 2, 1971, 84 Stat. 1894, which is classified principally to chapter 61 (§ 4601 et seq.) of Title 42, The Public Health and Welfare. For complete classification of this Act to the Code, see Short Title note set out under section 4601 of Title 42 and Tables.

AMENDMENTS

2010—Pub. L. 111–314, § 4(d)(2), (4)(D), successively renumbered section 70304 of title 49 and section 70304 of this title as this section.

Subsec. (d)(1). Pub. L. 111–314, § 4(d)(6)(B), substituted "section 303 of title 49" for "section 303 of this title".

§ 51105. Authorization of appropriations

Not more than $10,000,000 may be appropriated to the Secretary of Transportation to make grants under this chapter. Amounts appropriated under this section remain available until expended.

(Pub. L. 103–272, § 1(e), July 5, 1994, 108 Stat. 1345, § 70305 of title 49; renumbered § 70305 then § 51105 of title 51, Pub. L. 111–314, § 4(d)(2), (4)(E), Dec. 18, 2010, 124 Stat. 3440, 3441.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70305	15:5804(b) (2d, last sentences).	Nov. 4, 1992, Pub. L. 102–588, § 505(b) (2d, last sentences), 106 Stat. 5125.

AMENDMENTS

2010—Pub. L. 111–314 successively renumbered section 70305 of title 49 and section 70305 of this title as this section.

CHAPTER 513—SPACE RESOURCE COMMERCIAL EXPLORATION AND UTILIZATION

Sec.
51301. Definitions.
51302. Commercial exploration and commercial recovery.
51303. Asteroid resource and space resource rights.

AMENDMENTS

2015—Pub. L. 114–90, title IV, § 402(a), Nov. 25, 2015, 129 Stat. 720, added chapter 513 and items 51301 to 51303.

§ 51301. Definitions

In this chapter:

(1) ASTEROID RESOURCE.—The term "asteroid resource" means a space resource found on or within a single asteroid.

(2) SPACE RESOURCE.—

(A) IN GENERAL.—The term "space resource" means an abiotic resource in situ in outer space.

(B) INCLUSIONS.—The term "space resource" includes water and minerals.

(3) UNITED STATES CITIZEN.—The term "United States citizen" has the meaning given the term "citizen of the United States" in section 50902.

(Added Pub. L. 114–90, title IV, § 402(a), Nov. 25, 2015, 129 Stat. 721.)

§ 51302. Commercial exploration and commercial recovery

(a) IN GENERAL.—The President, acting through appropriate Federal agencies, shall—

(1) facilitate commercial exploration for and commercial recovery of space resources by United States citizens;

(2) discourage government barriers to the development in the United States of economically viable, safe, and stable industries for commercial exploration for and commercial recovery of space resources in manners consistent with the international obligations of the United States; and

(3) promote the right of United States citizens to engage in commercial exploration for and commercial recovery of space resources free from harmful interference, in accordance with the international obligations of the United States and subject to authorization and continuing supervision by the Federal Government.

(b) REPORT.—Not later than 180 days after the date of enactment of this section, the President shall submit to Congress a report on

commercial exploration for and commercial recovery of space resources by United States citizens that specifies—

(1) the authorities necessary to meet the international obligations of the United States, including authorization and continuing supervision by the Federal Government; and

(2) recommendations for the allocation of responsibilities among Federal agencies for the activities described in paragraph (1).

(Added Pub. L. 114–90, title IV, § 402(a), Nov. 25, 2015, 129 Stat. 721.)

REFERENCES IN TEXT

The date of enactment of this section, referred to in subsec. (b), is the date of enactment of Pub. L. 114–90, which was approved Nov. 25, 2015.

§ 51303. Asteroid resource and space resource rights

A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States.

(Added Pub. L. 114–90, title IV, § 402(a), Nov. 25, 2015, 129 Stat. 721.)

CHAPTER 515—OFFICE OF SPACEPORTS

Sec.
51501. Establishment of Office of Spaceports.

AMENDMENTS

2018—Pub. L. 115–254, div. B, title V, § 580(b)(1), Oct. 5, 2018, 132 Stat. 3395, added chapter 515 and item 51501.

§ 51501. Establishment of Office of Spaceports

(a) ESTABLISHMENT OF OFFICE.—Not later than 90 days after the date of enactment of this section, the Secretary of Transportation shall identify, within the Office of Commercial Space Transportation, a centralized policy office to be known as the Office of Spaceports.

(b) FUNCTIONS.—The Office of Spaceports shall—

(1) support licensing activities for operation of launch and reentry sites;

(2) develop policies that promote infrastructure improvements at spaceports;

(3) provide technical assistance and guidance to spaceports;

(4) promote United States spaceports within the Department; and

(5) strengthen the Nation's competitiveness in commercial space transportation infrastructure and increase resilience for the Federal Government and commercial customers.

(c) RECOGNITION.—In carrying out the functions assigned in subsection (b), the Secretary shall recognize the unique needs and distinctions of spaceports that host—

(1) launches to or reentries from orbit; and

(2) are involved in suborbital launch activities.

(d) DIRECTOR.—The head of the Office of the Associate Administrator for Commercial Space Transportation shall designate a Director of the Office of Spaceports.

(e) DEFINITION.—In this section the term "spaceport" means a launch or reentry site that is operated by an entity licensed by the Secretary of Transportation.

(Added Pub. L. 115–254, div. B, title V, § 580(b)(1), Oct. 5, 2018, 132 Stat. 3395.)

REFERENCES IN TEXT

The date of enactment of this section, referred to in subsec. (a), is the date of enactment of Pub. L. 115–254, which was approved Oct. 5, 2018.

SUBTITLE VI—EARTH OBSERVATIONS

CHAPTER 601—LAND REMOTE SENSING POLICY

Subchapter I—General

Sec.
60101. Definitions.

Subchapter II—Landsat

60111. Landsat Program Management.
60112. Transfer of Landsat 6 program responsibilities.
60113. Data policy for Landsat 7.

Subchapter III—Licensing of Private Remote Sensing Space Systems

60121. General licensing authority.
60122. Conditions for operation.
60123. Administrative authority of Secretary.
60124. Regulatory authority of Secretary.
60125. Agency activities.
60126. Annual reports.

Subchapter IV—Research, Development, and Demonstration

60131. Continued Federal research and development.
60132. Availability of federally gathered unenhanced data.
60133. Technology demonstration program.
60134. Preference for private sector land remote sensing system.

Subchapter V—General Provisions

60141. Nondiscriminatory data availability.
60142. Archiving of data.
60143. Nonreproduction.
60144. Reimbursement for assistance.
60145. Acquisition of equipment.
60146. Radio frequency allocation.
60147. Consultation.
60148. Enforcement.

Subchapter VI—Prohibition of Commercialization of Weather Satellites

60161. Prohibition.
60162. Future considerations.

AMENDMENTS

2015—Pub. L. 114–90, title II, § 201(b), Nov. 25, 2015, 129 Stat. 719, added item 60126.

SUBCHAPTER I—GENERAL

§ 60101. Definitions

In this chapter:

(1) COST OF FULFILLING USER REQUESTS.—The term "cost of fulfilling user requests" means the incremental costs associated with providing product generation, reproduction, and distribution of unenhanced data in response to user requests and shall

not include any acquisition, amortization, or depreciation of capital assets originally paid for by the United States Government or other costs not specifically attributable to fulfilling user requests.

(2) DATA CONTINUITY.—The term "data continuity" means the continued acquisition and availability of unenhanced data which are, from the point of view of the user—

(A) sufficiently consistent (in terms of acquisition geometry, coverage characteristics, and spectral characteristics) with previous Landsat data to allow comparisons for global and regional change detection and characterization; and

(B) compatible with such data and with methods used to receive and process such data.

(3) DATA PREPROCESSING.—The term "data preprocessing"—

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(A) may include—

(i) rectification of system and sensor distortions in land remote sensing data as it is received directly from the satellite in preparation for delivery to a user;

(ii) registration of such data with respect to features of the Earth; and

(iii) calibration of spectral response with respect to such data; but

(B) does not include conclusions, manipulations, or calculations derived from such data, or a combination of such data with other data.

(4) LAND REMOTE SENSING.—The term "land remote sensing" means the collection of data which can be processed into imagery of surface features of the Earth from an unclassified satellite or satellites, other than an operational United States Government weather satellite.

(5) LANDSAT PROGRAM MANAGEMENT.—The term "Landsat Program Management" means the integrated program management structure—

(A) established by, and responsible to, the Administrator and the Secretary of Defense pursuant to section 60111(a) of this title; and

(B) consisting of appropriate officers and employees of the Administration, the Department of Defense, and any other United States Government agencies the President designates as responsible for the Landsat program.

(6) LANDSAT SYSTEM.—The term "Landsat system" means Landsats 1, 2, 3, 4, 5, and 6, and any follow-on land remote sensing system operated and owned by the United States Government, along with any related ground equipment, systems, and facilities owned by the United States Government.

(7) LANDSAT 6 CONTRACTOR.—The term "Landsat 6 contractor" means the private sector entity which was awarded the contract for spacecraft construction, operations, and data marketing rights for the Landsat 6 spacecraft.

(8) LANDSAT 7.—The term "Landsat 7" means the follow-on satellite to Landsat 6.

(9) NATIONAL SATELLITE LAND REMOTE SENSING DATA ARCHIVE.—The term "National Satellite Land Remote Sensing

Data Archive" means the archive established by the Secretary of the Interior pursuant to the archival responsibilities defined in section 60142 of this title.

(10) NONCOMMERCIAL PURPOSES.—The term "noncommercial purposes" means activities undertaken by individuals or entities on the condition, upon receipt of unenhanced data, that—

(A) such data shall not be used in connection with any bid for a commercial contract, development of a commercial product, or any other non-United States Government activity that is expected, or has the potential, to be profit-making;

(B) the results of such activities are disclosed in a timely and complete fashion in the open technical literature or other method of public release, except when such disclosure by the United States Government or its contractors would adversely affect the national security or foreign policy of the United States or violate a provision of law or regulation; and

(C) such data shall not be distributed in competition with unenhanced data provided by the Landsat 6 contractor.

(11) SECRETARY.—The term "Secretary" means the Secretary of Commerce.

(12) UNENHANCED DATA.—The term "unenhanced data" means land remote sensing signals or imagery products that are unprocessed or subject only to data preprocessing.

(13) UNITED STATES GOVERNMENT AND ITS AFFILIATED USERS.—The term "United States Government and its affiliated users" means—

(A) United States Government agencies;

(B) researchers involved with the United States Global Change Research Program and its international counterpart programs; and

(C) other researchers and international entities that have signed with the United States Government a cooperative agreement involving the use of Landsat data for noncommercial purposes.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3409.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60101	15 U.S.C. 5602.	Pub. L. 102–555, § 3, Oct. 28, 1992, 106 Stat. 4164.

The definition of "Administrator" in section 3 of the Land Remote Sensing Policy Act of 1992 (Public Law 102–555, 106 Stat. 4164) is omitted as unnecessary because of the definition added by section 10101 of title 51.

FINDINGS

Pub. L. 102–555, § 2, Oct. 28, 1992, 106 Stat. 4163, provided that: "The Congress finds and declares the following:

"(1) The continuous collection and utilization of land remote sensing data from space are of major benefit in studying and understanding human impacts on the global environment, in managing the Earth's natural resources, in carrying out national security functions, and in planning and conducting many other activities of scientific, economic, and social importance.

"(2) The Federal Government's Landsat system established the United States as the world leader in land remote sensing technology.

"(3) The national interest of the United States lies in maintaining international leadership in satellite land remote sensing and in broadly promoting the beneficial use of remote sensing data.

"(4) The cost of Landsat data has impeded the use of such data for scientific purposes, such as for global environmental change research, as well as for other public sector applications.

"(5) Given the importance of the Landsat program to the United States, urgent actions, including expedited procurement procedures, are required to ensure data continuity.

"(6) Full commercialization of the Landsat program cannot be achieved within the foreseeable future, and thus should not serve as the near-term goal of national policy on land remote sensing; however, commercialization of land remote sensing should remain a long-term goal of United States policy.

"(7) Despite the success and importance of the Landsat system, funding and organizational uncertainties over the past several years have placed its future in doubt and have jeopardized United States leadership in land remote sensing.

"(8) Recognizing the importance of the Landsat program in helping to meet national and commercial objectives, the President approved, on February 11, 1992, a National Space Policy Directive which was developed by the National Space Council and commits the United States to ensuring the continuity of Landsat coverage into the 21st century.

"(9) Because Landsat data are particularly important for national security purposes and global environmental change research, management responsibilities for the program should be transferred from the Department of Commerce to an integrated program management involving the Department of Defense and the National Aeronautics and Space Administration.

"(10) Regardless of management responsibilities for the Landsat program, the Nation's broad civilian, national security, commercial, and foreign policy interests in remote sensing will best be served by ensuring that Landsat remains an unclassified program that operates according to the principles of open skies and nondiscriminatory access.

"(11) Technological advances aimed at reducing the size and weight of satellite systems hold the potential for dramatic reductions in the cost, and substantial improvements in the capabilities, of future land remote sensing systems, but such technological advances have not been demonstrated for land remote sensing and therefore cannot be relied upon as the sole means of achieving data continuity for the Landsat program.

"(12) A technology demonstration program involving advanced remote sensing technologies could serve a vital role in determining the design of a follow-on spacecraft to Landsat 7, while also helping to determine whether such a spacecraft should be funded by the United States Government, by the private sector, or by an international consortium.

"(13) To maximize the value of the Landsat program to the American public, unenhanced Landsat 4 through 6 data should be made available, at a minimum, to United States Government agencies, to global environmental change researchers, and to other researchers who are financially supported by the United States Government, at the cost of fulfilling user requests, and unenhanced Landsat 7 data should be made available to all users at the cost of fulfilling user requests.

"(14) To stimulate development of the commercial market for unenhanced data and value-added services, the United States Government should adopt a data policy for Landsat 7 which allows competition within the private sector for distribution of unenhanced data and value-added services.

"(15) Development of the remote sensing market and the provision of commercial value-added services based on remote sensing data should remain exclusively the function of the private sector.

"(16) It is in the best interest of the United States to maintain a permanent, comprehensive Government archive of global Landsat and other land remote sensing data for long-term monitoring and study of the changing global environment."

[For definition of terms used in section 2 of Pub. L. 102–555, set out above, see section 3 of Pub. L. 102–555, Oct. 28, 1992, 106 Stat. 4164, which was classified to former section 5602 of Title 15, Commerce and Trade, and was repealed and reenacted as this section by Pub. L. 111–314, §§ 3, 6, Dec. 18, 2010, 124 Stat. 3328, 3444.]

SUBCHAPTER II—LANDSAT

§ 60111. Landsat Program Management

(a) ESTABLISHMENT.—The Administrator and the Secretary of Defense shall be responsible for management of the Landsat program. Such responsibility shall be carried out by establishing an integrated program management structure for the Landsat system.

(b) MANAGEMENT PLAN.—The Administrator, the Secretary of Defense, and any other United States Government official the President designates as responsible for part of the Landsat program shall establish, through a management plan, the roles, responsibilities, and funding expectations for the Landsat program of the appropriate United States Government agencies. The management plan shall—

(1) specify that the fundamental goal of the Landsat Program Management is the continuity of unenhanced Landsat data through the acquisition and operation of a Landsat 7 satellite as quickly as practicable which is, at a minimum, functionally equivalent to the Landsat 6 satellite, with the addition of a tracking and data relay satellite communications capability;

(2) include a baseline funding profile that—

(A) is mutually acceptable to the Administration and the Department of Defense for the period covering the development and operation of Landsat 7; and

(B) provides for total funding responsibility of the Administration and the Department of Defense, respectively, to be approximately equal to the funding responsibility of the other as spread across the development and operational life of Landsat 7;

(3) specify that any improvements over the Landsat 6 functional equivalent capability for Landsat 7 will be funded by a specific sponsoring agency or agencies, in a manner agreed to by the Landsat Program Management, if the required funding exceeds the baseline funding profile required by paragraph (2), and that additional improvements will be sought only if the improvements will not jeopardize data continuity; and

(4) provide for a technology demonstration program whose objective shall be the demonstration of advanced land remote sensing technologies that may potentially yield a system which is less expensive to build and operate, and more responsive to data users, than is the current Landsat system.

(c) RESPONSIBILITIES.—The Landsat Program Management shall be responsible for—

(1) Landsat 7 procurement, launch, and operations;

(2) ensuring that the operation of the Landsat system is responsive to the broad interests of the civilian, national security, commercial, and foreign users of the Landsat system;

(3) ensuring that all unenhanced Landsat data remain unclassified and that, except as provided in subsections (a) and (b) of section 60146 of this title, no restrictions are placed on the availability of unenhanced data;

(4) ensuring that land remote sensing data of high priority locations will be acquired by the Landsat 7 system as required to meet the needs of the United States Global Change Research Program, as established in the Global Change Research Act of 1990 (15 U.S.C. 2921 et seq.), and to meet the needs of national security users;

(5) Landsat data responsibilities pursuant to this chapter;

(6) oversight of Landsat contracts entered into under sections 102 and 103 of the Land Remote Sensing Policy Act of 1992 (Public Law 102–555, 106 Stat. 4168);

(7) coordination of a technology demonstration program pursuant to section 60133 of this title; and

(8) ensuring that copies of data acquired by the Landsat system are provided to the National Satellite Land Remote Sensing Data Archive.

(d) AUTHORITY TO CONTRACT.—The Landsat Program Management may, subject to appropriations and only under the existing contract authority of the United States Government agencies that compose the Landsat Program Management, enter into contracts with the private sector for services such as satellite operations and data preprocessing.

(e) LANDSAT ADVISORY PROCESS.—

(1) ADVICE AND COMMENTS.—The Landsat Program Management shall seek impartial advice and comments regarding the status, effectiveness, and operation of the Landsat system, using existing advisory committees and other appropriate mechanisms. Such advice shall be sought from individuals who represent—

(A) a broad range of perspectives on basic and applied science and operational needs with respect to land remote sensing data;

(B) the full spectrum of users of Landsat data, including representatives from United States Government agencies, State and local government agencies, academic institutions, nonprofit organizations, value-added companies, the agricultural, mineral extraction, and other user industries, and the public; and

(C) a broad diversity of age groups, sexes, and races.

(2) REPORTS.—The Landsat Program Management shall prepare and submit biennially a report to Congress which—

(A) reports the public comments received pursuant to paragraph (1); and

(B) includes—

(i) a response to the public comments received pursuant to paragraph (1);

(ii) information on the volume of use, by category, of data from the Landsat system; and

(iii) any recommendations for policy or programmatic changes to improve the utility and operation of the Landsat system.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3411.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60111	15 U.S.C. 5611.	Pub. L. 102–555, title I, § 101, Oct. 28, 1992, 106 Stat. 4166

In subsection (b), in the matter before paragraph (1), after the words "funding expectations for the Landsat", the word "program" is set out without being capitalized to correct an error in the law.

In subsection (c)(6), the words "sections 102 and 103 of the Land Remote Sensing Policy Act of 1992 (Public Law 102–555, 106 Stat. 4168)" are substituted for "sections 102 and 103" to clarify the reference. The reference to sections 102 and 103 of the Land Remote Sensing Policy Act of 1992 is retained in text, notwithstanding the fact that sections 102 and 103 of the Act are repealed as obsolete, because oversight responsibilities may continue for contracts entered into under the now obsolete provisions.

In subsection (e)(2), in the matter before subparagraph (A), the word "biennially" is substituted for "Within 1 year after the date of the enactment of this Act and biennially thereafter," to eliminate obsolete language.

REFERENCES IN TEXT

The Global Change Research Act of 1990, referred to in subsec. (c)(4), is Pub. L. 101–606, Nov. 16, 1990, 104 Stat. 3096, which is classified generally to chapter 56A (§ 2921 et seq.) of Title 15, Commerce and Trade. For complete classification of this Act to the Code, see Short Title note set out under section 2921 of Title 15 and Tables.

Sections 102 and 103 of the Land Remote Sensing Policy Act of 1992, referred to in subsec. (c)(6), which were classified to sections 5612 and 5613, respectively, of Title 15, Commerce and Trade, were repealed by Pub. L. 111–314, § 6, Dec. 18, 2010, 124 Stat. 3444, which Act enacted this title.

DEVELOPMENT, PROCUREMENT, AND SUPPORT

Pub. L. 102–484, div. A, title II, § 243, Oct. 23, 1992, 106 Stat. 2360, as amended by Pub. L. 103–35, title II, § 202(a)(3), May 31, 1993, 107 Stat. 101, provided that: "The Secretary of Defense is authorized to contract for the development and procurement of, and support for operations of, the Landsat vehicle designated as Landsat 7." Similar provisions were contained in the following prior appropriation act:

Pub. L. 102–396, title IX, § 9082A, Oct. 6, 1992, 106 Stat. 1920.

§ 60112. Transfer of Landsat 6 program responsibilities

The responsibilities of the Secretary with respect to Landsat 6 shall be transferred to the Landsat Program Management, as agreed to between the Secretary and the Landsat Program Management, pursuant to section 60111 of this title.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3413.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60112	15 U.S.C. 5614.	Pub. L. 102–555, title I, § 104, Oct. 28, 1992, 106 Stat. 4170.

§ 60113. Data policy for Landsat 7

(a) LANDSAT 7 DATA POLICY.—The Landsat Program Management, in consultation with other appropriate United States Government agencies, shall develop a data policy for Landsat 7 which should—

(1) ensure that unenhanced data are available to all users at the cost of fulfilling user requests;

(2) ensure timely and dependable delivery of unenhanced data to the full spectrum of civilian, national security, commercial, and foreign users and the National Satellite Land Remote Sensing Data Archive;

(3) ensure that the United States retains ownership of all unenhanced data generated by Landsat 7;

(4) support the development of the commercial market for remote sensing data;

(5) ensure that the provision of commercial value-added services based on remote sensing data remains exclusively the function of the private sector; and

(6) to the extent possible, ensure that the data distribution system for Landsat 7 is compatible with the Earth Observing System Data and Information System.

(b) ADDITIONAL DATA POLICY CONSIDERATIONS.—In addition, the data policy for Landsat 7 may provide for—

(1) United States private sector entities to operate ground receiving stations in the United States for Landsat 7 data;

(2) other means for direct access by private sector entities to unenhanced data from Landsat 7; and

(3) the United States Government to charge a per image fee, license fee, or other such fee to entities operating ground receiving stations or distributing Landsat 7 data.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3413.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60113	15 U.S.C. 5615(a), (b).	Pub. L. 102–555, title I, § 105(a), (b), Oct. 28, 1992, 106 Stat. 4170.

Subchapter III—Licensing of Private Remote Sensing Space Systems

§ 60121. General licensing authority

(a) LICENSING AUTHORITY OF SECRETARY.—

(1) IN GENERAL.—In consultation with other appropriate United States Government agencies, the Secretary is authorized to license private sector parties to operate private remote sensing space systems for such period as the Secretary may specify and in accordance with the provisions of this subchapter.

(2) LIMITATION WITH RESPECT TO SYSTEM USED FOR OTHER PURPOSES.—In the case of a private space system that is used for remote sensing and other purposes, the authority of the Secretary under this subchapter shall be limited only to the remote sensing operations of such space system.

(b) COMPLIANCE WITH LAW, REGULATIONS, INTERNATIONAL OBLIGATIONS, AND NATIONAL SECURITY.—

(1) IN GENERAL.—No license shall be granted by the Secretary unless the Secretary determines in writing that the applicant will comply with the requirements of this chapter, any regulations issued pursuant to this chapter, and any applicable international obligations and national security concerns of the United States.

(2) LIST OF REQUIREMENTS FOR COMPLETE APPLICATION.—The Secretary shall publish in the Federal Register a complete and specific list of all information required to comprise a complete application for a license under this subchapter. An application shall be considered complete when the applicant has provided all information required by the list most recently published in the Federal Register before the date the application was first

submitted. Unless the Secretary has, within 30 days after receipt of an application, notified the applicant of information necessary to complete an application, the Secretary may not deny the application on the basis of the absence of any such information.

(c) DEADLINE FOR ACTION ON APPLICATION.—The Secretary shall review any application and make a determination thereon within 120 days of the receipt of such application. If final action has not occurred within such time, the Secretary shall inform the applicant of any pending issues and of actions required to resolve them.

(d) IMPROPER BASIS FOR DENIAL.—The Secretary shall not deny such license in order to protect any existing licensee from competition.

(e) REQUIREMENT TO PROVIDE UNENHANCED DATA.—

(1) DESIGNATION OF DATA.—The Secretary, in consultation with other appropriate United States Government agencies and pursuant to paragraph (2), shall designate in a license issued pursuant to this subchapter any unenhanced data required to be provided by the licensee under section 60122(b)(3) of this title.

(2) PRELIMINARY DETERMINATION.—The Secretary shall make a designation under paragraph (1) after determining that—

(A) such data are generated by a system for which all or a substantial part of the development, fabrication, launch, or operations costs have been or will be directly funded by the United States Government; or

(B) it is in the interest of the United States to require such data to be provided by the licensee consistent with section 60122(b)(3) of this title, after considering the impact on the licensee and the importance of promoting widespread access to remote sensing data from United States and foreign systems.

(3) CONSISTENCY WITH CONTRACT OR OTHER ARRANGEMENT.—A designation made by the Secretary under paragraph (1) shall not be inconsistent with any contract or other arrangement entered into between a United States Government agency and the licensee.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3413.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60121	15 U.S.C. 5621.	Pub. L. 102–555, title II, § 201, Oct 28, 1992, 106 Stat. 4171; Pub. L. 105–303, title I, § 107(f)(1), Oct. 28, 1998, 112 Stat. 2854.

In subsection (b)(2), the words "within 6 months after the date of the enactment of the Commercial Space Act of 1998" are omitted as obsolete.

PROHIBITION ON COLLECTION AND RELEASE OF DETAILED SATELLITE IMAGERY RELATING TO ISRAEL

Pub. L. 104–201, div. A, title X, § 1064, Sept. 23, 1996, 110 Stat. 2653, provided that:

"(a) COLLECTION AND DISSEMINATION.—A department or agency of the United States may issue a license for the collection or dissemination by a non-Federal entity of satellite imagery with respect to Israel only if such imagery is no more detailed or precise than satellite imagery of Israel that is available from commercial sources.

"(b) DECLASSIFICATION AND RELEASE.—A department or agency of the United States may declassify or otherwise release satellite imagery with respect to Israel only if such imagery is no more detailed or precise than satellite imagery of Israel that is available from commercial sources."

§ 60122. Conditions for operation

(a) LICENSE REQUIRED FOR OPERATION.—No person that is subject to the jurisdiction or control of the United States may, directly or through any subsidiary or affiliate, operate any private remote sensing space system without a license pursuant to section 60121 of this title.

(b) LICENSING REQUIREMENTS.—Any license issued pursuant to this subchapter shall specify that the licensee shall comply with all of the requirements of this chapter and shall—

(1) operate the system in such manner as to preserve the national security of the United States and to observe the international obligations of the United States in accordance with section 60146 of this title;

(2) make available to the government of any country (including the United States) unenhanced data collected by the system concerning the territory under the jurisdiction of such government as soon as such data are available and on reasonable terms and conditions;

(3) make unenhanced data designated by the Secretary in the license pursuant to section 60121(e) of this title available in accordance with section 60141 of this title;

(4) upon termination of operations under the license, make disposition of any satellites in space in a manner satisfactory to the President;

(5) furnish the Secretary with complete orbit and data collection characteristics of the system, and inform the Secretary immediately of any deviation; and

(6) notify the Secretary of any significant or substantial agreement the licensee intends to enter with a foreign nation, entity, or consortium involving foreign nations or entities.

(c) ADDITIONAL LICENSING REQUIREMENTS FOR LANDSAT 6 CONTRACTOR.—In addition to the requirements of subsection (b), any license issued pursuant to this subchapter to the Landsat 6 contractor shall specify that the Landsat 6 contractor shall—

(1) notify the Secretary of any value added activities (as defined by the Secretary by regulation) that will be conducted by the Landsat 6 contractor or by a subsidiary or affiliate; and

(2) if such activities are to be conducted, provide the Secretary with a plan for compliance with section 60141 of this title.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3415.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60122	15 U.S.C. 5622.	Pub. L. 102–555, title II, § Oct. 28, 1992, 106 Stat. 4172; Pub. L. 105–303, title I, § 107 (f)(2), Oct. 28, 1998, 112 Stat. 2854.

In subsection (c), in the matter before paragraph (1), the words "subsection (b)" are substituted for "paragraph (b)" to correct an error in the law.

§ 60123. Administrative authority of Secretary

(a) FUNCTIONS.—In order to carry out the responsibilities specified in this subchapter, the Secretary may—

(1) grant, condition, or transfer licenses under this chapter;

(2) seek an order of injunction or similar judicial determination from a district court of the United States with personal jurisdiction over the licensee to terminate, modify, or suspend licenses under this subchapter and to terminate licensed operations on an immediate basis, if the Secretary determines that the licensee has substantially failed to comply with any provisions of this chapter, with any terms, conditions, or restrictions of such license, or with any international obligations or national security concerns of the United States;

(3) provide penalties for noncompliance with the requirements of licenses or regulations issued under this subchapter, including civil penalties not to exceed $10,000 (each day of operation in violation of such licenses or regulations constituting a separate violation);

(4) compromise, modify, or remit any such civil penalty;

(5) issue subpoenas for any materials, documents, or records, or for the attendance and testimony of witnesses for the purpose of conducting a hearing under this section;

(6) seize any object, record, or report pursuant to a warrant from a magistrate based on a showing of probable cause to believe that such object, record, or report was used, is being used, or is likely to be used in violation of this chapter or the requirements of a license or regulation issued thereunder; and

(7) make investigations and inquiries and administer to or take from any person an oath, affirmation, or affidavit concerning any matter relating to the enforcement of this chapter.

(b) REVIEW OF AGENCY ACTION.—Any applicant or licensee that makes a timely request for review of an adverse action pursuant to paragraph (1), (3), (5), or (6) of subsection (a) shall be entitled to adjudication by the Secretary on the record after an opportunity for any agency hearing with respect to such adverse action. Any final action by the Secretary under this subsection shall be subject to judicial review under chapter 7 of title 5.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3415.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60123	15 U.S.C. 5623.	Pub. L. 102–555, title II, § 203, Oct. 28, 1992, 106 Stat. 4172.

In subsection (a), at the end of paragraph (2), a semicolon is substituted for the period to correct an error in the law.

§ 60124. Regulatory authority of Secretary

The Secretary may issue regulations to carry out this subchapter. Such regulations shall be promulgated only after public notice and comment in accordance with the provisions of section 553 of title 5.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3416.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60124	15 U.S.C. 5624.	Pub. L. 102–555, title II, § 204, Oct. 28, 1992, 106 Stat. 4173.

§ 60125. Agency activities

(a) LICENSE APPLICATION AND ISSUANCE.—A private sector party may apply for a license to operate a private remote sensing space system which utilizes, on a space-available basis, a civilian United States Government satellite or vehicle as a platform for such system. The Secretary, pursuant to this subchapter, may license such system if it meets all conditions of this subchapter and—

(1) the system operator agrees to reimburse the Government in a timely manner for all related costs incurred with respect to such utilization, including a reasonable and proportionate share of fixed, platform, data transmission, and launch costs; and

(2) such utilization would not interfere with or otherwise compromise intended civilian Government missions, as determined by the agency responsible for such civilian platform.

(b) ASSISTANCE.—The Secretary may offer assistance to private sector parties in finding appropriate opportunities for such utilization.

(c) AGREEMENTS.—To the extent provided in advance by appropriation Acts, any United States Government agency may enter into agreements for such utilization if such agreements are consistent with such agency's mission and statutory authority, and if such remote sensing space system is licensed by the Secretary before commencing operation.

(d) APPLICABILITY.—This section does not apply to activities carried out under subchapter IV.

(e) EFFECT ON FCC AUTHORITY.—Nothing in this subchapter shall affect the authority of the Federal Communications Commission pursuant to the Communications Act of 1934 (47 U.S.C. 151 et seq.).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3416.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60125	15 U.S.C. 5625.	Pub. L. 102–555, title II, § 205, Oct. 28, 1992, 106 Stat. 4173.

REFERENCES IN TEXT

The Communications Act of 1934, referred to in subsec. (e), is act June 19, 1934, ch. 652, 48 Stat. 1064, which is classified principally to chapter 5 (151 et seq.) of Title 47, Telecommunications. For complete classification of this Act to the Code, see section 609 of Title 47 and Tables.

§ 60126. Annual reports

(a) IN GENERAL.—The Secretary shall submit a report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives not later than 180 days after the date of enactment of the U.S. Commercial Space Launch Competitiveness Act, and annually thereafter, on—

(1) the Secretary's implementation of section 60121, including—

(A) a list of all applications received in the previous calendar year;

(B) a list of all applications that resulted in a license under section 60121;

(C) a list of all applications denied and an explanation of why each application was denied, including any information relevant to the interagency adjudication process of a licensing request;

(D) a list of all applications that required additional information; and

(E) a list of all applications whose disposition exceeded the 120 day deadline established in section 60121(c), the total days overdue for each application that exceeded such deadline, and an explanation for the delay;

(2) all notifications and information provided to the Secretary under section 60122; and

(3) a description of all actions taken by the Secretary under the administrative authority granted by paragraphs (4), (5), and (6) of section 60123(a).

(b) CLASSIFIED ANNEXES.—Each report under subsection (a) may include classified annexes as necessary to protect the disclosure of sensitive or classified information.

(c) SUNSET.—The reporting requirement under this section terminates effective September 30, 2020.

(Added Pub. L. 114–90, title II, § 201(a), Nov. 25, 2015, 129 Stat. 719.)

REFERENCES IN TEXT

The date of enactment of the U.S. Commercial Space Launch Competitiveness Act, referred to in subsec. (a), is the date of enactment of Pub. L. 114-90, which was approved Nov. 25, 2015.

Subchapter IV—Research, Development, and Demonstration

§ 60131. Continued Federal research and development

(a) ROLES OF ADMINISTRATION AND DEPARTMENT OF DEFENSE.—

(1) IN GENERAL.—The Administrator and the Secretary of Defense are directed to continue and to enhance programs of remote sensing research and development.

(2) ADMINISTRATION ACTIVITIES AUTHORIZED AND ENCOURAGED.—The Administrator is authorized and encouraged to—

(A) conduct experimental space remote sensing programs (including applications demonstration programs and basic research at universities);

(B) develop remote sensing technologies and techniques, including those needed for monitoring the Earth and its environment; and

(C) conduct such research and development in cooperation with other United States Government agencies and with public and private research entities (including private industry, universities, non-profit organizations, State and local governments, foreign governments, and international organizations) and to enter into arrangements (including joint ventures) which will foster such cooperation.

(b) ROLES OF DEPARTMENT OF AGRICULTURE AND DEPARTMENT OF THE INTERIOR.—

(1) IN GENERAL.—In order to enhance the ability of the United States to manage and utilize its renewable and nonrenewable resources, the Secretary of Agriculture and the Secretary of the Interior are authorized and encouraged to conduct programs of research and development in the applications of remote sensing using funds appropriated for such purposes.

(2) ACTIVITIES THAT MAY BE INCLUDED.—Such programs may include basic research at universities, demonstrations of applications, and cooperative activities involving other Government agencies, private sector parties, and foreign and international organizations.

(c) ROLE OF OTHER FEDERAL AGENCIES.—Other United States Government agencies are authorized and encouraged to conduct research and development on the use of remote sensing in the fulfillment of their authorized missions, using funds appropriated for such purposes.

(Pub. L. 111-314, 3, Dec. 18, 2010, 124 Stat. 3417.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60131	15 U.S.C. 5631.	Pub. L. 102–55, title III, § 301, Oct. 28, 1992, 106 Stat. 4174.

§ 60132. Availability of federally gathered unenhanced data

(a) IN GENERAL.—All unenhanced land remote sensing data gathered and owned by the United States Government, including unenhanced data gathered under the technology demonstration

program carried out pursuant to section 60133 of this title, shall be made available to users in a timely fashion.

(b) PROTECTION FOR COMMERCIAL DATA DISTRIBUTOR.—The President shall seek to ensure that unenhanced data gathered under the technology demonstration program carried out pursuant to section 60133 of this title shall, to the extent practicable, be made available on terms that would not adversely affect the commercial market for unenhanced data gathered by the Landsat 6 spacecraft.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3417.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60132	15 U.S.C. 5632.	Pub. L. 102–555, title III, § 302, Oct. 28, 1992, 106 Stat. 4174.

In subsection (b), the word "affect" is substituted for "effect" to correct an error in the law.

§ 60133. Technology demonstration program

(a) ESTABLISHMENT.—As a fundamental component of a national land remote sensing strategy, the President shall establish, through appropriate United States Government agencies, a technology demonstration program. The goals of the program shall be to—

(1) seek to launch advanced land remote sensing system components within 5 years after October 28, 1992;

(2) demonstrate within such 5-year period advanced sensor capabilities suitable for use in the anticipated land remote sensing program; and

(3) demonstrate within such 5-year period an advanced land remote sensing system design that could be less expensive to procure and operate than the Landsat system projected to be in operation through the year 2000, and that therefore holds greater potential for private sector investment and control.

(b) EXECUTION OF PROGRAM.—In executing the technology demonstration program, the President shall seek to apply technologies associated with United States National Technical Means of intelligence gathering, to the extent that such technologies are appropriate for the technology demonstration and can be declassified for such purposes without causing adverse harm to United States national security interests.

(c) BROAD APPLICATION.—To the greatest extent practicable, the technology demonstration program established under subsection (a) shall be designed to be responsive to the broad civilian, national security, commercial, and foreign policy needs of the United States.

(d) PRIVATE SECTOR FUNDING.—The technology demonstration program under this section may be carried out in part with private sector funding.

(e) LANDSAT PROGRAM MANAGEMENT COORDINATION.—The Landsat Program Management shall have a coordinating role in the technology demonstration program carried out under this section.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3418.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60133	15 U.S.C. 5633(a)–(e).	Pub. L. 102–555, title III, § 303(a)–(e), Oct. 28, 1992, 106 Stat. 4174.

In subsection (a)(1), the date "October 28, 1992" is substituted for "the date of the enactment of this Act" to reflect the date of enactment of the Land Remote Sensing Policy Act of 1992 (Public Law 102–555, 106 Stat. 4163). At the end of paragraph (1), a semicolon is substituted for the period to correct an error in the law.

§ 60134. Preference for private sector land remote sensing system

(a) IN GENERAL.—If a successor land remote sensing system to Landsat 7 can be funded and managed by the private sector while still achieving the goals stated in subsection (b) without jeopardizing the domestic, national security, and foreign policy interests of the United States, preference should be given to the development of such a system by the private sector without competition from the United States Government.

(b) GOALS.—The goals referred to in subsection (a) are—

(1) to encourage the development, launch, and operation of a land remote sensing system that adequately serves the civilian, national security, commercial, and foreign policy interests of the United States;

(2) to encourage the development, launch, and operation of a land remote sensing system that maintains data continuity with the Landsat system; and

(3) to incorporate system enhancements, including any such enhancements developed under the technology demonstration program under section 60133 of this title, which may potentially yield a system that is less expensive to build and operate, and more responsive to data users, than is the Landsat system otherwise projected to be in operation in the future.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3418.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60134(a)	15 U.S.C. 5641(c).	Pub. L. 102–555, title IV, § 401(b), (c), Oct. 28, 1992, 106 Stat. 4176.
60134(b)	15 U.S.C. 5641(b).	

In subsection (b), in the matter before paragraph (1), the words "In carrying out subsection (a), the Landsat Program Management shall consider the ability of each of the options to" are omitted as obsolete. The omitted words refer to section 401(a) of the Land Remote Sensing Policy Act of 1992 (15 U.S.C. 5641(a)), which required, within 5 years after October 28, 1992, the Landsat Program Management, in consultation with representatives of appropriate United States Government agencies, to assess and report to Con-

gress on options for a successor land remote sensing system to Landsat 7.

In subsection (b)(3), the words "otherwise projected to be in operation in the future" are substituted for "projected to be in operation through the year 2000" to eliminate obsolete language.

Subchapter V—General Provisions

§ 60141. Nondiscriminatory data availability

(a) IN GENERAL.—Except as provided in subsection (b), any unenhanced data generated by the Landsat system or any other land remote sensing system funded and owned by the United States Government shall be made available to all users without preference, bias, or any other special arrangement (except on the basis of national security concerns pursuant to section 60146 of this title) regarding delivery, format, pricing, or technical considerations which would favor one customer or class of customers over another.

(b) EXCEPTIONS.—Unenhanced data generated by the Landsat system or any other land remote sensing system funded and owned by the United States Government may be made available to the United States Government and its affiliated users at reduced prices, in accordance with this chapter, on the condition that such unenhanced data are used solely for noncommercial purposes.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3419.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60141	15 U.S.C. 5651.	Pub. L. 102–555, title V, § 501, Oct. 28, 1992, 106 Stat. 4176.

§ 60142. Archiving of data

(a) PUBLIC INTEREST.—It is in the public interest for the United States Government to—

(1) maintain an archive of land remote sensing data for historical, scientific, and technical purposes, including long-term global environmental monitoring;

(2) control the content and scope of the archive; and

(3) ensure the quality, integrity, and continuity of the archive.

(b) ARCHIVING PRACTICES.—The Secretary of the Interior, in consultation with the Landsat Program Management, shall provide for long-term storage, maintenance, and upgrading of a basic, global, land remote sensing data set (hereafter in this section referred to as the "basic data set") and shall follow reasonable archival practices to ensure proper storage and preservation of the basic data set and timely access for parties requesting data.

(c) DETERMINATION OF CONTENT OF BASIC DATA SET.—In determining the initial content of, or in upgrading, the basic data set, the Secretary of the Interior shall—

(1) use as a baseline the data archived on October 28, 1992;

(2) take into account future technical and scientific developments and needs, paying particular attention to the antici-

pated data requirements of global environmental change research;

(3) consult with and seek the advice of users and producers of remote sensing data and data products;

(4) consider the need for data which may be duplicative in terms of geographical coverage but which differ in terms of season, spectral bands, resolution, or other relevant factors;

(5) include, as the Secretary of the Interior considers appropriate, unenhanced data generated either by the Landsat system, pursuant to subchapter II, or by licensees under subchapter III;

(6) include, as the Secretary of the Interior considers appropriate, data collected by foreign ground stations or by foreign remote sensing space systems; and

(7) ensure that the content of the archive is developed in accordance with section 60146 of this title.

(d) PUBLIC DOMAIN.—After the expiration of any exclusive right to sell, or after relinquishment of such right, the data provided to the National Satellite Land Remote Sensing Data Archive shall be in the public domain and shall be made available to requesting parties by the Secretary of the Interior at the cost of fulfilling user requests.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3419.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60142	15 U.S.C. 5652.	Pub. L. 102–555, title V, § 502, Oct. 28, 1992, 106 Stat. 4176.

In subsection (b), the words "hereafter in this section" are substituted for "hereinafter" for clarity.

In subsection (c), in the matter before paragraph (1), the words "of the Interior" are substituted for "of Interior" to correct an error in the law.

In subsection (c)(1), the date "October 28, 1992" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the Land Remote Sensing Policy Act of 1992 (Public Law 102–555, 106 Stat. 4163).

§ 60143. Nonreproduction

Unenhanced data distributed by any licensee under subchapter III may be sold on the condition that such data will not be reproduced or disseminated by the purchaser for commercial purposes.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3420.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60143	15 U.S.C. 5653.	Pub. L. 102–555, title V, § 503, Oct. 28, 1992, 106 Stat. 4177.

§ 60144. Reimbursement for assistance

The Administrator, the Secretary of Defense, and the heads of other United States Government agencies may provide assistance to land remote sensing system operators under the provisions of this chapter. Substantial assistance shall be reimbursed by the operator, except as otherwise provided by law.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3420.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60144	15 U.S.C. 5654.	Pub. L. 102–555, title V, § 504, Oct. 28, 1992, 106 Stat. 4177.

§ 60145. Acquisition of equipment

The Landsat Program Management may, by means of a competitive process, allow a licensee under subchapter III or any other private party to buy, lease, or otherwise acquire the use of equipment from the Landsat system, when such equipment is no longer needed for the operation of such system or for the sale of data from such system. Officials of other United States Government civilian agencies are authorized and encouraged to cooperate with the Secretary in carrying out this section.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3420.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60145	15 U.S.C. 5655.	Pub. L. 102–555, title V, § 505, Oct. 28, 1992, 106 Stat. 4177.

§ 60146. Radio frequency allocation

(a) APPLICATION TO FEDERAL COMMUNICATIONS COMMISSION.—To the extent required by the Communications Act of 1934 (47 U.S.C. 151 et seq.), an application shall be filed with the Federal Communications Commission for any radio facilities involved with commercial remote sensing space systems licensed under subchapter III.

(b) DEADLINE FOR FCC ACTION.—It is the intent of Congress that the Federal Communications Commission complete the radio licensing process under the Communications Act of 1934 (47 U.S.C. 151 et seq.), upon the application of any private sector party or consortium operator of any commercial land remote sensing space system subject to this chapter, within 120 days of the receipt of an application for such licensing. If final action has not occurred within 120 days of the receipt of such an application, the Federal Communications Commission shall inform the applicant of any pending issues and of actions required to resolve them.

(c) DEVELOPMENT AND CONSTRUCTION OF UNITED STATES SYSTEMS.—Authority shall not be required from the Federal Communications Commission for the development and construction of any United States land remote sensing space system (or component thereof), other than radio transmitting facilities or components, while any licensing determination is being made.

(d) CONSISTENCY WITH INTERNATIONAL OBLIGATIONS AND PUBLIC INTEREST.—Frequency allocations made pursuant to this section by the Federal Communications Commission shall be consistent with international obligations and with the public interest.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3420.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60146	15 U.S.C. 5656.	Pub. L. 102–555, title V, § 506, Oct. 28, 1992, 106 Stat. 4177.

REFERENCES IN TEXT

The Communications Act of 1934, referred to in subsecs. (a) and (b), is act June 19, 1934, ch. 652, 48 Stat. 1064, which is classified principally to chapter 5 (§ 151 et seq.) of Title 47, Telecommunications. For complete classification of this Act to the Code, see section 609 of Title 47 and Tables.

§ 60147. Consultation

(a) CONSULTATION WITH SECRETARY OF DEFENSE.—The Secretary and the Landsat Program Management shall consult with the Secretary of Defense on all matters under this chapter affecting national security. The Secretary of Defense shall be responsible for determining those conditions, consistent with this chapter, necessary to meet national security concerns of the United States and for notifying the Secretary and the Landsat Program Management promptly of such conditions.

(b) CONSULTATION WITH SECRETARY OF STATE.—

(1) IN GENERAL.—The Secretary and the Landsat Program Management shall consult with the Secretary of State on all matters under this chapter affecting international obligations. The Secretary of State shall be responsible for determining those conditions, consistent with this chapter, necessary to meet international obligations and policies of the United States and for notifying promptly the Secretary and the Landsat Program Management of such conditions.

(2) INTERNATIONAL AID.—Appropriate United States Government agencies are authorized and encouraged to provide remote sensing data, technology, and training to developing nations as a component of programs of international aid.

(3) REPORTING DISCRIMINATORY DISTRIBUTION.—The Secretary of State shall promptly report to the Secretary and Landsat Program Management any instances outside the United States of discriminatory distribution of Landsat data.

(c) STATUS REPORT.—The Landsat Program Management shall, as often as necessary, provide to Congress complete and updated information about the status of ongoing operations of the Landsat system, including timely notification of decisions made with respect to the Landsat system in order to meet national security concerns and international obligations and policies of the United States Government.

(d) REIMBURSEMENTS.—If, as a result of technical modifications imposed on a licensee under subchapter III on the basis of national security concerns, the Secretary, in consultation with the Secretary of Defense or with other Federal agencies, determines that additional costs will be incurred by the licensee, or that past development costs (including the cost of capital) will not be recovered by the licensee, the Secretary may require the agency or agencies requesting such technical modifications to reimburse the licensee for such additional or development costs, but not for anticipated profits. Reimbursements may cover costs associated with required changes in system performance, but not costs ordinarily associated with doing business abroad.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3421.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60147	15 U.S.C. 5657.	Pub. L. 102–555, title V, § 507, Oct. 28, 1992, 106 Stat. 4178.

§ 60148. Enforcement

(a) IN GENERAL.—In order to ensure that unenhanced data from the Landsat system received solely for noncommercial purposes are not used for any commercial purpose, the Secretary (in collaboration with private sector entities responsible for the marketing and distribution of unenhanced data generated by the Landsat system) shall develop and implement a system for enforcing this prohibition, in the event that unenhanced data from the Landsat system are made available for noncommercial purposes at a different price than such data are made available for other purposes.

(b) AUTHORITY OF SECRETARY.—Subject to subsection (d), the Secretary may impose any of the enforcement mechanisms described in subsection (c) against a person that—

(1) receives unenhanced data from the Landsat system under this chapter solely for noncommercial purposes (and at a different price than the price at which such data are made available for other purposes); and

(2) uses such data for other than noncommercial purposes.

(c) ENFORCEMENT MECHANISMS.—Enforcement mechanisms referred to in subsection (b) may include civil penalties of not more than $10,000 (per day per violation), denial of further unenhanced data purchasing privileges, and any other penalties or restrictions the Secretary considers necessary to ensure, to the greatest extent practicable, that unenhanced data provided for noncommercial purposes are not used to unfairly compete in the commercial market against private sector entities not eligible for data at the cost of fulfilling user requests.

(d) Procedures and Regulations.—The Secretary shall issue any regulations necessary to carry out this section and shall establish standards and procedures governing the imposition of enforcement mechanisms under subsection (b). The standards and procedures shall include a procedure for potentially aggrieved parties to file formal protests with the Secretary alleging instances where such

unenhanced data have been, or are being, used for commercial purposes in violation of the terms of receipt of such data. The Secretary shall promptly act to investigate any such protest, and shall report annually to Congress on instances of such violations.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3421.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60148	15 U.S.C. 5658.	Pub. L. 102–555, title V, § 508, Oct. 28, 1992, 106 Stat. 4179.

In subsection (d), in the second sentence, the words "have been, or are being" are substituted for "has been, or is being" to correct an error in the law.

Subchapter VI—Prohibition of Commercialization of Weather Satellites

§ 60161. Prohibition

Neither the President nor any other official of the Government shall make any effort to lease, sell, or transfer to the private sector, or commercialize, any portion of the weather satellite systems operated by the Department of Commerce or any successor agency.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3422.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60161	15 U.S.C. 5671.	Pub. L. 102–555, title VI, § 601, Oct. 28, 1992, 106Stat. 4179.

§ 60162. Future considerations

Regardless of any change in circumstances subsequent to October 28, 1992, even if such change makes it appear to be in the national interest to commercialize weather satellites, neither the President nor any official shall take any action prohibited by section 60161 of this title unless this subchapter has first been repealed.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3422.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60162	15 U.S.C. 5672.	Pub. L. 102–555, title VI, § 602, Oct. 28, 1992, 106 Stat. 4180.

The date "October 28, 1992" is substituted for "the enactment of this Act" to reflect the date of enactment of the Land Remote Sensing Policy Act of 1992 (Public Law 102–555, 106 Stat. 4163).

CHAPTER 603—REMOTE SENSING

Sec.
60301. Definitions.
60302. General responsibilities.

60303. Pilot projects to encourage public sector applications.
60304. Program evaluation.
60305. Data availability.
60306. Education.

§ 60301. Definitions

In this chapter:

(1) GEOSPATIAL INFORMATION.—The term "geospatial information" means knowledge of the nature and distribution of physical and cultural features on the landscape based on analysis of data from airborne or spaceborne platforms or other types and sources of data.

(2) HIGH RESOLUTION.—The term "high resolution" means resolution better than five meters.

(3) INSTITUTION OF HIGHER EDUCATION.—The term "institution of higher education" has the meaning given the term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3423.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60301	42 U.S.C. 16671.	Pub. L. 109–155, title III, § 311, Dec. 30, 2005, 119 Stat. 2920.

§ 60302. General responsibilities

The Administrator shall—

(1) develop a sustained relationship with the United States commercial remote sensing industry and, consistent with applicable policies and law, to the maximum practicable, rely on their services; and

(2) in conjunction with United States industry and universities, research, develop, and demonstrate prototype Earth science applications to enhance Federal, State, local, and tribal governments' use of government and commercial remote sensing data, technologies, and other sources of geospatial information for improved decision support to address their needs.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3423.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60302	42 U.S.C. 16672.	Pub. L. 109–155, title III, § 312, Dec. 30, 2005, 119 Stat. 2920.

§ 60303. Pilot projects to encourage public sector applications

(a) IN GENERAL.—The Administrator shall establish a program of grants for competitively awarded pilot projects to explore the integrated use of sources of remote sensing and other geospatial information to address State, local, regional, and tribal agency needs.

(b) PREFERRED PROJECTS.—In awarding grants under this section, the Administrator shall give preference to projects that—

(1) make use of commercial data sets, including high resolution commercial satellite imagery and derived satellite data products, existing public data sets where commercial data sets are not available or applicable, or the fusion of such data sets;

(2) integrate multiple sources of geospatial information, such as geographic information system data, satellite-provided positioning data, and remotely sensed data, in innovative ways;

(3) include funds or in-kind contributions from non-Federal sources;

(4) involve the participation of commercial entities that process raw or lightly processed data, often merging that data with other geospatial information, to create data products that have significant value added to the original data; and

(5) taken together demonstrate as diverse a set of public sector applications as possible.

(c) OPPORTUNITIES.—In carrying out this section, the Administrator shall seek opportunities to assist—

(1) in the development of commercial applications potentially available from the remote sensing industry; and

(2) State, local, regional, and tribal agencies in applying remote sensing and other geospatial information technologies for growth management.

(d) DURATION.—Assistance for a pilot project under subsection (a) shall be provided for a period not to exceed 3 years.

(e) REPORT.—Each recipient of a grant under subsection (a) shall transmit a report to the Administrator on the results of the pilot project within 180 days of the completion of that project.

(f) WORKSHOP.—Each recipient of a grant under subsection (a) shall, not later than 180 days after the completion of the pilot project, conduct at least one workshop for potential users to disseminate the lessons learned from the pilot project as widely as feasible.

(g) REGULATIONS.—The Administrator shall issue regulations establishing application, selection, and implementation procedures for pilot projects, and guidelines for reports and workshops required by this section.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3423.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60303	42 U.S.C. 16673.	Pub. L. 109–155, title III, § 313, Dec. 30, 2005, 119 Stat. 2921.

§ 60304. Program evaluation

(a) ADVISORY COMMITTEE.—The Administrator shall establish an advisory committee, consisting of individuals with appropriate expertise in State, local, regional, and tribal agencies, the university research community, and the remote sensing and other geospatial information industries, to monitor the program established under section 60303 of this title. The advisory committee shall consult with the Federal Geographic Data Committee and other appropriate industry representatives and organizations. Notwithstanding

section 14 of the Federal Advisory Committee Act (5 App. U.S.C.), the advisory committee established under this subsection shall remain in effect until the termination of the program under section 60303 of this title.

(b) EFFECTIVENESS EVALUATION.—Not later than December 31, 2009, the Administrator shall transmit to Congress an evaluation of the effectiveness of the program established under section 60303 of this title in exploring and promoting the integrated use of sources of remote sensing and other geospatial information to address State, local, regional, and tribal agency needs. Such evaluation shall have been conducted by an independent entity.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3424.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60304	42 U.S.C. 16674.	Pub. L. 109–155, title III, § 314, Dec. 30, 2005, 119 Stat. 2921.

REFERENCES IN TEXT

Section 14 of the Federal Advisory Committee Act, referred to in subsec. (a), is section 14 of Pub. L. 92–463, which is set out in the Appendix to Title 5, Government Organization and Employees.

§ 60305. Data availability

The Administrator shall ensure that the results of each of the pilot projects completed under section 60303 of this title shall be retrievable through an electronic, internet-accessible database.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3424.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60305	42 U.S.C. 16675.	Pub. L. 109–155, title III, § 315, Dec. 30, 2005, 119 Stat. 2922.

§ 60306. Education

The Administrator shall establish an educational outreach program to increase awareness at institutions of higher education and State, local, regional, and tribal agencies of the potential applications of remote sensing and other geospatial information and awareness of the need for geospatial workforce development.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3424.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60306	42 U.S.C. 16676.	Pub. L. 109–155, title III, § 316, Dec. 30, 2005, 119 Stat. 2922.

CHAPTER 605—EARTH SCIENCE

Sec.

60501. Goal.
60502. Transitioning experimental research into operational services.
60503. Reauthorization of Glory Mission.
60504. Tornadoes and other severe storms.
60505. Coordination with the National Oceanic and Atmospheric Administration.
60506. Sharing of climate related data.

§ 60501. Goal

The goal for the Administration's Earth Science program shall be to pursue a program of Earth observations, research, and applications activities to better understand the Earth, how it supports life, and how human activities affect its ability to do so in the future. In pursuit of this goal, the Administration's Earth Science program shall ensure that securing practical benefits for society will be an important measure of its success in addition to securing new knowledge about the Earth system and climate change. In further pursuit of this goal, the Administration shall, together with the National Oceanic and Atmospheric Administration and other relevant agencies, provide United States leadership in developing and carrying out a cooperative international Earth observations-based research program.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3425.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60501	42 U.S.C. 17711.	Pub. L. 110–442, title II, § 201, Oct. 15, 2008, 122 Stat. 4784.

CARBON CYCLE REMOTE SENSING APPLICATIONS RESEARCH

Pub. L. 106–391, title III, § 315, Oct. 30, 2000, 114 Stat. 1595, provided that:

"(a) CARBON CYCLE REMOTE SENSING APPLICATIONS RESEARCH PROGRAM.—

"(1) IN GENERAL.—The Administrator [of the National Aeronautics and Space Administration] shall develop a carbon cycle remote sensing applications research program—

"(A) to provide a comprehensive view of vegetation conditions;

"(B) to assess and model agricultural carbon sequestration; and

"(C) to encourage the development of commercial products, as appropriate.

"(2) USE OF CENTERS.—The Administrator of the National Aeronautics and Space Administration shall use regional earth science application centers to conduct applications research under this section.

"(3) RESEARCHED AREAS.—The areas that shall be the subjects of research conducted under this section include—

"(A) the mapping of carbon-sequestering land use and land cover;

"(B) the monitoring of changes in land cover and management;

"(C) new approaches for the remote sensing of soil carbon; and

"(D) region-scale carbon sequestration estimation.

"(b) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section $5,000,000 of funds authorized by section 102 [114 Stat. 1581] for fiscal years 2001 through 2002."

EARTH OBSERVING SYSTEM

Pub. L. 102–588, title I, § 102(g), Nov. 4, 1992, 106 Stat. 5111, provided that:

"(1) The Administrator [of the National Aeronautics and Space Administration] shall carry out an Earth Observing System program that addresses the highest priority international climate change research goals as defined by the Committee on Earth and Environmental Sciences and the Intergovernmental Panel on Climate Change.

"(2)(A) Within 180 days after the date of enactment of this Act [Nov. 4, 1992], the Administrator shall submit to Congress a plan which will ensure that the highest priority measurements are maintained on schedule to the greatest extent practicable while lower priority measurements are deferred, deleted, or obtained through other means.

"(B) Within 90 days after the date of enactment of this Act, the Core System of the Earth Observing System Data and Information System, the Administrator shall submit to Congress a Development Plan which—

"(i) identifies the highest risk elements of the development effort and the key advanced technologies required to significantly increase scientific productivity;

"(ii) provides a plan for the development of one or more prototype systems for use in reducing the development risk of critical system elements and obtaining feedback for scientific users;

"(iii) provides a plan for research into key advanced technologies;

"(iv) identifies sufficient resources for carrying out the Development Plan; and

"(v) identifies how the Earth Observing System Data Information System will connect to and utilize other federally-supported research networks, including the National Research and Education Network."

§ 60502. Transitioning experimental research into operational services

(a) INTERAGENCY PROCESS.—The Director of the Office of Science and Technology Policy, in consultation with the Administrator, the Administrator of the National Oceanic and Atmospheric Administration, and other relevant stakeholders, shall develop a process to transition, when appropriate, Administration Earth science and space weather missions or sensors into operational status. The process shall include coordination of annual agency budget requests as required to execute the transitions.

(b) RESPONSIBLE AGENCY OFFICIAL.—The Administrator and the Administrator of the National Oceanic and Atmospheric Administration shall each designate an agency official who shall have the responsibility for and authority to lead the Administration's and the National Oceanic and Atmospheric Administration's transition activities and interagency coordination.

(c) PLAN.—For each mission or sensor that is determined to be appropriate for transition under subsection (a), the Administration and the National Oceanic and Atmospheric Administration shall transmit to Congress a joint plan for conducting the transition. The plan shall include the strategy, milestones, and budget required to execute the transition. The transition plan shall be transmitted to Congress no later than 60 days after the successful completion of the mission or sensor critical design review.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3425.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60502(a)	42 U.S.C. 17712(b).	Pub. L. 110–422, title II, § 204(b), (c), (d), Oct. 15, 2008, 122 Stat. 4785.
60502(b)	42 U.S.C. 17712(c).	
60502(c)	42 U.S.C. 17712(d).	

§ 60503. Reauthorization of Glory Mission

Congress reauthorizes the Administration to continue with development of the Glory Mission, which will examine how aerosols and solar energy affect the Earth's climate.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3425.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60503	42 U.S.C. 17713(a).	Pub. L. 110–422, title II, § 206(a), Oct. 15, 2008, 122 Stat. 4785.

§ 60504. Tornadoes and other severe storms

The Administrator shall ensure that the Administration gives high priority to those parts of its existing cooperative activities with the National Oceanic and Atmospheric Administration that are related to the study of tornadoes and other severe storms, tornado-force winds, and other factors determined to influence the development of tornadoes and other severe storms, with the goal of improving the Nation's ability to predict tornados and other severe storms. Further, the Administrator shall examine whether there are additional cooperative activities with the National Oceanic and Atmospheric Administration that should be undertaken in the area of tornado and severe storm research.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3425.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60504	42 U.S.C. 17714.	Pub. L. 110–422, title II, § 208, Oct. 15, 2008, 122 Stat. 4786.

§ 60505. Coordination with the National Oceanic and Atmospheric Administration

(a) JOINT WORKING GROUP.—The Administrator and the Administrator of the National Oceanic and Atmospheric Administration shall appoint a Joint Working Group, which shall review and monitor missions of the two agencies to ensure maximum coordination in the design, operation, and transition of missions where appropriate. The Joint Working Group shall also prepare the plans required by subsection (c).

(b) COORDINATION REPORT.—Not later than February 15 of each year, the Administrator and the Administrator of the National Oceanic and Atmospheric Administration shall jointly transmit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on how the Earth science programs of the Administration and the National Oceanic and Atmospheric Administration will be coordinated during the fiscal year following the fiscal year in which the report is transmitted.

(c) COORDINATION OF TRANSITION PLANNING AND REPORTING.—The Administrator, in conjunction with the Administrator of the National Oceanic and Atmospheric Administration and in consultation with other relevant agencies, shall evaluate relevant Administration science missions for their potential operational capabilities and shall prepare transition plans for the existing and future Earth observing systems found to have potential operational capabilities.

(d) LIMITATION.—The Administrator shall not transfer any Administration Earth science mission or Earth observing system to the National Oceanic and Atmospheric Administration until the plan required under subsection (c) has been approved by the Administrator and the Administrator of the National Oceanic and Atmospheric Administration and until financial resources have been identified to support the transition or transfer in the President's budget request for the National Oceanic and Atmospheric Administration.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3426.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60505	42 U.S.C. 16656.	Pub. L. 109–155, title III, § 306, Dec. 30, 2005, 119 Stat. 2919.

In subsection (b), the words "beginning with the first fiscal year after the date of enactment of this Act [December 30, 2005]" are omitted as obsolete.

In subsection (b), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of

Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 60506. Sharing of climate related data

The Administrator shall work to ensure that the Administration's policies on the sharing of climate related data respond to the recommendations of the Government Accountability Office's report on climate change research and data-sharing policies and to the recommendations on the processing, distribution, and archiving of data by the National Academies Earth Science Decadal Survey, "Earth Science and Applications from Space", and other relevant National Academies reports, to enhance and facilitate their availability and widest possible use to ensure public access to accurate and current data on global warming.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3426.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
60506	42 U.S.C. 17825(c).	Pub. L. 110–422, title XI, § 1109(c), Oct. 15, 2008, 122 Stat. 4811.

Subtitle VII—Access to Space

CHAPTER 701—USE OF SPACE LAUNCH SYSTEM OR ALTERNATIVES

Sec.
70101. Recovery of fair value of placing Department of Defense payloads in orbit with space launch system.
70102. Space launch system use policy.
70103. Commercial payloads on space launch system.
70104. Definition of Space Launch System.

AMENDMENTS

2015—Pub. L. 114–90, title I, § 117(a)(1), (b)(2), Nov. 25, 2015, 129 Stat. 717, 718, added item 70104, substituted "SPACE LAUNCH SYSTEM" for "SPACE SHUTTLE" in chapter heading, "space launch system" for "space shuttle" in items 70101 and 70103, and "Space launch system" for "Space shuttle" in item 70102.

§ 70101. Recovery of fair value of placing Department of Defense payloads in orbit with space launch system

Notwithstanding any other provision of law, or any interagency agreement, the Administrator shall charge such prices as are necessary to recover the fair value of placing Department of Defense payloads into orbit by means of the space launch system.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3427; Pub. L. 114–90, title I, § 117(a)(2), Nov. 25, 2015, 129 Stat. 717.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70101	42 U.S.C. 2464.	Pub. L. 97–324, title I, § 106(a), Oct. 15, 1982, 96 Stat. 1600.

AMENDMENTS

2015—Pub. L. 114–90 substituted "space launch system" for "space shuttle" in section catchline and text.

§ 70102. Space launch system use policy

(a) IN GENERAL.—The Space Launch System may be used for the following circumstances:

(1) Payloads and missions that contribute to extending human presence beyond low-Earth orbit and substantially benefit from the unique capabilities of the Space Launch System.

(2) Other payloads and missions that substantially benefit from the unique capabilities of the Space Launch System.

(3) On a space available basis, Federal Government or educational payloads that are consistent with NASA's mission for exploration beyond low-Earth orbit.

(4) Compelling circumstances, as determined by the Administrator.

(b) AGREEMENTS WITH FOREIGN ENTITIES.—The Administrator may plan, negotiate, or implement agreements with foreign entities for the launch of payloads for international collaborative efforts relating to science and technology using the Space Launch System.

(c) COMPELLING CIRCUMSTANCES.—Not later than 30 days after the date the Administrator makes a determination under subsection (a)(4), the Administrator shall transmit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives written notification of the Administrator's intent to select the Space Launch System for a specific mission under that subsection, including justification for the determination.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3427; Pub. L. 114–90, title I, § 117(a)(3), Nov. 25, 2015, 129 Stat. 717.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70102(a)	42 U.S.C. 2465a(a).	Pub. L. 101–611, title I, § 112(a), (c), (d), Nov. 16, 1990, 104 Stat. 3198, 3199.
70102(b)	42 U.S.C. 2465a(c).	
70102(c)	42 U.S.C. 2465a(d).	

AMENDMENTS

2015—Pub. L. 114–90 amended section generally. Prior to amendment, section related to space shuttle use policy.

FLIGHT OPPORTUNITIES

Pub. L. 115–10, title VIII, § 826, Mar. 21, 2017, 131 Stat. 65, provided that:

"(a) DEVELOPMENT OF PAYLOADS.—

"(1) IN GENERAL.—In order to conduct necessary research, the Administrator [of the National Aeronautics and Space Administration] shall continue and, as the Administrator considers appropriate, expand the development of technology payloads for—

"(A) scientific research; and

"(B) investigating new or improved capabilities.

"(2) FUNDS.—For the purpose of carrying out paragraph (1), the Administrator shall make funds available for—

"(A) flight testing;

"(B) payload development; and

"(C) hardware related to subparagraphs (A) and (B).

"(b) REAFFIRMATION OF POLICY.—Congress reaffirms that the Administrator should provide flight opportunities for payloads to microgravity environments and suborbital altitudes as authorized by section 907 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18405)."

SECONDARY PAYLOAD CAPABILITY

Pub. L. 109–155, title VI, § 602, Dec. 30, 2005, 119 Stat. 2931, provided that:

"(a) IN GENERAL.—In order to provide more routine and affordable access to space for a broad range of scientific payloads, the Administrator is encouraged to provide the capabilities to support secondary payload flight opportunities on United States launch vehicles, or free flyers, for satellites or scientific payloads weighing less than 500 kilograms.

"(b) FEASIBILITY STUDY.—The Administrator shall initiate a feasibility study for designating a National Free Flyer Launch Coordination Center as a means of coordinating, consolidating, and integrating secondary launch capabilities, launch opportunities, and payloads.

"(c) ASSESSMENT.—The feasibility study required by subsection (b) shall include an assessment of the feasibility of integrating a National Free Flyer Launch Coordination Center within the operations and facilities of an existing nonprofit organization such as the Inland Northwest Space Alliance in Missoula, Montana, or a similar entity, and shall include an assessment of the potential utilization of existing launch and launch support facilities and capabilities, including but not limited to those in the States of Montana and New Mexico and their respective contiguous States, and the State of Alaska, for the integration and launch of secondary payloads, including an assessment of the feasibility of establishing cooperative agreements among such facilities, existing or future commercial launch providers, payload developers, and the designated Coordination Center."

§ 70103. Commercial payloads on space launch system

(a) DEFINITIONS.—In this section:

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

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

(b) IN GENERAL.—Commercial payloads may not be accepted for launch as primary payloads on the space launch system unless the Administrator determines that—

(1) the payload requires the unique capabilities of the space launch system; or

(2) launching of the payload on the space launch system is important for either national security or foreign policy purposes.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3428; Pub. L. 114–90, title I, § 117(a)(4), Nov. 25, 2015, 129 Stat. 718.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70103(a)	42 U.S.C. 2465c.	Pub. L. 101–611, title II, § 203, Nov. 16, 1990, 104 Stat. 3206; Pub. L. 105–303, title II, § 203(2), Oct. 28, 1998, 112 Stat. 2855.
70103(b)	42 U.S.C. 2465f.	Pub. L. 101–611, title II, § 206, Nov. 16, 1990, 104 Stat. 3207; Pub. L. 105–303, title II, § 203(4), Oct. 28, 1998, 112 Stat. 2855.

In subsection (a), the words "this section" are substituted for "this title", meaning title II of Public Law 101–611, because title II of Public Law 101–611 was previously repealed except for section 201 (a short title provision, classified to 42 U.S.C. 2451 note, in which neither defined term appears) and sections 203 (42 U.S.C. 2465c) and 206 (42 U.S.C. 2465f) of Public Law 101–611, which are restated in this section.

AMENDMENTS

2015—Pub. L. 114–90 substituted "space launch system" for "space shuttle" in section catchline and wherever appearing in text.

§ 70104. Definition of Space Launch System

In this chapter, the term "Space Launch System" means the Space Launch System authorized under section 302 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18322).

(Added Pub. L. 114–90, title I, § 117(a)(5), Nov. 25, 2015, 129 Stat. 718.)

[CHAPTER 703—REPEALED]

[§§ 70301 to 70304. Repealed. Pub. L. 115–10, title IV, § 416(b), Mar. 21, 2017, 131 Stat. 35]

Section 70301, Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3428, set out Congressional findings.

Section 70302, Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3429, related to purpose, policy, and goals of chapter.

Section 70303, Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3429, defined "additive cost".

Section 70304, Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3429, related to duties of Administrator.

CHAPTER 705—EXPLORATION INITIATIVES

Sec.
70501. Space shuttle follow-on.
70502. Exploration plan and programs.
70503. Ground-based analog capabilities.
70504. Stepping stone approach to exploration.
70505. Lunar outpost.
70506. Exploration technology research.
70507. Technology development.
70508. Robotic or human servicing of spacecraft.

§ 70501. Space shuttle follow-on

(a) POLICY STATEMENT.—In order to ensure continuous United States participation and leadership in the exploration and utiliza-

tion of space and as an essential instrument of national security, it is the policy of the United States to maintain an uninterrupted capability for human space flight and operations—

(1) in low-Earth orbit; and

(2) beyond low-Earth orbit once the capabilities described in section 421(f) of the National Aeronautics and Space Administration Transition Authorization Act of 2017 become available.

(b) ANNUAL REPORT.—The Administrator shall transmit an annual report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives describing the progress being made toward developing the Space Launch System and Orion and the estimated time before they will demonstrate crewed, orbital spaceflight.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3430; Pub. L. 115–10, title IV, § 417, Mar. 21, 2017, 131 Stat. 35.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70501(a)	42 U.S.C. 16761(a).	Pub. L. 109–155, title V, § 501(a), (b), Dec. 30, 2005, 119 Stat. 2927.
70501(b)	42 U.S.C. 16761(b).	

In subsection (b), the words "The Administrator shall transmit an annual report" are substituted for "Not later than 180 days after the date of enactment of this Act [December 30, 2005] and annually thereafter, the Administrator shall transmit a report" to eliminate obsolete language.

In subsection (b), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

REFERENCES IN TEXT

Section 421(f) of the National Aeronautics and Space Administration Transition Authorization Act of 2017, referred to in subsec. (a)(2), is section 421(f) of Pub. L. 115–10, which is set out as a note under section 20301 of this title.

AMENDMENTS

2017—Subsec. (a). Pub. L. 115–10, § 417(1), amended subsec. (a) generally. Prior to amendment, text read as follows: "It is the policy of the United States to possess the capability for human access to space on a continuous basis."

Subsec. (b). Pub. L. 115–10, § 417(2), substituted "Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives describing the progress being made toward developing the Space Launch System and Orion" for "Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate describing the progress being made toward developing the Crew Exploration Vehicle and the Crew Launch Vehicle".

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

TRANSITION

Pub. L. 110–422, title VI, § 613, Oct. 15, 2008, 122 Stat. 4799, provided that:

"(a) DISPOSITION OF SHUTTLE-RELATED ASSETS.—

"(1) IN GENERAL.—Not later than 90 days after the date of enactment of this Act [Oct. 15, 2008], the Administrator [of NASA] shall submit to Congress a plan describing the process for the disposition of the remaining Space Shuttle Orbiters and other Space Shuttle program-related hardware after the retirement of the Space Shuttle fleet.

"(2) PLAN REQUIREMENTS.—The plan submitted under paragraph (1) shall include a description of a process by which educational institutions, science museums, and other appropriate organizations may acquire, through loan or disposal by the Federal Government, Space Shuttle program hardware.

"(3) PROHIBITION ON DISPOSITION BEFORE COMPLETION OF PLAN.—The Administrator shall not dispose of any Space Shuttle program hardware before the plan required by paragraph (1) is submitted to Congress.

"(b) SPACE SHUTTLE TRANSITION LIAISON OFFICE.—

"(1) ESTABLISHMENT.—The Administrator shall develop a plan and establish a Space Shuttle Transition Liaison Office within the Office of Human Capital Management of NASA [National Aeronautics and Space Administration] to assist local communities affected by the termination of the Space Shuttle program in mitigating the negative impacts on such communities caused by such termination. The plan shall define the size of the affected local community that would receive assistance described in paragraph (2).

"(2) MANNER OF ASSISTANCE.—In providing assistance under paragraph (1), the office established under such paragraph shall—

"(A) offer nonfinancial, technical assistance to communities described in such paragraph to assist in the mitigation described in such paragraph; and

"(B) serve as a clearinghouse to assist such communities in identifying services available from other Federal, State, and local agencies to assist in such mitigation.

"(3) TERMINATION OF OFFICE.—The office established under paragraph (1) shall terminate 2 years after the completion of the last Space Shuttle flight.

"(4) SUBMISSION.—Not later than 180 days after the date of enactment of this Act [Oct. 15, 2008], NASA shall provide a copy of the plan required by paragraph (1) to the Congress."

Pub. L. 110–161, div. B, title III, Dec. 26, 2007, 121 Stat. 1919, provided that: "The Administrator of the National Aeronautics and Space Administration shall prepare a strategy for minimizing job

losses when the National Aeronautics and Space Administration transitions from the Space Shuttle to a successor human-rated space transport vehicle. This strategy shall include: (1) specific initiatives that the National Aeronautics and Space Administration has undertaken, or plans to undertake, to maximize the utilization of existing civil service and contractor workforces at each of the affected Centers; (2) efforts to equitably distribute tasks and workload between the Centers to mitigate the brunt of job losses being borne by only certain Centers; (3) new workload, tasks, initiatives, and missions being secured for the affected Centers; and (4) overall projections of future civil service and contractor workforce levels at the affected Centers. The Administrator shall transmit this strategy to Congress not later than 90 days after the date of enactment of this Act [Dec. 26, 2007]. The Administrator shall update and transmit to Congress this strategy not less than every six months thereafter until the successor human-rated space transport vehicle is fully operational."

Pub. L. 109–155, title V, § 502, Dec. 30, 2005, 119 Stat. 2928, provided that:

"(a) IN GENERAL.—The Administrator [of the National Aeronautics and Space Administration] shall, to the fullest extent possible consistent with a successful development program, use the personnel, capabilities, assets, and infrastructure of the Space Shuttle program in developing the Crew Exploration Vehicle, Crew Launch Vehicle, and a heavy-lift launch vehicle.

"(b) PLAN.—Not later than 180 days after the date of enactment of this Act [Dec. 30, 2005], the Administrator shall transmit to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a plan describing how NASA [National Aeronautics and Space Administration] will proceed with its human space flight programs, which, at a minimum, shall describe—

"(1) how NASA will deploy personnel from, and use the facilities of, the Space Shuttle program to ensure that the Space Shuttle operates as safely as possible through its final flight and to ensure that personnel and facilities from the Space Shuttle program are used in NASA's exploration programs in accordance with subsection (a);

"(2) the planned number of flights the Space Shuttle will make before its retirement;

"(3) the means, other than the Space Shuttle and the Crew Exploration Vehicle, including commercial vehicles, that may be used to ferry crew and cargo to and from the ISS [International Space Station];

"(4) the intended purpose of lunar missions and the architecture for those missions; and

"(5) the extent to which the Crew Exploration Vehicle will allow for the escape of the crew in an emergency.

"(c) PERSONNEL.—The Administrator shall consult with other appropriate Federal agencies and with NASA contractors and employees to develop a transition plan for any Federal and contractor personnel engaged in the Space Shuttle program who can no longer be retained because of the retirement of the Space Shuttle. The plan

shall include actions to assist Federal and contractor personnel in taking advantage of training, retraining, job placement and relocation programs, and any other actions that NASA will take to assist the employees. The plan shall also describe how the Administrator will ensure that NASA and its contractors will have an appropriate complement of employees to allow for the safest possible use of the Space Shuttle through its final flight. The Administrator shall transmit the plan to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than March 31, 2006."

§ 70502. Exploration plan and programs

The Administrator shall—

(1) construct an architecture and implementation plan for the Administration's human exploration program that is not critically dependent on the achievement of milestones by fixed dates;

(2) implement an exploration research and technology development program to enable human and robotic operations consistent with section 20302(b) of this title;

(3) conduct an in-situ resource utilization technology program to develop the capability to use space resources to increase independence from Earth, and sustain exploration beyond low-Earth orbit; and

(4) pursue aggressively automated rendezvous and docking capabilities that can support the International Space Station and other mission requirements.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3430; Pub. L. 115–10, title IV, § 415, Mar. 21, 2017, 131 Stat. 34.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70502	42 U.S.C. 16763.	Pub. L. 109–155, title V, § 503, Dec. 30, 2005, 119 Stat. 2929.

AMENDMENTS

2017—Par. (2). Pub. L. 115-10 amended par. (2) generally. Prior to amendment, par. (2) read as follows: "implement an exploration technology development program to enable lunar human and robotic operations consistent with section 20302(b) of this title, including surface power to use on the Moon and other locations;".

§ 70503. Ground-based analog capabilities

(a) IN GENERAL.—The Administrator may establish a ground-based analog capability in remote United States locations in order to assist in the development of lunar operations, life support, and in-situ resource utilization experience and capabilities.

(b) ENVIRONMENTAL CHARACTERISTICS.—The Administrator shall select locations for the activities described in subsection (a) that—

(1) are regularly accessible;

(2) have significant temperature extremes and range; and

(3) have access to energy and natural resources (including geothermal, permafrost, volcanic, or other potential resources).

(c) INVOLVEMENT OF LOCAL POPULATIONS AND PRIVATE SECTOR PARTNERS.—In carrying out this section, the Administrator shall involve local populations, academia, and industrial partners as much as possible to ensure that ground-based benefits and applications are encouraged and developed.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3430.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70503	42 U.S.C. 16764.	Pub. L. 109–155, title V, § 504, Dec. 30, 2005, 199 Stat. 2929.

§ 70504. Stepping stone approach to exploration

(a) IN GENERAL.—The Administration—

(1) may conduct missions to intermediate destinations in sustainable steps in accordance with section 20302(b) of this title, and on a timetable determined by the availability of funding, in order to achieve the objective of human exploration of Mars specified in section 202(b)(5) of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18312(b)(5)); and

(2) shall incorporate any such missions into the human exploration roadmap under section 432 of the National Aeronautics and Space Administration Transition Authorization Act of 2017.

(b) COST-EFFECTIVENESS.—In order to maximize the cost-effectiveness of the long-term space exploration and utilization activities of the United States, the Administrator shall take all necessary steps, including engaging international, academic, and industry partners, to ensure that activities in the Administration's human space exploration program balance how those activities might also help meet the requirements of future exploration and utilization activities leading to human habitation on the surface of Mars.

(c) COMPLETION.—Within budgetary considerations, once an exploration-related project enters its development phase, the Administrator shall seek, to the maximum extent practicable, to complete that project without undue delays.

(d) INTERNATIONAL PARTICIPATION.—In order to achieve the goal of successfully conducting a crewed mission to the surface of Mars, the President may invite the United States partners in the ISS program and other nations, as appropriate, to participate in an international initiative under the leadership of the United States.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3431; Pub. L. 115–10, title IV, § 414, Mar. 21, 2017, 131 Stat. 34.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70504	42 U.S.C. 17731.	Pub. L. 110–422, title IV, § 403, Oct. 15, 2008, 122 Stat. 4789.

REFERENCES IN TEXT

Section 432 of the National Aeronautics and Space Administration Transition Authorization Act of 2017, referred to in subsec. (a)(2), is section 432 of Pub. L. 115–10, which is set out in a note under section 20302 of this title.

AMENDMENTS

2017—Pub. L. 115–10 amended section generally. Prior to amendment, text read as follows: "In order to maximize the cost-effectiveness of the long-term exploration and utilization activities of the United States, the Administrator shall take all necessary steps, including engaging international partners, to ensure that activities in its lunar exploration program shall be designed and implemented in a manner that gives strong consideration to how those activities might also help meet the requirements of future exploration and utilization activities beyond the Moon. The timetable of the lunar phase of the long-term international exploration initiative shall be determined by the availability of funding. However, once an exploration-related project enters its development phase, the Administrator shall seek, to the maximum extent practicable, to complete that project without undue delays."

§ 70505. Lunar outpost

(a) ESTABLISHMENT.—As the Administration works toward the establishment of a lunar outpost, the Administration shall make no plans that would require a lunar outpost to be occupied to maintain its viability. Any such outpost shall be operable as a human-tended facility capable of remote or autonomous operation for extended periods.

(b) DESIGNATION.—The United States portion of the first human-tended outpost established on the surface of the Moon shall be designated the "Neil A. Armstrong Lunar Outpost".

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3431.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70505(a)	42 U.S.C. 17732(a).	Pub. L. 110–422, title IV, § 404(a), (b), Oct. 15, 2008, 122 Stat. 4789.
70505(b)	42 U.S.C. 17732(b).	

§ 70506. Exploration technology research

The Administrator shall carry out a program of long-term exploration-related technology research and development, including such things as in-space propulsion, power systems, life support, and advanced avionics, that is not tied to specific flight projects. The program shall have the funding goal of ensuring that the technology

research and development can be completed in a timely manner in order to support the safe, successful, and sustainable exploration of the solar system. In addition, in order to ensure that the broadest range of innovative concepts and technologies are captured, the long-term technology program shall have the goal of having a significant portion of its funding available for external grants and contracts with universities, research institutions, and industry.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3431.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70506	42 U.S.C. 17733(b).	Pub. L. 110–422, title IV, § 405(b), Oct. 15, 2008, 112 Stat. 4789.

PURPOSE

Pub. L. 110–422, title IV, § 405(a), Oct. 15, 2008, 122 Stat. 4789, provided that: "A robust program of long-term exploration-related technology research and development will be essential for the success and sustainability of any enduring initiative of human and robotic exploration of the solar system."

INNOVATIVE TECHNOLOGIES FOR HUMAN SPACE FLIGHT

Pub. L. 106–391, title III, § 313, Oct. 30, 2000, 114 Stat. 1594, provided that:

"(a) ESTABLISHMENT OF PROGRAM.—In order to promote a 'faster, cheaper, better' approach to the human exploration and development of space, the Administrator [of the National Aeronautics and Space Administration] shall establish a Human Space Flight Innovative Technologies program of ground-based and space-based research and development in innovative technologies. The program shall be part of the Technology and Commercialization program.

"(b) AWARDS.—At least 75 percent of the amount appropriated for Technology and Commercialization under section 101(b)(4) [114 Stat. 1581] for any fiscal year shall be awarded through broadly distributed announcements of opportunity that solicit proposals from educational institutions, industry, nonprofit institutions, National Aeronautics and Space Administration Centers, the Jet Propulsion Laboratory, other Federal agencies, and other interested organizations, and that allow partnerships among any combination of those entities, with evaluation, prioritization, and recommendations made by external peer review panels.

"(c) PLAN.—The Administrator shall provide to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and to the Committee on Commerce, Science, and Transportation of the Senate, not later than December 1, 2000, a plan to implement the program established under subsection (a)."

§ 70507. Technology development

The Administrator shall establish an intra-Directorate long-term technology development program for space and Earth science within the Science Mission Directorate for the development of new tech-

nology. The program shall be independent of the flight projects under development. The Administration shall have a goal of funding the intra-Directorate technology development program at a level of 5 percent of the total Science Mission Directorate annual budget. The program shall be structured to include competitively awarded grants and contracts.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3431.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70507	42 U.S.C. 17741.	Pub. L. 110–422, title V, § 501, Oct. 15, 2008, 122 Stat. 4791.

§ 70508. Robotic or human servicing of spacecraft

The Administrator shall take all necessary steps to ensure that provision is made in the design and construction of all future observatory-class scientific spacecraft intended to be deployed in Earth orbit or at a Lagrangian point in space for robotic or human servicing and repair to the extent practicable and appropriate.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3432.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70508	42 U.S.C. 17742.	Pub. L. 110–422, title V, § 502, Oct. 15, 2008, 122 Stat. 4791.

CHAPTER 707—HUMAN SPACE FLIGHT INDEPENDENT INVESTIGATION COMMISSION

Sec.
70701. Definitions.
70702. Establishment of Commission.
70703. Tasks of Commission.
70704. Composition of Commission.
70705. Powers of Commission.
70706. Public meetings, information, and hearings.
70707. Staff of Commission.
70708. Compensation and travel expenses.
70709. Security clearances for Commission members and staff.
70710. Reporting requirements and termination.

§ 70701. Definitions

In this chapter:

(1) COMMISSION.—The term "Commission" means a Commission established under this chapter.

(2) INCIDENT.—The term "incident" means either an accident or a deliberate act.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3432.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70701	42 U.S.C. 16841.	Pub. L. 109–155, title VIII, § 821, Dec. 30, 2005, 199 Stat. 2941.

§ 70702. Establishment of Commission

(a) ESTABLISHMENT.—The President shall establish an independent, nonpartisan Commission within the executive branch to investigate any incident that results in the loss of—

(1) a space shuttle;

(2) the International Space Station or its operational viability;

(3) any other orbital or suborbital space vehicle carrying humans that is—

(A) owned by the Federal Government; or

(B) being used pursuant to a contract or Space Act Agreement with the Federal Government for carrying a government astronaut or a researcher funded by the Federal Government; or

(4) a crew member or passenger of any space vehicle described in this subsection.

(b) DEADLINE FOR ESTABLISHMENT.—The President shall establish a Commission within 7 days after an incident specified in subsection (a).

(c) DEFINITIONS.—In this section:

(1) GOVERNMENT ASTRONAUT.—The term "government astronaut" has the meaning given the term in section 50902.

(2) SPACE ACT AGREEMENT.—The term "Space Act Agreement" means an agreement entered into by the Administration pursuant to its other transactions authority under section 20113(e).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3432; Pub. L. 115–10, title VIII, § 838, Mar. 21, 2017, 131 Stat. 71.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70702	42 U.S.C. 16842.	Pub. L. 109–155, title VIII, § 822, Dec. 30, 2005, 119 Stat. 2941.

AMENDMENTS

2017—Subsec. (a)(3). Pub. L. 115–10, § 838(1), amended par. (3) generally. Prior to amendment, par. (3) read as follows: "any other United States space vehicle carrying humans that is owned by the Federal Government or that is being used pursuant to a contract with the Federal Government; or". Subsec. (c). Pub. L. 115–10, § 838(2), added subsec. (c).

§ 70703. Tasks of Commission

A Commission established pursuant to this chapter shall, to the extent possible, undertake the following tasks:

(1) INVESTIGATION.—Investigate the incident.

(2) CAUSE.—Determine the cause of the incident.

(3) CONTRIBUTING FACTORS.—Identify all contributing factors to the cause of the incident.

(4) RECOMMENDATIONS.—Make recommendations for corrective actions.

(5) ADDITIONAL FINDINGS OR RECOMMENDATIONS.—Provide any additional findings or recommendations deemed by the Commission to be important, whether or not they are related to the specific incident under investigation.

(6) REPORT.—Prepare a report to Congress, the President, and the public.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3432.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70703	42 U.S.C. 16843.	Pub. L. 109–155, title VIII, § 823, Dec. 30, 2005, 119 Stat. 2941.

§ 70704. Composition of Commission

(a) NUMBER OF COMMISSIONERS.—A Commission established pursuant to this chapter shall consist of 15 members.

(b) SELECTION.—The members of a Commission shall be chosen in the following manner:

(1) APPOINTMENT BY PRESIDENT.—The President shall appoint the members, and shall designate the Chairman and Vice Chairman of the Commission from among its members.

(2) LISTS PROVIDED BY LEADERS OF CONGRESS.—The majority leader of the Senate, the minority leader of the Senate, the Speaker of the House of Representatives, and the minority leader of the House of Representatives shall each provide to the President a list of candidates for membership on the Commission. The President may select one of the candidates from each of the 4 lists for membership on the Commission.

(3) PROHIBITION REGARDING FEDERAL OFFICERS AND EMPLOYEES AND MEMBERS OF CONGRESS.—No officer or employee of the Federal Government or Member of Congress shall serve as a member of the Commission.

(4) PROHIBITION REGARDING CONTRACTORS.—No member of the Commission shall have, or have pending, a contractual relationship with the Administration.

(5) PROHIBITION REGARDING CONFLICT OF INTEREST.—The President shall not appoint any individual as a member of a Commission under this section who has a current or former relationship with the Administrator that the President determines would constitute a conflict of interest.

(6) EXPERIENCE.—To the extent practicable, the President shall ensure that the members of the Commission include some individuals with experience relative to human carrying spacecraft, as well as some individuals with investigative experience and some individuals with legal experience.

(7) DIVERSITY.—To the extent practicable, the President shall seek diversity in the membership of the Commission.

(c) DEADLINE FOR APPOINTMENT.—All members of a Commission established under this chapter shall be appointed no later than 30 days after the incident.

(d) INITIAL MEETING.—A Commission shall meet and begin operations as soon as practicable.

(e) SUBSEQUENT MEETINGS.—After its initial meeting, a Commission shall meet upon the call of the Chairman or a majority of its members.

(f) QUORUM.—Eight members of a Commission shall constitute a quorum.

(g) VACANCIES.—Any vacancy in a Commission shall not affect its powers, but shall be filled in the same manner in which the original appointment was made.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3433.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70704(a)	42 U.S.C. 16844(a).	Pub. L. 109–155, title VIII, § 824, Dec. 30, 2005, 119 Stat. 2942.
70704(b)	42 U.S.C. 16844(b).	
70704(c)	42 U.S.C. 16844(c).	
70704(d)	42 U.S.C. 16844(d).	
70704(e)	42 U.S.C. 16844(e) (1st sentence).	
70704(f)	42 U.S.C. 16844(e) (2d sentence).	
70704(g)	42 U.S.C. 16844(e) (last sentence).	

§ 70705. Powers of Commission

(a) HEARINGS AND EVIDENCE.—A Commission or, on the authority of the Commission, any subcommittee or member thereof, may, for the purpose of carrying out this chapter—

(1) hold such hearings and sit and act at such times and places, take such testimony, receive such evidence, administer such oaths; and

(2) require, by subpoena or otherwise, the attendance and testimony of such witnesses and the production of such books, records, correspondence, memoranda, papers, and documents, as the Commission or such designated subcommittee or member may determine advisable.

(b) CONTRACTING.—A Commission may, to such extent and in such amounts as are provided in appropriation Acts, enter into contracts to enable the Commission to discharge its duties under this chapter.

(c) INFORMATION FROM FEDERAL AGENCIES.—

(1) IN GENERAL.—A Commission may secure directly from any executive department, bureau, agency, board, commission, office, independent establishment, or instrumentality of the Government, information, suggestions, estimates, and statistics for the purposes of this chapter. Each department, bureau, agency, board, commission, office, independent establishment, or instrumentality shall, to the extent authorized by law, furnish such information, suggestions, estimates, and statistics di-

rectly to the Commission, upon request made by the Chairman, the chairman of any subcommittee created by a majority of the Commission, or any member designated by a majority of the Commission.

(2) RECEIPT, HANDLING, STORAGE, AND DISSEMINATION.—Information shall only be received, handled, stored, and disseminated by members of the Commission and its staff consistent with all applicable statutes, regulations, and Executive orders.

(d) ASSISTANCE FROM FEDERAL AGENCIES.—

(1) GENERAL SERVICES ADMINISTRATION.—The Administrator of General Services shall provide to a Commission on a reimbursable basis administrative support and other services for the performance of the Commission's tasks.

(2) OTHER DEPARTMENTS AND AGENCIES.—In addition to the assistance prescribed in paragraph (1), departments and agencies of the United States may provide to the Commission such services, funds, facilities, staff, and other support services as they may determine advisable and as may be authorized by law.

(3) ADMINISTRATION ENGINEERING AND SAFETY CENTER.—The Administration Engineering and Safety Center shall provide data and technical support as requested by the Commission.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3433.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70705	42 U.S.C. 16845.	Pub. L. 109–155, title VIII, § 825, Dec. 21, 2005, 119 Stat. 2942.

§ 70706. Public meetings, information, and hearings

(a) PUBLIC MEETINGS AND RELEASE OF PUBLIC VERSIONS OF REPORTS.—A Commission shall—

(1) hold public hearings and meetings to the extent appropriate; and

(2) release public versions of the reports required under this chapter.

(b) PUBLIC HEARINGS.—Any public hearings of a Commission shall be conducted in a manner consistent with the protection of information provided to or developed for or by the Commission as required by any applicable statute, regulation, or Executive order.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3434.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70706	42 U.S.C. 16846.	Pub. L. 109–155, title VIII, § 826, Dec. 30, 2005, 119 Stat. 2943.

§ 70707. Staff of Commission

(a) APPOINTMENT AND COMPENSATION.—The Chairman, in consultation with the Vice Chairman, in accordance with rules agreed upon by a Commission, may appoint and fix the compensation of

a staff director and such other personnel as may be necessary to enable the Commission to carry out its functions.

(b) DETAILEES.—Any Federal Government employee, except for an employee of the Administration, may be detailed to a Commission without reimbursement from the Commission, and such detailee shall retain the rights, status, and privileges of his or her regular employment without interruption.

(c) CONSULTANT SERVICES.—A Commission may procure the services of experts and consultants in accordance with section 3109 of title 5, but at rates not to exceed the daily equivalent of the annual rate of basic pay in effect for positions at level IV of the Executive Schedule under section 5315 of title 5. An expert or consultant whose services are procured under this subsection shall disclose any contract or association the expert or consultant has with the Administration or any Administration contractor.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3435.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70707	42 U.S.C. 16847.	Pub. L. 109–155, title VIII, § 827, Dec. 30, 2005, 119 Stat. 2943.

In subsection (c), in the 1st sentence, the words "the daily equivalent of the annual rate of basic pay in effect for positions at level IV of the Executive Schedule under section 5315 of title 5" are substituted for "the daily rate paid a person occupying a position at level IV of the Executive Schedule under section 5315 of title 5" for consistency in title 51.

In subsection (c), in the last sentence, the words "the expert or consultant" are substituted for "it" for clarity.

§ 70708. Compensation and travel expenses

(a) COMPENSATION.—Each member of a Commission may be compensated at a rate not to exceed the daily equivalent of the annual rate of basic pay in effect for positions at level IV of the Executive Schedule under section 5315 of title 5 for each day during which that member is engaged in the actual performance of the duties of the Commission.

(b) TRAVEL EXPENSES.—While away from their homes or regular places of business in the performance of services for the Commission, members of a Commission shall be allowed travel expenses, including per diem in lieu of subsistence, in the same manner as persons employed intermittently in the Government service are allowed expenses under section 5703 of title 5.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3435.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70708	42 U.S.C. 16848.	Pub. L. 109–155, title VIII, § 828, Dec. 30, 2005, 119 Stat. 2944.

In subsection (a), the words "at a rate not to exceed the daily equivalent of the annual rate" for "at not to exceed the daily equivalent of the annual rate" for consistency in title 51.

In subsection (b), the words "section 5703 of title 5" are substituted for "section 5703(b) of title 5" to correct an error in the law. Section 5703 of title 5, United States Code, does not contain a subsection (b).

§ 70709. Security clearances for Commission members and staff

The appropriate Federal agencies or departments shall cooperate with a Commission in expeditiously providing to the Commission members and staff appropriate security clearances to the extent possible pursuant to existing procedures and requirements. No person shall be provided with access to classified information under this chapter without the appropriate security clearances.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3435.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70709	42 U.S.C. 16849.	Pub. L. 109–155, title VIII, § 829, Dec. 30, 2005, 119 Stat. 2944.

§ 70710. Reporting requirements and termination

(a) INTERIM REPORTS.—A Commission may submit to the President and Congress interim reports containing such findings, conclusions, and recommendations for corrective actions as have been agreed to by a majority of Commission members.

(b) FINAL REPORT.—A Commission shall submit to the President and Congress, and make concurrently available to the public, a final report containing such findings, conclusions, and recommendations for corrective actions as have been agreed to by a majority of Commission members. Such report shall include any minority views or opinions not reflected in the majority report.

(c) TERMINATION.—

(1) IN GENERAL.—A Commission, and all the authorities of this chapter with respect to that Commission, shall terminate 60 days after the date on which the final report is submitted under subsection (b).

(2) ADMINISTRATIVE ACTIVITIES BEFORE TERMINATION.—A Commission may use the 60-day period referred to in paragraph (1) for the purpose of concluding its activities, including providing testimony to committees of Congress concerning its reports and disseminating the final report.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3436.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70710	42 U.S.C. 16850.	Pub. L. 109–155, title VIII, § 830, Dec. 30, 2005, 119 Stat. 2944.

CHAPTER 709—INTERNATIONAL SPACE STATION

Sec.
70901. Peaceful uses of space station.
70902. Allocation of International Space Station research budget.
70903. International Space Station research.
70904. International Space Station completion.
70905. National laboratory designation.
70906. International Space Station National Laboratory Advisory Committee.
70907. Maintaining use through at least 2024.

AMENDMENTS

2015—Pub. L. 114–90, title I, § 114(b)(5)(B), Nov. 25, 2015, 129 Stat. 716, substituted "Maintaining use through at least 2024." for "Maintaining use through at least 2020." in item 70907.

§ 70901. Peaceful uses of space station

No civil space station authorized under section 103(a)(1) of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991 (Public Law 101–611, 104 Stat. 3190) may be used to carry or place in orbit any nuclear weapon or any other weapon of mass destruction, to install any such weapon on any celestial body, or to station any such weapon in space in any other manner. This civil space station may be used only for peaceful purposes.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3436.)

HISTORICAL AND REVISION NOTES

Revised Sections	*Source (U.S. Code)*	*Sources (Statutes at Large)*
70901	(not previously classified)	Pub. L. 101–611, title I, § 123, Nov. 16, 1990, 104 Stat. 3204.

The words "the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991 (Public Law 101–611, 104 Stat. 3190)" are substituted for "this Act" to clarify the reference.

REFERENCES IN TEXT

Section 103(a)(1) of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991 (Public Law 101–611, 104 Stat. 3190), referred to in text, is not classified to the Code.

INTERNATIONAL SPACE STATION

Pub. L. 110–69, title II, § 2006, Aug. 9, 2007, 121 Stat. 584, provided that:

"(a) SENSE OF CONGRESS.—It is the sense of Congress that the International Space Station National Laboratory offers unique opportunities for educational activities and provides a unique resource for research and development in science, technology, and engineering, which can enhance the global competitiveness of the United States.

"(b) DEVELOPMENT OF EDUCATIONAL PROJECTS.—The Administrator of the National Aeronautics and Space Administration shall develop a detailed plan for implementation of 1 or more education projects that utilize the resources offered by the International

Space Station. In developing any detailed plan according to this paragraph, the Administrator shall make use of the findings and recommendations of the International Space Station National Laboratory Education Concept Development Task Force.

"(c) DEVELOPMENT OF RESEARCH PLANS FOR COMPETITIVENESS ENHANCEMENT.—The Administrator shall develop a detailed plan for identification and support of research to be conducted aboard the International Space Station, which offers the potential for enhancement of United States competitiveness in science, technology, and engineering. In developing any detailed plan pursuant to this subsection, the Administrator shall consult with agencies and entities with which cooperative agreements have been reached regarding utilization of International Space Station National Laboratory facilities."

Pub. L. 106–391, title II, §§ 201–203, 205, Oct. 30, 2000, 114 Stat. 1586–1590, as amended by Pub. L. 108–271, § 8(b), July 7, 2004, 118 Stat. 814; Pub. L. 109–155, title II, § 207(b), title VII, § 706(a), Dec. 30, 2005, 119 Stat. 2916, 2937, provided that:

"SEC. 201. INTERNATIONAL SPACE STATION CONTINGENCY PLAN.

"(a) BIMONTHLY REPORTING ON RUSSIAN STATUS.—Not later than the first day of the first month beginning more than 60 days after the date of the enactment of this Act [Oct. 30, 2000], and semiannually thereafter until December 31, 2011, the Administrator [of the National Aeronautics and Space Administration] shall report to Congress whether or not the Russians have performed work expected of them and necessary to complete the International Space Station. Each such report shall also include a statement of the Administrator's judgment concerning Russia's ability to perform work anticipated and required to complete the International Space Station before the next report under this subsection. Each such report shall also identify each Russian entity or person to whom NASA has, since the date of the enactment of the Iran Nonproliferation Amendments Act of 2005 [Nov. 22, 2005], made a payment in cash or in-kind for work to be performed or services to be rendered under the Agreement Concerning Cooperation on the Civil International Space Station, with annex, signed at Washington January 29, 1998, and entered into force March 27, 2001, or any protocol, agreement, memorandum of understanding, or contract related thereto. Each report shall include the specific purpose of each payment made to each entity or person identified in the report.

"(b) DECISION ON RUSSIAN CRITICAL PATH ITEMS.—The President shall notify Congress within 90 days after the date of the enactment of this Act [Oct. 30, 2000] of the decision on whether or not to proceed with permanent replacement of any Russian elements in the critical path [as defined in section 3 of Pub. L. 106–391, 51 U.S.C. 10101 note] of the International Space Station or any Russian launch services. Such notification shall include the reasons and justifications for the decision and the costs associated with the decision. Such decision shall include a judgment of when all elements identified in Revision E assembly sequence as of June 1999 will be in orbit and operational. If the President decides to proceed with a permanent replacement for any Russian element in the critical path or any Russian launch services, the President shall notify

Congress of the reasons and the justification for the decision to proceed with the permanent replacement and the costs associated with the decision.

"(c) ASSURANCES.—The United States shall seek assurances from the Russian Government that it places a higher priority on fulfilling its commitments to the International Space Station than it places on extending the life of the Mir Space Station, including assurances that Russia will not utilize assets allocated by Russia to the International Space Station for other purposes, including extending the life of Mir.

"(d) EQUITABLE UTILIZATION.—In the event that any International Partner in the International Space Station Program willfully violates any of its commitments or agreements for the provision of agreed-upon Space Station-related hardware or related goods or services, the Administrator should, in a manner consistent with relevant international agreements, seek a commensurate reduction in the utilization rights of that Partner until such time as the violated commitments or agreements have been fulfilled.

"(e) OPERATION COSTS.—The Administrator shall, in a manner consistent with relevant international agreements, seek to reduce the National Aeronautics and Space Administration's share of International Space Station common operating costs, based upon any additional capabilities provided to the International Space Station through the National Aeronautics and Space Administration's Russian Program Assurance activities.

"[SEC. 202. REPEALED. PUB. L. 109–155, TITLE II, § 207(B), DEC. 30, 2005, 119 STAT. 2916, EFFECTIVE 30 DAYS AFTER DEC. 1, 2006.]

"SEC. 203. RESEARCH ON INTERNATIONAL SPACE STATION.

"(a) STUDY.—The Administrator [of the National Aeronautics and Space Administration] shall enter into a contract with the National Research Council and the National Academy of Public Administration to jointly conduct a study of the status of life and microgravity research as it relates to the International Space Station.

The study shall include—

"(1) an assessment of the United States scientific community's readiness to use the International Space Station for life and microgravity research;

"(2) an assessment of the current and projected factors limiting the United States scientific community's ability to maximize the research potential of the International Space Station, including, but not limited to, the past and present availability of resources in the life and microgravity research accounts within the Office of Human Spaceflight and the Office of Life and Microgravity Sciences and Applications and the past, present, and projected access to space of the scientific community; and

"(3) recommendations for improving the United States scientific community's ability to maximize the research potential of the International Space Station, including an assessment of the relative costs and benefits of—

"(A) dedicating an annual mission of the Space Shuttle to life and microgravity research during assembly of the International Space Station; and

"(B) maintaining the schedule for assembly in place at the time of the enactment [Oct. 30, 2000].

"(b) REPORT.—Not later than 1 year after the date of the enactment of this Act [Oct. 30, 2000], the Administrator shall transmit to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report on the results of the study conducted under this section.

"SEC. 205. SPACE STATION RESEARCH UTILIZATION AND COMMERCIALIZATION MANAGEMENT.

"(a) RESEARCH UTILIZATION AND COMMERCIALIZATION MANAGEMENT ACTIVITIES.—The Administrator of the National Aeronautics and Space Administration shall enter into an agreement with a non-government organization to conduct research utilization and commercialization management activities of the International Space Station subsequent to substantial completion as defined in section 202(b)(3). The agreement may not take effect less than 120 days after the implementation plan for the agreement is submitted to the Congress under subsection (b).

"(b) IMPLEMENTATION PLAN.—Not later than September 30, 2001, the Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives an implementation plan to incorporate the use of a non-government organization for the International Space Station. The implementation plan shall include—

"(1) a description of the respective roles and responsibilities of the Administration and the non-government organization;

"(2) a proposed structure for the non-government organization;

"(3) a statement of the resources required;

"(4) a schedule for the transition of responsibilities; and

"(5) a statement of the duration of the agreement."

[Pub. L. 109–155, title VII, § 706(a)(2), Dec. 30, 2005, 119 Stat. 2937, which directed insertion of two sentences at end of section 201 of Pub. L. 106–391, set out above, was executed by making the insertion at the end of section 201(a) of Pub. L. 106–391, to reflect the probable intent of Congress.]

PERMANENTLY MANNED SPACE STATION

Pub. L. 100–147, title I, §§ 106–112, Oct. 30, 1987, 101 Stat. 863–865, as amended by Pub. L. 102–195, § 16, Dec. 9, 1991, 105 Stat. 1614; Pub. L. 105–362, title XI, § 1101(c), Nov. 10, 1998, 112 Stat. 3292, provided that:

"SEC. 106. (a) The Administrator [of the National Aeronautics and Space Administration] is directed to undertake the construction of a permanently manned space station (hereinafter referred to as the 'space station') to become operational in 1995. The space station will be used for the following purposes—

"(1) the conduct of scientific experiments, applications experiments, and engineering experiments;

"(2) the servicing, rehabilitation, and construction of satellites and space vehicles;

"(3) the development and demonstration of commercial products and processes; and

"(4) the establishment of a space base for other civilian and commercial space activities.

"(b) The space station shall be developed and operated in a manner that supports other science and space activities.

"(c) In order to reduce the cost of operations of the space station and its ground support system, the Administrator shall undertake the development of such advanced technologies as may be appropriate within the level of funding authorized in this Act [see Tables for classification].

"(d) The Administrator shall seek to have portions of the space station constructed and operated by the private sector, where appropriate.

"(e) The Administrator shall promote international cooperation in the space station program by undertaking the development, construction, and operation of the space station in conjunction with (but not limited to) the Governments of Europe, Japan, and Canada.

"(f) The space station shall be designed, developed, and operated in a manner that enables evolutionary enhancement.

"[SEC. 107. Repealed. Pub. L. 105–362, title XI, § 1101(c), Nov. 10, 1998, 112 Stat. 3292.]

"SEC. 108. In order to ensure that the development of the space station is part of a balanced civilian space program, the Administrator is instructed to establish as a goal a funding profile that limits (1) space station total annual costs under the capital development plan in section 107 to 25 percent of the total budget request for the National Aeronautics and Space Administration and (2) all space station direct operations costs, except for those costs associated with the utilization of the space station, to 10 percent of the total budget request for the National Aeronautics and Space Administration.

"SEC. 109. (a) It is the sense of the Congress that the launching and servicing of the space station should be accomplished by the most cost-effective use of space transportation systems, including the space shuttle and expendable launch vehicles.

"(b) Not later than January 15, 1988, the Administrator shall submit a preliminary report on the cost-effective use of space transportation systems for the launch of space station elements during the development and operation of the space station. The Administrator shall consider—

"(1) the potential use of future advanced or heavy lift expendable launch vehicles for purposes of the assembly and operation of the space station;

"(2) the use of existing expendable launch vehicles of the National Aeronautics and Space Administration, the Department of Defense, and the Private Sector;

"(3) the requirement for space shuttle launches; and

"(4) the risk of capital losses from the use of expendable launch vehicles and the space shuttle.

"SEC. 110. (a) The Administrator shall set and collect reasonable user fees for the use and maintenance of the space station.

"(b) The Administrator shall set user fees so as to—

"(1) promote the use of the space station consistent with the policy set forth in section 106;

"(2) recover the costs of the use of the space station, including reasonable charges for any enhancement needed for such use; and

"(3) conserve and efficiently allocate the resources of the space station.

"(c) The Administrator may, on a case-by-case basis, waive or modify such user fees when in the Administrator's judgment such waiver or modification will further the goals and purposes of the National Aeronautics and Space Act of 1958 [see 51 U.S.C. 20101 et seq.], including—

"(1) the advancement of scientific or engineering knowledge;

"(2) international cooperation; and

"(3) the commercial use of space.

"SEC. 111. No later than September 30, 1988, the Administrator shall submit a detailed plan for collecting reimbursements for the utilization of the space station under section 110, including the services to be offered, the methodology and bases by which prices will be charged, and the estimated revenues.

"SEC. 112. The Intergovernmental Agreement currently being negotiated between the United States Government and Canada, Japan, and member governments of the European Space Agency, and the Memorandum of Understanding currently being negotiated between the National Aeronautics and Space Administration and its counterpart agencies in Canada, Japan, and Europe concerning the detailed design, development, construction, operation, or utilization of the space station shall be submitted to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives. No such agreement shall take effect until 30 days have passed after the receipt by such committees of the agreement."

§ 70902. Allocation of International Space Station research budget

The Administrator shall allocate at least 15 percent of the funds budgeted for International Space Station research to ground-based, free-flyer, and International Space Station life and microgravity science research that is not directly related to supporting the human exploration program, consistent with section 40904 of this title.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3436.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70902	42 U.S.C. 16633.	Pub. L. 109–155, title II, § 204, Dec. 30, 2005, 119 Stat. 2916.

The words "Beginning with fiscal year 2006", which appeared at the beginning of this section, are omitted as obsolete.

§ 70903. International Space Station research

The Administrator shall—

(1) carry out a program of microgravity research consistent with section 40904 of this title; and

(2) consider the need for a life sciences centrifuge and any associated holding facilities.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3436.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70903	42 U.S.C. 16766(1), (2).	Pub. L. 109–155, title V, § 506(1), (2), Dec. 30, 2005, 119 Stat. 2930.

§ 70904. International Space Station completion

(a) POLICY.—It is the policy of the United States to achieve diverse and growing utilization of, and benefits from, the International Space Station.

(b) ELEMENTS, CAPABILITIES, AND CONFIGURATION CRITERIA.—The Administrator shall ensure that the International Space Station will—

(1) be assembled and operated in a manner that fulfills international partner agreements, as long as the Administrator determines that the shuttle can safely enable the United States to do so;

(2) be used for a diverse range of microgravity research, including fundamental, applied, and commercial research, consistent with section 40904 of this title;

(3) have an ability to support a crew size of at least 6 persons, unless the Administrator transmits to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than 60 days after December 30, 2005, a report explaining why such a requirement should not be met, the impact of not meeting the requirement on the International Space Station research agenda and operations and international partner agreements, and what additional funding or other steps would be required to have an ability to support a crew size of at least 6 persons;

(4) support Crew Exploration Vehicle docking and automated docking of cargo vehicles or modules launched by either heavy-lift or commercially-developed launch vehicles;

(5) support any diagnostic human research, on-orbit characterization of molecular crystal growth, cellular research, and other research that the Administration believes is necessary to conduct, but for which the Administration lacks the capacity to return the materials that need to be analyzed to Earth; and

(6) be operated at an appropriate risk level.

(c) CONTINGENCIES.—

(1) POLICY.—The Administrator shall ensure that the International Space Station can have available, if needed, sufficient logistics and on-orbit capabilities to support any potential period during which the space shuttle or its follow-on crew and

cargo systems are unavailable, and can have available, if needed, sufficient surge delivery capability or prepositioning of spares and other supplies needed to accommodate any such hiatus.

(2) PLAN.—Before making any change in the International Space Station assembly sequence in effect on December 30, 2005, the Administrator shall transmit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a plan to carry out the policy described in paragraph (1).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3437.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70904	42 U.S.C. 16765.	Pub. L. 109–155, title V, § 505, Dec. 30, 2005, 119 Stat. 2929.

In subsections (b)(3) and (c)(2), the words "Committee on Science and Technology" are substituted for "Committee on Science" on authority of Rule X(1)(o) of the Rules of the House of Representatives, adopted by House Resolution No. 6 (110th Congress, January 5, 2007).

In subsections (b)(3) and (c)(2), the date "December 30, 2005" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895).

In subsection (c)(2) the words "Not later than 60 days after the date of enactment of this Act [December 30, 2005], and" are omitted as obsolete.

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 70905. National laboratory designation

(a) DEFINITION OF UNITED STATES SEGMENT OF THE INTERNATIONAL SPACE STATION.—In this section the term "United States segment of the International Space Station" means those elements of the International Space Station manufactured—

(1) by the United States; or

(2) for the United States by other nations in exchange for funds or launch services.

(b) DESIGNATION.—To further the policy described in section 70501(a) of this title, the United States segment of the International Space Station is hereby designated a national laboratory.

(c) MANAGEMENT.—

(1) PARTNERSHIPS.—The Administrator shall seek to increase the utilization of the International Space Station by other Federal entities and the private sector through partnerships, cost-

sharing agreements, and other arrangements that would supplement Administration funding of the International Space Station.

(2) CONTRACTING.—The Administrator may enter into a contract with a nongovernmental entity to operate the International Space Station national laboratory, subject to all applicable Federal laws and regulations.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3437.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70905(a)	42 U.S.C. 16767(d).	Pub. L. 109–155, title V, § 507(a), (b), (d), Dec. 30, 2005, 119 Stat. 2930, 2931.
70905(b)	42 U.S.C. 16767(a).	
70905(c)	42 U.S.C. 16767(b).	

§ 70906. International Space Station National Laboratory Advisory Committee

(a) ESTABLISHMENT.—Not later than one year after October 15, 2008, the Administrator shall establish under the Federal Advisory Committee Act a committee to be known as the "International Space Station National Laboratory Advisory Committee" (hereafter in this section referred to as the "Committee").

(b) MEMBERSHIP.—

(1) COMPOSITION.—The Committee shall be composed of individuals representing organizations that have formal agreements with the Administration to utilize the United States portion of the International Space Station, including allocations within partner elements.

(2) CHAIR.—The Administrator shall appoint a chair from among the members of the Committee, who shall serve for a 2-year term.

(c) DUTIES OF THE COMMITTEE.—

(1) IN GENERAL.—The Committee shall monitor, assess, and make recommendations regarding effective utilization of the International Space Station as a national laboratory and platform for research.

(2) ANNUAL REPORT.—The Committee shall submit to the Administrator, on an annual basis or more frequently as considered necessary by a majority of the members of the Committee, a report containing the assessments and recommendations required by paragraph (1).

(d) DURATION.—The Committee shall exist for the life of the International Space Station.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3438.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70906	42 U.S.C. 17752.	Pub. L. 110–422, title VI, § 602, Oct. 15, 2008, 122 Stat. 4795.

In subsection (a), the date "October 15, 2008" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2008 (Public Law 110–422, 122 Stat. 4779).

REFERENCES IN TEXT

The Federal Advisory Committee Act, referred to in subsec. (a), is Pub. L. 92–463, Oct. 6, 1972, 86 Stat. 770, which is set out in the Appendix to Title 5, Government Organization and Employees.

§ 70907. Maintaining use through at least 2024

(a) POLICY.—The Administrator shall take all necessary steps to ensure that the International Space Station remains a viable and productive facility capable of potential United States utilization through at least September 30, 2024.

(b) NASA ACTIONS.—In furtherance of the policy under subsection (a), the Administrator shall ensure, to the extent practicable, that the International Space Station, as a designated national laboratory—

(1) remains viable as an element of overall exploration and partnership strategies and approaches;

(2) is considered for use by all NASA mission directorates, as appropriate, for technically appropriate scientific data gathering or technology risk reduction demonstrations; and

(3) remains an effective, functional vehicle providing research and test bed capabilities for the United States through at least September 30, 2024.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3438; Pub. L. 114–90, title I, § 114(b)(4), Nov. 25, 2015, 129 Stat. 716.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
70907	42 U.S.C. 17751(a).	Pub. L. 110–422, title VI, § 601(a), Oct. 15, 2008. 122 Stat. 4793.

AMENDMENTS

2015—Pub. L. 114–90 amended section generally. Prior to amendment, section related to maintaining the International Space Station as a viable and productive facility capable of potential United States utilization through at least 2020.

CHAPTER 711—NEAR-EARTH OBJECTS

Sec.
71101. Reaffirmation of policy.
71102. Requests for information.
71103. Developing policy and recommending responsible Federal agency.
71104. Planetary radar.

GEORGE E. BROWN, JR. NEAR-EARTH OBJECT SURVEY

Pub. L. 109–155, title III, § 321, Dec. 30, 2005, 119 Stat. 2922, as amended by Pub. L. 115–10, title V, § 511, Mar. 21, 2017, 131 Stat. 51, provided that:

"(a) SHORT TITLE.—This section may be cited as the 'George E. Brown, Jr. Near-Earth Object Survey Act'.

"(b) FINDINGS.—The Congress makes the following findings:

"(1) Near-Earth objects pose a serious and credible threat to humankind, as many scientists believe that a major asteroid or comet was responsible for the mass extinction of the majority of the Earth's species, including the dinosaurs, nearly 65,000,000 years ago.

"(2) Similar objects have struck the Earth or passed through the Earth's atmosphere several times in the Earth's history and pose a similar threat in the future.

"(3) Several such near-Earth objects have only been discovered within days of the objects" closest approach to Earth, and recent discoveries of such large objects indicate that many large near-Earth objects remain undiscovered.

"(4) The efforts taken to date by NASA [National Aeronautics and Space Administration] for detecting and characterizing the hazards of near-Earth objects are not sufficient to fully determine the threat posed by such objects to cause widespread destruction and loss of life.

"(c) DEFINITIONS.—For purposes of this section the term 'near-Earth object' means an asteroid or comet with a perihelion distance of less than 1.3 Astronomical Units from the Sun.

"(d) NEAR-EARTH OBJECT SURVEY.—

"(1) SURVEY PROGRAM.—The Administrator [of the National Aeronautics and Space Administration] shall plan, develop, and implement a Near-Earth Object Survey program to detect, track, catalogue, and characterize the physical characteristics of near-Earth objects equal to or greater than 140 meters in diameter in order to assess the threat of such near-Earth objects to the Earth. It shall be the goal of the Survey program to achieve 90 percent completion of its near-Earth object catalogue (based on statistically predicted populations of near-Earth objects) within 15 years after the date of enactment of this Act [Dec. 30, 2005].

"(2) [Amended former section 2451 of Title 42, The Public Health and Welfare.]

"(3) FIFTH-YEAR REPORT.—The Administrator shall transmit to the Congress, not later than February 28 of the fifth year after the date of enactment of this Act, a report that provides the following:

"(A) A summary of all activities taken pursuant to paragraph (1) since the date of enactment of this Act.

"(B) A summary of expenditures for all activities pursuant to paragraph (1) since the date of enactment of this Act.

"(4) INITIAL REPORT.—The Administrator shall transmit to Congress not later than 1 year after the date of enactment of this Act an initial report that provides the following:

"(A) An analysis of possible alternatives that NASA may employ to carry out the Survey program, including ground-based and space-based alternatives with technical descriptions.

"(B) A recommended option and proposed budget to carry out the Survey program pursuant to the recommended option.

"(C) Analysis of possible alternatives that NASA could employ to divert an object on a likely collision course with Earth.

"(e) PROGRAM REPORT.—The Director of the Office of Science and Technology Policy and the Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives, not later than 1 year after the date of enactment of the National Aeronautics and Space Administration Transition Authorization Act of 2017

[Mar. 21, 2017], an initial report that provides—

"(1) recommendations for carrying out the Survey program and an associated proposed budget;

"(2) an analysis of possible options that the Administration could employ to divert an object on a likely collision course with Earth; and

"(3) a description of the status of efforts to coordinate and cooperate with other countries to discover hazardous asteroids and comets, plan a mitigation strategy, and implement that strategy in the event of the discovery of an object on a likely collision course with Earth.

"(f) ANNUAL REPORTS.—After the initial report under subsection (e), the Administrator shall annually transmit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report that includes—

"(1) a summary of all activities carried out under subsection (d) since the date of enactment of the National Aeronautics and Space Administration Transition Authorization Act of 2017, including the progress toward achieving 90 percent completion of the survey described in subsection (d); and

"(2) a summary of expenditures for all activities carried out under subsection (d) since the date of enactment of the National Aeronautics and Space Administration Transition Authorization Act of 2017.

"(g) ASSESSMENT.—The Administrator, in collaboration with other relevant Federal agencies, shall carry out a technical and scientific assessment of the capabilities and resources—

"(1) to accelerate the survey described in subsection (d); and

"(2) to expand the Administration's Near-Earth Object Program to include the detection, tracking, cataloguing, and characterization of potentially hazardous near-Earth objects less than 140 meters in diameter.

"(h) TRANSMITTAL.—Not later than 270 days after the date of enactment of the National Aeronautics and Space Administration Transition Authorization Act of 2017, the Administrator shall transmit the results of the assessment under subsection (g) to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives."

§ 71101. Reaffirmation of policy

Congress reaffirms the policy set forth in section 20102(g) of this title (relating to surveying near-Earth asteroids and comets).

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3439.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
71101	42 U.S.C. 17791(a).	Pub. L. 110–422, title VIII, § 801(a), Oct. 15, 2008, 122 Stat. 4803.

FINDINGS

Pub. L. 110–422, title VIII, § 802, Oct. 15, 2008, 122 Stat. 4803, provided that: "Congress makes the following findings:

"(1) Near-Earth objects pose a serious and credible threat to humankind, as many scientists believe that a major asteroid or comet was responsible for the mass extinction of the majority of the Earth's species, including the dinosaurs, nearly 65,000,000 years ago.

"(2) Several such near-Earth objects have only been discovered within days of the objects" closest approach to Earth and recent discoveries of such large objects indicate that many large near-Earth objects remain undiscovered.

"(3) Asteroid and comet collisions rank as one of the most costly natural disasters that can occur.

"(4) The time needed to eliminate or mitigate the threat of a collision of a potentially hazardous near-Earth object with Earth is measured in decades.

"(5) Unlike earthquakes and hurricanes, asteroids and comets can provide adequate collision information, enabling the United States to include both asteroid-collision and comet-collision disaster recovery and disaster avoidance in its public-safety structure.

"(6) Basic information is needed for technical and policy decision-making for the United States to create a comprehensive program in order to be ready to eliminate and mitigate the serious and credible threats to humankind posed by potentially hazardous near-Earth asteroids and comets.

"(7) As a first step to eliminate and to mitigate the risk of such collisions, situation and decision analysis processes, as well as procedures and system resources, must be in place well before a collision threat becomes known."

§ 71102. Requests for information

The Administrator shall issue requests for information on—

(1) a low-cost space mission with the purpose of rendezvousing with, attaching a tracking device, and characterizing the Apophis asteroid; and

(2) a medium-sized space mission with the purpose of detecting near-Earth objects equal to or greater than 140 meters in diameter.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3439.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
71102	42 U.S.C. 17793.	Pub. L. 110–422, title VIII, § 803, Oct. 15, 2008, 122 Stat. 4803.

§ 71103. Developing policy and recommending responsible Federal agency

Within 2 years after October 15, 2008, the Director of the Office of Science and Technology Policy shall—

(1) develop a policy for notifying Federal agencies and relevant emergency response institutions of an impending near-Earth object threat, if near-term public safety is at risk; and

(2) recommend a Federal agency or agencies to be responsible for—

(A) protecting the United States from a near-Earth object that is expected to collide with Earth; and

(B) implementing a deflection campaign, in consultation with international bodies, should one be necessary.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3439.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
71103	42 U.S.C. 17794.	Pub. L. 110–422, title VIII, § 804, Oct. 15, 2008, 122 Stat. 4804.

In the matter before paragraph (1), the date "October 15, 2008" is substituted for "the date of enactment of this Act" to reflect the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2008.

§ 71104. Planetary radar

The Administrator shall maintain a planetary radar that is comparable to the capability provided through the Deep Space Network Goldstone facility of the Administration.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3439.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
71104	42 U.S.C. 17795.	Pub. L. 110–422, title VIII, § 805, Oct. 15, 2008, 122 Stat. 4804.

CHAPTER 713—COOPERATION FOR SAFETY AMONG SPACEFARING NATIONS

Sec.
71301. Common docking system standard to enable rescue.
71302. Information sharing to avoid physical or radio-frequency interference.

§ 71301. Common docking system standard to enable rescue

In order to maximize the ability to rescue astronauts whose space vehicles have become disabled, the Administrator shall enter

into discussions with the appropriate representatives of spacefaring nations who have or plan to have crew transportation systems capable of orbital flight or flight beyond low Earth orbit for the purpose of agreeing on a common docking system standard.

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3439.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
71301	42 U.S.C. 17734.	Pub. L. 110-422, title IV, § 407, Oct. 15, 2008, 122 Stat. 4790.

§ 71302. Information sharing to avoid physical or radio-frequency interference

The Administrator shall, in consultation with other agencies of the Federal Government as the Administrator considers appropriate, initiate discussions with the appropriate representatives of spacefaring nations to determine an appropriate frame-work under which information intended to promote safe access into outer space, operations in outer space, and return from outer space to Earth free from physical or radio-frequency interference can be shared among the nations.

(Pub. L. 111-314, § 3, Dec. 18, 2010, 124 Stat. 3440.)

HISTORICAL AND REVISION NOTES

Revised Section	*Source (U.S. Code)*	*Source (Statutes at Large)*
71302	42 U.S.C. 17821(b).	Pub. L. 110-422, title XI, § 1102(b), Oct. 15, 2008, 122 Stat. 4808.

FINDING

Pub. L. 110-422, title XI, § 1102(a), Oct. 15, 2008, 122 Stat. 4808, provided that: "Congress finds that as more countries acquire the capability for launching payloads into outer space, there is an increasing need for a framework under which information intended to promote safe access into outer space, operations in outer space, and return from outer space to Earth free from physical or radio-frequency interference can be shared among those countries."

SPACE POLICY DIRECTIVE-3. NATIONAL SPACE TRAFFIC MANAGEMENT POLICY

Space Policy Directive-3, June 18, 2018, 83 F.R. 28969, provided:

Memorandum for the Vice President[,] the Secretary of State[,] the Secretary of Defense[,] the Secretary of Commerce[,] the Secretary of Transportation[,] the Secretary of Homeland Security[,] the Director of National Intelligence[,] the Director of the Office of Management and Budget[,] the Assistant to the President for National Security Affairs[,] the Administrator of the National Aeronautics and Space Administration[,] the Director of the Office of Science and Technology Policy[,] the Deputy Assistant to the President for Homeland Security and Counterterrorism[, and] the Chairman of the Joint Chiefs of Staff.

SECTION 1. *Policy.* For decades, the United States has effectively reaped the benefits of operating in space to enhance our national security, civil, and commercial sectors. Our society now depends on space technologies and space-based capabilities for communications, navigation, weather forecasting, and much more. Given the significance of space activities, the United States considers the continued unfettered access to and freedom to operate in space of vital interest to advance the security, economic prosperity, and scientific knowledge of the Nation.

Today, space is becoming increasingly congested and contested, and that trend presents challenges for the safety, stability, and sustainability of U.S. space operations. Already, the Department of Defense (DoD) tracks over 20,000 objects in space, and that number will increase dramatically as new, more capable sensors come online and are able to detect smaller objects. DoD publishes a catalog of space objects and makes notifications of potential conjunctions (that is, two or more objects coming together at the same or nearly the same point in time and space). As the number of space objects increases, however, this limited traffic management activity and architecture will become inadequate. At the same time, the contested nature of space is increasing the demand for DoD focus on protecting and defending U.S. space assets and interests.

The future space operating environment will also be shaped by a significant increase in the volume and diversity of commercial activity in space. Emerging commercial ventures such as satellite servicing, debris removal, in-space manufacturing, and tourism, as well as new technologies enabling small satellites and very large constellations of satellites, are increasingly outpacing efforts to develop and implement government policies and processes to address these new activities.

To maintain U.S. leadership in space, we must develop a new approach to space traffic management (STM) that addresses current and future operational risks. This new approach must set priorities for space situational awareness (SSA) and STM innovation in science and technology (S&T), incorporate national security considerations, encourage growth of the U.S. commercial space sector, establish an updated STM architecture, and promote space safety standards and best practices across the international community.

The United States recognizes that spaceflight safety is a global challenge and will continue to encourage safe and responsible behavior in space while emphasizing the need for international transparency and STM data sharing. Through this national policy for STM and other national space strategies and policies, the United States will enhance safety and ensure continued leadership, preeminence, and freedom of action in space.

SEC. 2. *Definitions.* For the purposes of this memorandum, the following definitions shall apply:

(a) Space Situational Awareness shall mean the knowledge and characterization of space objects and their operational environment to support safe, stable, and sustainable space activities.

(b) Space Traffic Management shall mean the planning, coordination, and on-orbit synchronization of activities to enhance the safety, stability, and sustainability of operations in the space environment.

(c) Orbital debris, or space debris, shall mean any human-made space object orbiting Earth that no longer serves any useful purpose.

SEC. 3. *Principles.* The United States recognizes, and encourages other nations to recognize, the following principles:

(a) Safety, stability, and operational sustainability are foundational to space activities, including commercial, civil, and national security activities. It is a shared interest and responsibility of all spacefaring nations to create the conditions for a safe, stable, and operationally sustainable space environment.

(b) Timely and actionable SSA data and STM services are essential to space activities. Consistent with national security constraints, basic U.S. Government-derived SSA data and basic STM services should be available free of direct user fees.

(c) Orbital debris presents a growing threat to space operations. Debris mitigation guidelines, standards, and policies should be revised periodically, enforced domestically, and adopted internationally to mitigate the operational effects of orbital debris.

(d) A STM framework consisting of best practices, technical guidelines, safety standards, behavioral norms,pre-launch risk assessments, and on-orbit collision avoidance services is essential to preserve the space operational environment.

SEC. 4. *Goals.* Consistent with the principles listed in section 3 of this memorandum, the United States should continue to lead the world in creating the conditions for a safe, stable, and operationally sustainable space environment. Toward this end, executive departments and agencies (agencies) shall pursue the following goals as required in section 6 of this memorandum:

(a) *Advance SSA and STM Science and Technology.* The United States should continue to engage in and enable S&T research and development to support the practical applications of SSA and STM. These activities include improving fundamental knowledge of the space environment, such as the characterization of small debris, advancing the S&T of critical SSA inputs such as observational data, algorithms, and models necessary to improve SSA capabilities, and developing new hardware and software to support data processing and observations.

(b) *Mitigate the effect of orbital debris on space activities.* The volume and location of orbital debris are growing threats to space activities. It is in the interest of all to minimize new debris and mitigate effects of existing debris. This fact, along with increasing numbers of active satellites, highlights the need to update existing orbital debris mitigation guidelines and practices to enable more efficient and effective compliance, and establish standards that can be adopted internationally. These trends also highlight the need to establish satellite safety design guidelines and best practices.

(c) *Encourage and facilitate U.S. commercial leadership in S&T, SSA, and STM.* Fostering continued growth and innovation in the U.S. commercial space sector, which includes S&T, SSA, and STM activities, is in the national interest of the United States. To achieve this goal, the U.S. Government should streamline processes and reduce regulatory burdens that could inhibit commercial sector growth and innovation, enabling the U.S. commercial sector to con-

tinue to lead the world in STM-related technologies, goods, data, and services on the international market.

(d) *Provide U.S. Government-supported basic SSA data and basic STM services to the public.* The United States should continue to make available basic SSA data and basic STM services (including conjunction and reentry notifications) free of direct user fees while supporting new opportunities for U.S. commercial and non-profit SSA data and STM services.

(e) *Improve SSA data interoperability and enable greater SSA data sharing.* SSA data must be timely and accurate. It is in the national interest of the United States to improve SSA data interoperability and enable greater SSA data sharing among all space operators, consistent with national security constraints. The United States should seek to lead the world in the development of improved SSA data standards and information sharing.

(f) *Develop STM standards and best practices.* As the leader in space, the United States supports the development of operational standards and best practices to promote safe and responsible behavior in space. A critical first step in carrying out that goal is to develop U.S.-led minimum safety standards and best practices to coordinate space traffic. U.S. regulatory agencies should, as appropriate, adopt these standards and best practices in domestic regulatory frameworks and use them to inform and help shape international consensus practices and standards.

(g) *Prevent unintentional radio frequency (RF) interference.* Growing orbital congestion is increasing the risk to U.S. space assets from unintentional RF interference. The United States should continue to improve policies, processes, and technologies for spectrum use (including allocations and licensing) to address these challenges and ensure appropriate spectrum use for current and future operations.

(h) *Improve the U.S. domestic space object registry.* Transparency and data sharing are essential to safe, stable, and sustainable space operations. Consistent with national security constraints, the United States should streamline the interagency process to ensure accurate and timely registration submissions to the United Nations (UN), in accordance with our international obligations under the Convention on Registration of Objects Launched into Outer Space.

(i) *Develop policies and regulations for future U.S. orbital operations.* Increasing congestion in key orbits and maneuver-based missions such as servicing, survey, and assembly will drive the need for policy development for national security, civil, and commercial sector space activities. Consistent with U.S. law and international obligations, the United States should regularly assess existing guidelines for non-government orbital activities, and maintain a timely and responsive regulatory environment for licensing these activities.

SEC. 5. *Guidelines.* In pursuit of the principles and goals of this policy, agencies should observe the following guidelines:

(a) *Managing the Integrity of the Space Operating Environment.*

(i) Improving SSA coverage and accuracy. Timely, accurate, and actionable data are essential for effective SSA and STM. The United States should seek to minimize deficiencies in SSA capability, particularly coverage in regions with limited sensor avail-

ability and sensitivity in detection of small debris, through SSA data sharing, the purchase of SSA data, or the provision of new sensors.

New U.S. sensors are expected to reveal a substantially greater volume of debris and improve our understanding of space object size distributions in various regions of space. However, very small debris may not be sufficiently tracked to enable or justify actionable collision avoidance decisions. As a result, close conjunctions and even collisions with unknown objects are possible, and satellite operators often lack sufficient insight to assess their level of risk when making maneuvering decisions. The United States should develop better tracking capabilities, and new means to catalog such debris, and establish a quality threshold for actionable collision avoidance warning to minimize false alarms.

Through both Government and commercial sector S&T investment, the United States should advance concepts and capabilities to improve SSA in support of debris mitigation and collision avoidance decisions.

(ii) Establishing an Open Architecture SSA Data Repository. Accurate and timely tracking of objects orbiting Earth is essential to preserving the safety of space activities for all. Consistent with section 2274 of title 10, United States Code, a basic level of SSA data in the form of the publicly releasable portion of the DoD catalog is and should continue to be provided free of direct user fees. As additional sources of space tracking data become available, the United States has the opportunity to incorporate civil, commercial, international, and other available data to allow users to enhance and refine this service. To facilitate greater data sharing with satellite operators and enable the commercial development of enhanced space safety services, the United States must develop the standards and protocols for creation of an open architecture data repository. The essential features of this repository would include:

- Data integrity measures to ensure data accuracy and availability;
- Data standards to ensure sufficient quality from diverse sources;
- Measures to safeguard proprietary or sensitive data, including national security information;
- The inclusion of satellite owner-operator ephemerides to inform orbital location and planned maneuvers; and
- Standardized formats to enable development of applications to leverage the data.

To facilitate this enhanced data sharing, and in recognition of the need for DoD to focus on maintaining access to and freedom of action in space, a civil agency should, consistent with applicable law, be responsible for the publicly releasable portion of the DoD catalog and for administering an open architecture data repository. The Department of Commerce should be that civil agency.

(iii) Mitigating Orbital Debris. It is in the interest of all space operators to minimize the creation of new orbital debris. Rapid international expansion of space operations and greater diversity of missions have rendered the current U.S. Government Orbital Debris Mitigation Standard Practices (ODMSP) inadequate to control the growth of orbital debris. These standard practices should be up-

dated to address current and future space operating environments. The United States should develop a new protocol of standard practices to set broader expectations of safe space operations in the 21st century. This protocol should begin with updated ODMSP, but also incorporate sections to address operating practices for large constellations, rendezvous and proximity operations, small satellites, and other classes of space operations. These overarching practices will provide an avenue to promote efficient and effective space safety practices with U.S. industry and internationally.

The United States should pursue active debris removal as a necessary long-term approach to ensure the safety of flight operations in key orbital regimes. This effort should not detract from continuing to advance international protocols for debris mitigation associated with current programs.

(b) *Operating in a Congested Space Environment.*

(i) Minimum Safety Standards and Best Practices. The creation of minimum standards for safe operation and debris mitigation derived in part from the U.S. Government ODMSP, but incorporating other standards and best practices, will best ensure the safe operation of U.S. space activities. These safety guidelines should consider maneuverability, tracking, reliability, and disposal.

The United States should eventually incorporate appropriate standards and best practices into Federal law and regulation through appropriate rulemaking or licensing actions. These guidelines should encompass protocols for all stages of satellite operation from design through end-of-life.

Satellite and constellation owners should participate in a prelaunch certification process that should, at a minimum, consider the following factors:

- Coordination of orbit utilization to prevent conjunctions;
- Constellation owner-operators' management of self-conjunctions;
- Owner-operator notification of planned maneuvers and sharing of satellite orbital location data;
- On-orbit tracking aids, including beacons or sensing enhancements, if such systems are needed;
- Encryption of satellite command and control links and data protection measures for ground site operations;
- Appropriate minimum reliability based on type of mission and phase of operations;
- Effect on the national security or foreign policy interests of the United States, or international obligations; and
- Self-disposal upon the conclusion of operational lifetime, or owner-operator provision for disposal using active debris removal methods.

(ii) On-Orbit Collision Avoidance Support Service. Timely warning of potential collisions is essential to preserving the safety of space activities for all. Basic collision avoidance information services are and should continue to be provided free of direct user fees. The imminent activation of more sensitive tracking sensors is expected to reveal a significantly greater population of the existing orbital debris background as well as provide an improved ability to track currently catalogued objects. Current and future satellites, including large constellations of satellites, will operate in a debris

environment much denser than presently tracked. Preventing on-orbit collisions in this environment requires an information service that shares catalog data, predicts close approaches, and provides actionable warnings to satellite operators. The service should provide data to allow operators to assess proposed maneuvers to reduce risk. To provide on-orbit collision avoidance, the United States should:

• Provide services based on a continuously updated catalog of satellite tracking data;

• Utilize automated processes for collision avoidance;

• Provide actionable and timely conjunction assessments; and

• Provide data to operators to enable assessment of maneuver plans.

To ensure safe coordination of space traffic in this future operating environment, and in recognition of the need for DoD to focus on maintaining access to and freedom of action in space, a civil agency should be the focal point for this collision avoidance support service. The Department of Commerce should be that civil agency.

(c) *Strategies for Space Traffic Management in a Global Context.*

(i) Protocols to Prevent Orbital Conjunctions. As increased satellite operations make lower Earth orbits more congested, the United States should develop a set of standard techniques for mitigating the collision risk of increasingly congested orbits, particularly for large constellations. Appropriate methods, which may include licensing assigned volumes for constellation operation and establishing processes for satellites passing through the volumes, are needed. The United States should explore strategies that will lead to the establishment of common global best practices, including:

• A common process addressing the volume of space used by a large constellation, particularly in close proximity to an existing constellation;

• A common process by which individual spacecraft may transit volumes used by existing satellites or constellations; and

• A set of best practices for the owner-operators of utilized volumes to minimize the long-term effects of constellation operations on the space environment (including the proper disposal of satellites, reliability standards, and effective collision avoidance).

(ii) Radio Frequency Spectrum and Interference Protection. Space traffic and RF spectrum use have traditionally been independently managed processes. Increased congestion in key orbital regimes creates a need for improved and increasingly dynamic methods to coordinate activities in both the physical and spectral domains, and may introduce new interdependencies. U.S. Government efforts in STM should address the following spectrum management considerations:

• Where appropriate, verify consistency between policy and existing national and international regulations and goals regarding global access to, and operation in, the RF spectrum for space services;

• Investigate the advantages of addressing spectrum in conjunction with the development of STM systems, standards, and best practices;

• Promote flexible spectrum use and investigate emerging technologies for potential use by space systems; and

• Ensure spectrum-dependent STM components, such as intersatellite safety communications and active debris removal systems, can successfully access the required spectrum necessary to their missions.

(iii) Global Engagement. In its role as a major spacefaring nation, the United States should continue to develop and promote a range of norms of behavior, best practices, and standards for safe operations in space to minimize the space debris environment and promote data sharing and coordination of space activities. It is essential that other spacefaring nations also adopt best practices for the common good of all spacefaring states. The United States should encourage the adoption of new norms of behavior and best practices for space operations by the international community through bilateral and multilateral discussions with other spacefaring nations, and through U.S. participation in various organizations such as the Inter-Agency Space Debris Coordination Committee, International Standards Organization, Consultative Committee for Space Data Systems, and UN Committee on the Peaceful Uses of Outer Space.

SEC. 6. *Roles and Responsibilities.* In furtherance of the goals described in section 4 and the guidelines described in section 5 of this memorandum, agencies shall carry out the following roles and responsibilities:

(a) Advance SSA and STM S&T. Members of the National Space Council, or their delegees, shall coordinate, prioritize, and advocate for S&T, SSA, and STM, as appropriate, as it relates to their respective missions. They should seek opportunities to engage with the commercial sector and academia in pursuit of this goal.

(b) Mitigate the Effect of Orbital Debris on Space Activities.

(i) The Administrator of the National Aeronautics and Space Administration (NASA Administrator), incoordination with the Secretaries of State, Defense, Commerce, and Transportation, and the Director of National Intelligence, and in consultation with the Chairman of the Federal Communications Commission (FCC), shall lead efforts to update the U.S. Orbital Debris Mitigation Standard Practices and establish new guidelines for satellite design and operation, as appropriate and consistent with applicable law.

(ii) The Secretaries of Commerce and Transportation, in consultation with the Chairman of the FCC, will assess the suitability of incorporating these updated standards and best practices into their respective licensing processes, as appropriate and consistent with applicable law.

(c) Encourage and Facilitate U.S. Commercial Leadership in S&T, SSA, and STM. The Secretary of Commerce, in coordination with the Secretaries of Defense and Transportation, and the NASA Administrator, shall lead efforts to encourage and facilitate continued U.S. commercial leadership in SSA, STM, and related S&T.

(d) Provide U.S. Government-Derived Basic SSA Data and Basic STM Services to the Public.

(i) The Secretaries of Defense and Commerce, in coordination with the Secretaries of State and Transportation, the NASA Administrator, and the Director of National Intelligence, should cooperatively develop a plan for providing basic SSA data and basic STM services either directly or through a partnership with indus-

try or academia, consistent with the guidelines of sections 5(a)(ii) and 5(b)(ii) of this memorandum.

(ii) The Secretary of Defense shall maintain the authoritative catalog of space objects.

(iii) The Secretaries of Defense and Commerce shall assess whether statutory and regulatory changes are necessary to effect the plan developed under subsection (d)(i) of this section, and shall pursue such changes, along with any other needed changes, as appropriate.

(e) Improve SSA Data Interoperability and Enable Greater SSA Data Sharing.

(i) The Secretary of Commerce, in coordination with the Secretaries of State, Defense, and Transportation, the NASA Administrator, and the Director of National Intelligence, shall develop standards and protocols for creation of an open architecture data repository to improve SSA data interoperability and enable greater SSA data sharing.

(ii) The Secretary of Commerce shall develop options, either in-house or through partnerships with industry or academia, assessing both the technical and economic feasibility of establishing such a repository.

(iii) The Secretary of Defense shall ensure that release of data regarding national security activities to any person or entity with access to the repository is consistent with national security interests.

(f) Develop Space Traffic Standards and Best Practices. The Secretaries of Defense, Commerce, and Transportation, in coordination with the Secretary of State, the NASA Administrator, and the Director of National Intelligence, and in consultation with the Chairman of the FCC, shall develop space traffic standards and best practices, including technical guidelines, minimum safety standards, behavioral norms, and orbital conjunction prevention protocols related to pre-launch risk assessment and on-orbit collision avoidance support services.

(g) Prevent Unintentional Radio Frequency Interference. The Secretaries of Commerce and Transportation, in coordination with the Secretaries of State and Defense, the NASA Administrator, and the Director of National Intelligence, and in consultation with the Chairman of the FCC, shall coordinate to mitigate the risk of harmful interference and promptly address any harmful interference that may occur.

(h) Improve the U.S. Domestic Space Object Registry. The Secretary of State, in coordination with the Secretaries of Defense, Commerce, and Transportation, the NASA Administrator, and the Director of National Intelligence, and in consultation with the Chairman of the FCC, shall lead U.S. Government efforts on international engagement related to international transparency and space object registry on SSA and STM issues.

(i) Develop Policies and Regulations for Future U.S. Orbital Operations. The Secretaries of Defense, Commerce, and Transportation, in coordination with the Secretary of State, the NASA Administrator, and the Director of National Intelligence, shall regularly evaluate emerging trends in space missions to recommend re-

visions, as appropriate and necessary, to existing SSA and STM policies and regulations.

SEC. 7. *General Provisions.*

(a) Nothing in this memorandum shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This memorandum shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This memorandum is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

(d) The Secretary of Commerce is authorized and directed to publish this memorandum in the Federal Register.

DONALD J. TRUMP.

SECTION 2

TITLE 42 UNITED STATES CODE

42 USC Ch. 159: SPACE EXPLORATION, TECHNOLOGY, AND SCIENCE

From Title 42—THE PUBLIC HEALTH AND WELFARE

CHAPTER 159—SPACE EXPLORATION, TECHNOLOGY, AND SCIENCE

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§18301. Findings

Congress makes the following findings:

(1) The United States human space flight program has, since the first Mercury flight on May 5, 1961, been a source of pride and inspiration for the Nation.

(2) The establishment of and commitment to human exploration goals is essential for providing the necessary long term focus and programmatic consistency and robustness of the United States civilian space program.

(3) The National Aeronautics and Space Administration is and should remain a multi-mission agency with a balanced and robust set of core missions in science, aeronautics, and human space flight and exploration.

(4) In the 50 years since the establishment of NASA, the arena of space has evolved substantially. As the uses and users of space continue to expand, the issues and operations in the regions closest to Earth have become increasingly complex, with a growing number of overlaps between civil, commercial and national security activities.

These developments present opportunities and challenges to the space activities of NASA and the United States.

(5) The extraordinary challenges of achieving access to space both motivated and accelerated the development of technologies and industrial capabilities that have had widespread applications which have contributed to the technological excellence of the United States. It is essential to tie space activity to human challenges ranging from enhancing the influence, relationships, security, economic development, and commerce of the United States to improving the overall human condition.

(6) It is essential to the economic well-being of the United States that the aerospace industrial capacity, highly skilled workforce, and embedded expertise remain engaged in de-

manding, challenging, and exciting efforts that ensure United States leadership in space exploration and related activities.

(7) Crewmembers provide the essential component to ensure the return on investment from and the growth and safe operation of the ISS. The Russian Soyuz vehicle has allowed continued human presence on the ISS for United States crewmembers with its ability to serve as both a routine and backup capability for crew delivery, rescue, and return. With the impending retirement of the Space Shuttle, the United States will find itself with no national crew delivery and return system. Without any other system, the United States and all the ISS partners will have no redundant system for human access to and from the ISS. It is therefore essential that a United States capability be developed as soon as possible.

(8) Existing and emerging United States commercial launch capabilities and emerging launch capabilities offer the potential for providing crew support assets. New capabilities for human crew access to the ISS should be developed in a manner that ensures ISS mission assurance and safety. Commercial services offer the potential to broaden the availability and access to space at lower costs.

(9) While commercial transportation systems have the promise to contribute valuable services, it is in the United States national interest to maintain a government operated space transportation system for crew and cargo delivery to space.

(10) Congress restates its commitment, expressed in the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155) and the National Aeronautics and Space Administration Authorization Act of 2008 (Public Law 110–422), to the development of commercially developed launch and delivery systems to the ISS for crew and cargo missions. Congress reaffirms that NASA shall make use of United States commercially provided ISS crew transfer and crew rescue services to the maximum extent practicable.

(11) It is critical to identify an appropriate combination of NASA and related United States Government programs, while providing a framework that allows partnering, leveraging and stimulation of the existing and emerging commercial and international efforts in both near Earth space and the regions beyond.

(12) The designation of the United States segment of the ISS as a National Laboratory, as provided by the National Aeronautics and Space Administration Authorization Act of 2005 1 and the National Aeronautics and Space Administration Authorization Act of 2008,1 provides an opportunity for multiple United States Government agencies, university-based researchers, research organizations, and others to utilize the unique environment of microgravity for fundamental scientific research and potential economic development.

(13) For some potential replacement elements necessary for ISS sustainability, the Space Shuttle may represent the only vehicle, existing or planned, capable of carrying those elements to the ISS in the near term. Additional or alternative transportation capabilities must be identified as contingency delivery

options, and accompanied by an independent analysis of projected availability of such capabilities.

(14) The United States must develop, as rapidly as possible, replacement vehicles capable of providing both human and cargo launch capability to low-Earth orbit and to destinations beyond low-Earth orbit.

(15) There is a need for national space and export control policies that protect the national security of the United States while also enabling the United States and its aerospace industry to undertake cooperative programs in science and human space flight in an effective and efficient manner and to compete effectively in the global market place.

(Pub. L. 111–267, § 2, Oct. 11, 2010, 124 Stat. 2807.)

REFERENCES IN TEXT

The National Aeronautics and Space Administration Authorization Act of 2005, referred to in pars. (10) and (12), is Pub. L. 109–155, Dec. 30, 2005, 119 Stat. 2895, which was classified principally to chapter 150 (§ 16601 et seq.) of this title, and was substantially repealed and restated in chapters 305 (§ 30501 et seq.), 401 (§ 40101 et seq.), 603 (§ 60301 et seq.) and 707 (§ 70701 et seq.) and sections 20301, 20302, 30103(a), (b), 30104, 30306, 30703, 30704, 30902, 31301, 31501, 40701, 40904 to 40909, 50505, 50116, 60505, 70501 to 70503, and 70902 to 70905 of Title 51, National and Commercial Space Programs, by Pub. L. 111–314, §§ 3, 6, Dec. 18, 2010, 124 Stat. 3328, 3444. For complete classification of this Act to the Code, see Short Title of 2005 Act note set out under section 10101 of Title 51 and Tables.

The National Aeronautics and Space Administration Authorization Act of 2008, referred to in pars. (10) and (12), is Pub. L. 110–422, Oct. 15, 2r08, 122 Stat. 4779, which was classified principally to chapter 155 (§ 17701 et seq.) of this title, and was substantially repealed and restated as chapters 711 (§ 71101 et seq.) and 713 (§ 71301 et seq.) and sections 20305, 30305, 30310, 31302, 31502 to 31505, 40104, 40311, 40702 to 40704, 40903(d), 50111(b), 60501 to 60504, 60506, 70504 to 70508, 70906, and 70907 of Title 51, National and Commercial Space Programs, by Pub. L. 111–314, §§ 3, 6, Dec. 18, 2010, 124 Stat. 3328, 3444. For complete classification of this Act to the Code, see Short Title of 2008 Act note set out under section 10101 of Title 51 and Tables.

SHORT TITLE

Pub. L. 111–267, § 1(a), Oct. 11, 2010, 124 Stat. 2805, provided that: "This Act [enacting this chapter] may be cited as the 'National Aeronautics and Space Administration Authorization Act of 2010'."

§18302. Definitions

In this chapter:

(1) ADMINISTRATOR.—The term "Administrator" means the Administrator of the National Aeronautics and Space Administration.

(2) APPROPRIATE COMMITTEES OF CONGRESS.—The term "appropriate committees of Congress" means—

(A) the Committee on Commerce, Science, and Transportation of the Senate; and

(B) the Committee on Science of the House of Representatives.

(3) CIS-LUNAR SPACE.—The term "cis-lunar space" means the region of space from the Earth out to and including the region around the surface of the Moon.

(4) DEEP SPACE.—The term "deep space" means the region of space beyond cis-lunar space.

(5) ISS.—The term "ISS" means the International Space Station.

(6) NASA.—The term "NASA" means the National Aeronautics and Space Administration.

(7) NEAR-EARTH SPACE.—The term "near-Earth space" means the region of space that includes low-Earth orbit and extends out to and includes geo-synchronous orbit.

(8) NOAA.—The term "NOAA" means the National Oceanic and Atmospheric Administration.

(9) OSTP.—The term "OSTP" means the Office of Science and Technology Policy.

(10) SPACE LAUNCH SYSTEM.—The term "Space Launch System" means the follow-on government-owned civil launch system developed, managed, and operated by NASA to serve as a key component to expand human presence beyond low-Earth orbit.

(Pub. L. 111–267, § 3, Oct. 11, 2010, 124 Stat. 2808.)

Subchapter I—Policy, Goals, and Objectives for Human Space Flight and Exploration

§18311. United States human space flight policy

(a) USE OF NON-UNITED STATES HUMAN SPACE FLIGHT TRANSPORTATION SERVICES.—

(1) IN GENERAL.—The Federal Government may not acquire human space flight transportation services from a foreign entity unless—

(A) no United States Government-operated human space flight capability is available;

(B) no United States commercial provider is available; and

(C) it is a qualified foreign entity.

(2) DEFINITIONS IN THIS SUBSECTION:

(A) COMMERCIAL PROVIDER.—The term "commercial provider" means any person providing human space flight transportation services, primary control of which is held by persons other than the Federal Government, a State or local government, or a foreign government.

(B) QUALIFIED FOREIGN ENTITY.—The term "qualified foreign entity" means a foreign entity that is in compliance with all applicable safety standards and is not prohibited from providing space transportation services under other law.

(C) UNITED STATES COMMERCIAL PROVIDER.—The term "United States commercial provider" means a commercial provider, organized under the laws of the United States or of a State, that is more than 50 percent owned by United States nationals.

(3) ARRANGEMENTS WITH FOREIGN ENTITIES.—Nothing in this subsection shall prevent the Administrator from negotiating or entering into human space flight transportation arrangements with foreign entities to ensure safety of flight and continued ISS operations.

(b) UNITED STATES HUMAN SPACE FLIGHT CAPABILITIES.—Congress reaffirms the policy stated in section 70501(a) of title 51, that the United States shall maintain an uninterrupted capability for human space flight and operations in low-Earth orbit, and beyond, as an essential instrument of national security and of the capacity to ensure continued United States participation and leadership in the exploration and utilization of space.

(Pub. L. 111–267, title II, § 201, Oct. 11, 2010, 124 Stat. 2811; Pub. L. 115–10, title III, § 302(d), Mar. 21, 2017, 131 Stat. 25.)

CODIFICATION

In subsec. (b), "section 70501(a) of title 51" substituted for "section 501(a) of the National Aeronautics and Space Administration Authorization Act of 2005 (42 U.S.C. 16761(a))" on authority of Pub. L. 111–314, § 5(e), Dec. 18, 2010, 124 Stat. 3443, which Act enacted Title 51, National and Commercial Space Programs.

AMENDMENTS

2017—Subsec. (a). Pub. L. 115–10 amended subsec. (a) generally. Prior to amendment, text read as follows: "It is the policy of the United States that reliance upon and use of non-United States human space flight capabilities shall be undertaken only as a contingency in circumstances where no United States-owned and operated human space flight capability is available, operational, and certified for flight by appropriate Federal agencies."

§ 18312. Goals and objectives

(a) LONG-TERM GOALS.—The long-term goals of the human space flight and exploration efforts of NASA shall be—

(1) to expand permanent human presence beyond low-Earth orbit and to do so, where practical, in a manner involving international, academic, and industry partners;

(2) crewed missions and progress toward achieving the goal in paragraph (1) to enable the potential for subsequent human exploration and the extension of human presence throughout the solar system; and

(3) to enable a capability to extend human presence, including potential human habitation on another celestial body and a thriving space economy in the 21st Century.

(b) KEY OBJECTIVES.—The key objectives of the United States for human expansion into space shall be—

(1) to sustain the capability for long-duration presence in low-Earth orbit, initially through continuation of the ISS and full utilization of the United States segment of the ISS as a National Laboratory, and through assisting and enabling an expanded commercial presence in, and access to, low-Earth orbit, as elements of a low-Earth orbit infrastructure;

(2) to determine if humans can live in an extended manner in space with decreasing reliance on Earth, starting with utilization of low-Earth orbit infrastructure, to identify potential roles that space resources such as energy and materials may play, to meet national and global needs and challenges, such as potential cataclysmic threats, and to explore the viability of and lay the foundation for sustainable economic activities in space;

(3) to maximize the role that human exploration of space can play in advancing overall knowledge of the universe, supporting United States national and economic security and the United States global competitive posture, and inspiring young people in their educational pursuits;

(4) to build upon the cooperative and mutually beneficial framework established by the ISS partnership agreements and experience in developing and undertaking programs and meet-

ing objectives designed to realize the goal of human space flight set forth in subsection (a); and

(5) to achieve human exploration of Mars and beyond through the prioritization of those technologies and capabilities best suited for such a mission in accordance with the stepping stone approach to exploration under section 70504 of title 51.

(Pub. L. 111–267, title II, § 202, Oct. 11, 2010, 124 Stat. 2812; Pub. L. 115–10, title IV, §§ 411, 412, Mar. 21, 2017, 131 Stat. 33.)

AMENDMENTS

2017—Subsec. (a). Pub. L. 115–10, § 411, amended subsec. (a) generally. Prior to amendment, text read as follows: "The long term goal of the human space flight and exploration efforts of NASA shall be to expand permanent human presence beyond low-Earth orbit and to do so, where practical, in a manner involving international partners."

Subsec. (b)(5). Pub. L. 115–10, § 412, added par. (5).

§ 18313. Assurance of core capabilities

(a) SENSE OF CONGRESS.—It is the sense of Congress that—

(1) the ISS, technology developments, the current Space Shuttle program, and follow-on transportation systems authorized by this chapter form the foundation of initial capabilities for missions beyond low-Earth orbit to a variety of lunar and Lagrangian orbital locations; and

(2) these initial missions and related capabilities should be utilized to provide operational experience, technology development, and the placement and assured use of in-space infrastructure and in-space servicing of existing and future assets.

(b) SENSE OF CONGRESS REGARDING HUMAN SPACE FLIGHT CAPABILITY ASSURANCE.—It is the sense of Congress that the Administrator shall proceed with the utilization of the ISS, technology development, and follow-on transportation systems (including the Space Launch System, multi-purpose crew vehicle, and commercial crew and cargo transportation capabilities) under subchapters II and III of this chapter in a manner that ensures—

(1) that these capabilities remain inherently complementary and interrelated;

(2) a balance of the development, sustainment, and use of each of these capabilities, which are of critical importance to the viability and sustainability of the U.S. space program; and

(3) that resources required to support the timely and sustainable development of these capabilities authorized in either subchapter II or subchapter III of this chapter are not derived from a reduction in resources for the capabilities authorized in the other subchapter.

(c) LIMITATION.—Nothing in subsection (b) shall apply to or affect any capability authorized by any other subchapter of this chapter.

(Pub. L. 111–267, title II, § 203, Oct. 11, 2010, 124 Stat. 2812; Pub. L. 112–273, § 2, Jan. 14, 2013, 126 Stat. 2454; Pub. L. 115–10, title IV, § 416(a), Mar. 21, 2017, 131 Stat. 34.)

AMENDMENTS

2017—Subsec. (b). Pub. L. 115–10, § 416(a)(1), (3), redesignated subsec. (c) as (b) and struck out former subsec. (b). Prior to amendment, text of subsec. (b) read as follows:

"(1) DEVELOPMENT OF FOLLOW-ON SPACE TRANSPORTATION SYSTEMS.—The Administrator shall proceed with the development of follow-on space transportation systems in a manner that ensures that the national capability to restart and fly Space Shuttle missions can be initiated if required by the Congress, in an Act enacted after October 11, 2010, or by a Presidential determination transmitted to the Congress, before the last Space Shuttle mission authorized by this chapter is completed.

"(2) REQUIRED ACTIONS.—In carrying out the requirement in paragraph (1), the Administrator shall authorize refurbishment of the manufactured external tank of the Space Shuttle, designated as ET-94, and take all actions necessary to enable its readiness for use in the Space Launch System development as a critical skills and capability retention effort or for test purposes, while preserving the ability to use this tank if needed for an ISS contingency if deemed necessary under paragraph (1)."

Subsecs. (c), (d). Pub. L. 115–10, § 416(a)(2), (3), substituted "subsection (b)" for "subsection (c)" in subsec. (d) and redesignated subsec. (d) as (c). Former subsec. (c) redesignated (b).

2013—Subsecs. (c), (d). Pub. L. 112–273 added subsecs. (c) and (d).

REFERENCES IN TEXT

Any other subchapter of this chapter, referred to in subsec. (d), was in the original "any other title of this Act", meaning any other title of Pub. L. 111–267, Oct. 11, 2010, 124 Stat. 2805. In addition to title II which is classified generally to this subchapter, Pub. L. 111–267 contains titles III to XII which are classified generally to subchapters II to XI, respectively, of this chapter and titles I and XIII, 126 Stat. 2809, 2846, which are not classified to the Code.

Subchapter II—Expansion of Human Space Flight Beyond the International Space Station and Low-Earth Orbit

§ 18321. Human space flight beyond low-Earth orbit

(a) FINDINGS.—Congress makes the following findings:

(1) The extension of the human presence from low-Earth orbit to other regions of space beyond low-Earth orbit will enable missions to the surface of the Moon and missions to deep space destinations such as near-Earth asteroids and Mars.

(2) The regions of cis-lunar space are accessible to other national and commercial launch capabilities, and such access raises a host of national security concerns and economic implications that international human space endeavors can help to address.

(3) The ability to support human missions in regions beyond low-Earth orbit and on the surface of the Moon can also drive developments in emerging areas of space infrastructure and technology.

(4) Developments in space infrastructure and technology can stimulate and enable increased space applications, such as in-space servicing, propellant resupply and transfer, and in situ resource utilization, and open opportunities for additional users of space, whether national, commercial, or international.

(5) A long term objective for human exploration of space should be the eventual international exploration of Mars.

(6) Future international missions beyond low-Earth orbit should be designed to incorporate capability development and availability, affordability, and international contributions.

(7) Human space flight and future exploration beyond low-Earth orbit should be based around a pay-as-you-go approach. Requirements in new launch and crew systems authorized in this chapter should be scaled to the minimum necessary to meet the core national mission capability needed to conduct cis-lunar missions. These initial missions, along with the development of new technologies and in-space capabilities can form the foundation for missions to other destinations. These initial missions also should provide operational experience prior to the further human expansion into space.

(b) REPORT ON INTERNATIONAL COLLABORATION.—

(1) REPORT REQUIRED.—Not later than 120 days after October 11, 2010, the Administrator shall submit to the appropriate committees of Congress a report on the following assets and capabilities:

(A) Any effort by NASA to expand and ensure effective international collaboration on the ISS.

(B) The efforts of NASA, including its approach and progress, in defining near-term, cis-lunar space human missions.

(2) NASA CONTRIBUTIONS.—In preparing the report required by paragraph (1), the Administrator shall assume that NASA will contribute to the efforts described in that paragraph the following:

(A) A Space Launch System.

(B) A multi-purpose crew vehicle.

(C) Such other technology elements the Administrator may consider appropriate, and which the Administrator shall specifically identify in the report.

(Pub. L. 111–267, title III, § 301, Oct. 11, 2010, 124 Stat. 2813.)

§ 18322. Space Launch System as follow-on launch vehicle to the Space Shuttle

(a) UNITED STATES POLICY.—It is the policy of the United States that NASA develop a Space Launch System as a follow-on to the Space Shuttle that can access cis-lunar space and the regions of space beyond low-Earth orbit in order to enable the United States to participate in global efforts to access and develop this increasingly strategic region.

(b) INITIATION OF DEVELOPMENT.—

(1) IN GENERAL.—The Administrator shall, as soon as practicable after October 11, 2010, initiate development of a Space Launch System meeting the minimum capabilities requirements specified in subsection (c).

(2) MODIFICATION OF CURRENT CONTRACTS.—In order to limit NASA's termination liability costs and support critical capabilities, the Administrator shall, to the extent practicable, extend or modify existing vehicle development and associated contracts necessary to meet the requirements in paragraph (1), including contracts for ground testing of solid rocket motors, if necessary, to ensure their availability for development of the Space Launch System.

(c) MINIMUM CAPABILITY REQUIREMENTS.—

(1) IN GENERAL.—The Space Launch System developed pursuant to subsection (b) shall be designed to have, at a minimum, the following:

(A) The initial capability of the core elements, without an upper stage, of lifting payloads weighing between 70 tons and 100 tons into low-Earth orbit in preparation for transit for missions beyond low-Earth orbit.

(B) The capability to carry an integrated upper Earth departure stage bringing the total lift capability of the Space Launch System to 130 tons or more.

(C) The capability to lift the multipurpose crew vehicle.

(D) The capability to serve as a backup system for supplying and supporting ISS cargo requirements or crew delivery requirements not otherwise met by available commercial or partner-supplied vehicles.

(2) FLEXIBILITY.—The Space Launch System shall be designed from inception as a fully integrated vehicle capable of carrying a total payload of 130 tons or more into low-Earth orbit in preparation for transit for missions beyond low Earth orbit. The Space Launch System shall, to the extent practicable, incorporate capabilities for evolutionary growth to

carry heavier payloads. Developmental work and testing of the core elements and the upper stage should proceed in parallel subject to appropriations. Priority should be placed on the core elements with the goal for operational capability for the core elements not later than December 31, 2016.

(3) TRANSITION NEEDS.—The Administrator shall ensure critical skills and capabilities are retained, modified, and developed, as appropriate, in areas related to solid and liquid engines, large diameter fuel tanks, rocket propulsion, and other ground test capabilities for an effective transition to the follow-on Space Launch System.

(4) The capacity for efficient and timely evolution, including the incorporation of new technologies, competition of sub-elements, and commercial operations.

(Pub. L. 111-267, title III, § 302, Oct. 11, 2010, 124 Stat. 2814.)

§ 18323. Multi-purpose crew vehicle

(a) INITIATION OF DEVELOPMENT.—

(1) IN GENERAL.—The Administrator shall continue the development of a multi-purpose crew vehicle to be available as soon as practicable, and no later than for use with the Space Launch System. The vehicle shall continue to advance development of the human safety features, designs, and systems in the Orion project.

(2) GOAL FOR OPERATIONAL CAPABILITY.—It shall be the goal to achieve full operational capability for the transportation vehicle developed pursuant to this subsection by not later than December 31, 2016. For purposes of meeting such goal, the Administrator may undertake a test of the transportation vehicle at the ISS before that date.

(b) MINIMUM CAPABILITY REQUIREMENTS.—The multi-purpose crew vehicle developed pursuant to subsection (a) shall be designed to have, at a minimum, the following:

(1) The capability to serve as the primary crew vehicle for missions beyond low-Earth orbit.

(2) The capability to conduct regular in-space operations, such as rendezvous, docking, and extra-vehicular activities, in conjunction with payloads delivered by the Space Launch System developed pursuant to section 18322 of this title, or other vehicles, in preparation for missions beyond low-Earth orbit or servicing of assets described in section 18383 of this title, or other assets in cis-lunar space.

(3) The capability to provide an alternative means of delivery of crew and cargo to the ISS, in the event other vehicles, whether commercial vehicles or partner-supplied vehicles, are unable to perform that function.

(4) The capacity for efficient and timely evolution, including the incorporation of new technologies, competition of sub-elements, and commercial operations.

(Pub. L. 111-267, title III, § 303, Oct. 11, 2010, 124 Stat. 2815.)

§ 18324. Utilization of existing workforce and assets in development of Space Launch System and multi-purpose crew vehicle

(a) IN GENERAL.—In developing the Space Launch System pursuant to section 18322 of this title and the multi-purpose crew vehicle pursuant to section 18323 of this title, the Administrator shall, to the extent practicable utilize—

(1) existing contracts, investments, workforce, industrial base, and capabilities from the Space Shuttle and Orion and Ares 1 projects, including—

(A) space-suit development activities for application to, and coordinated development of, a multi-purpose crew vehicle suit and associated life-support requirements with potential development of standard NASA-certified suit and life support systems for use in alternative commercially-developed crew transportation systems; and

(B) Space Shuttle-derived components and Ares 1 components that use existing United States propulsion systems, including liquid fuel engines, external tank or tank-related capability, and solid rocket motor engines; and

(2) associated testing facilities, either in being or under construction as of October 11, 2010.

(b) DISCHARGE OF REQUIREMENTS.—In meeting the requirements of subsection (a), the Administrator—

(1) shall, to the extent practicable, utilize ground-based manufacturing capability, ground testing activities, launch and operations infrastructure, and workforce expertise;

(2) shall, to the extent practicable, minimize the modification and development of ground infrastructure and maximize the utilization of existing software, vehicle, and mission operations processes;

(3) shall complete construction and activation of the A-3 test stand with a completion goal of September 30, 2013;

(4) may procure, develop, and flight test applicable components; and

(5) shall take appropriate actions to ensure timely and cost-effective development of the Space Launch System and the multi-purpose crew vehicle, including the use of a procurement approach that incorporates adequate and effective oversight, the facilitation of contractor efficiencies, and the stream-lining of contract and procurement requirements.

(Pub. L. 111–267, title III, § 304, Oct. 11, 2010, 124 Stat. 2816.)

§ 18325. NASA launch support and infrastructure modernization program

(a) IN GENERAL.—The Administrator shall carry out a program the primary purpose of which is to prepare infrastructure at the Kennedy Space Center that is needed to enable processing and launch of the Space Launch System. Vehicle interfaces and other ground processing and payload integration areas should be simplified to minimize overall costs, enhance safety, and complement the purpose of this section.

(b) ELEMENTS.—The program required by this section shall include—

(1) investments to improve civil and national security operations at the Kennedy Space Center, to enhance the overall capabilities of the Center, and to reduce the long term cost of operations and maintenance;

(2) measures to provide multi-vehicle support, improvements in payload processing, and partnering at the Kennedy Space Center; and

(3) such other measures, including investments to improve launch infrastructure at NASA flight facilities scheduled to launch cargo to the ISS under the commercial orbital transportation services program as the Administrator may consider appropriate.

(c) REPORT ON NASA LAUNCH SUPPORT AND INFRASTRUCTURE MODERNIZATION PROGRAM.—

(1) REPORT REQUIRED.—Not later than 120 days after October 11, 2010, the Administrator shall submit to the appropriate committees of Congress a report on the plan for the implementation of the NASA launch support and infrastructure modernization program.

(2) ELEMENTS.—The report required by this subsection shall include—

(A) a description of the ground infrastructure plan tied to the Space Launch System and potential ground investment activities at other NASA centers related to supporting the development of the Space Launch System;

(B) a description of proposed initiatives intended to be conducted jointly or in cooperation with Cape Canaveral Air Force Station, Florida, or other installations or components of the United States Government; and

(C) a description of plans to use funds authorized to be appropriated by this chapter to improve non-NASA facilities, which plans shall include a business plan outlining the nature and scope of investments planned by other parties.

(Pub. L. 111–267, title III, § 305, Oct. 11, 2010, 124 Stat. 2817.)

§ 18326. Development of technologies and in-space capabilities for beyond near Earth space missions

(a) DEVELOPMENT AUTHORIZED.—The Administrator may initiate activities to develop the following:

(1) Technologies identified as necessary elements of missions beyond low-Earth orbit.

(2) In-space capabilities such as refueling and storage technology, orbital transfer stages, innovative in-space propulsion technology, communications, and data management that facilitate a broad range of users (including military and commercial) and applications defining the architecture and design of such missions.

(3) Spacesuit development and associated life support technology.

(4) Flagship missions.

(b) INVESTMENTS.—In developing technologies and capabilities under subsection (a), the Administrator may make investments—

(1) in space technologies such as advanced propulsion, propellant depots, in situ resource utilization, and robotic payloads or capabilities that enable human missions beyond low-Earth orbit ultimately leading to Mars;

(2) in a space-based transfer vehicle including these technologies with an ability to conduct space-based operations that provide capabilities—

(A) to integrate with the Space Launch System and other space-based systems;

(B) to provide opportunities for in-space servicing of and delivery to multiple space-based platforms; and

(C) to facilitate international efforts to expand human presence to deep space destinations;

(3) in advanced life support technologies and capabilities;

(4) in technologies and capabilities relating to in-space power, propulsion, and energy systems;

(5) in technologies and capabilities relating to in-space propellant transfer and storage;

(6) in technologies and capabilities relating to in situ resource utilization; and

(7) in expanded research to understand the greatest biological impediments to human deep space missions, especially the radiation challenge.

(c) UTILIZATION OF ISS AS TESTBED.—The Administrator may utilize the ISS as a testbed for any technology or capability developed under subsection (a) in a manner consistent with the provisions of this chapter.

(d) COORDINATION.—The Administrator shall coordinate development of technologies and capabilities under this section through an overall agency technology approach, as authorized by section 905 of this Act.

(Pub. L. 111–267, title III, § 308, Oct. 11, 2010, 124 Stat. 2818.)

REFERENCES IN TEXT

Section 905 of this Act, referred to in subsec. (d), is Pub. L. 111–267, title IX, § 905, Oct. 11, 2010, 124 Stat. 2836, which is not classified to the Code.

§ 18327. Report requirement

Within 90 days after October 11, 2010, or upon completion of reference designs for the Space Launch System and Multi-purpose Crew Vehicle authorized by this chapter, whichever occurs first, the Administrator shall provide a detailed report to the appropriate committees of Congress that provides an overall description of the reference vehicle design, the assumptions, description, data, and analysis of the systems trades and resolution process, justification of trade decisions, the design factors which implement the essential system and vehicle capability requirements established by this chapter, the explanation and justification of any deviations from those requirements, the plan for utilization of existing contracts, civil service and contract workforce, supporting infrastructure utili-

zation and modifications, and procurement strategy to expedite development activities through modification of existing contract vehicles, and the schedule of design and development milestones and related schedules leading to the accomplishment of operational goals established by this chapter. The Administrator shall provide an update of this report as part of the President's annual Budget Request.

(Pub. L. 111–267, title III, § 309, Oct. 11, 2010, 124 Stat. 2819.)

Subchapter III—Development and Use of Commercial Crew and Cargo Transportation Capabilities

§ 18341. Commercial Cargo Development program

The Administrator shall continue to support the existing Commercial Resupply Services program, aimed at enabling the commercial space industry in support of NASA to develop reliable means of launching cargo and supplies to the ISS throughout the duration of the facility's operation. The Administrator may apply funds towards the reduction of risk to the timely start of these services, specifically—

(1) efforts to conduct a flight test;

(2) accelerate development; and

(3) develop the ground infrastructure needed for commercial cargo capability.

(Pub. L. 111–267, title IV, § 401, Oct. 11, 2010, 124 Stat. 2820; Pub. L. 115–10, title III, § 302(f), Mar. 21, 2017, 131 Stat. 26.)

AMENDMENTS

2017—Pub. L. 115–10 substituted "Commercial Resupply Services" for "Commercial Orbital Transportation Services" in introductory provisions.

§ 18342. Requirements applicable to development of commercial crew transportation capabilities and services

(a) FY 2011 CONTRACTS AND PROCUREMENT AGREEMENTS.—

(1) IN GENERAL.—Except as provided in paragraph (2), the Administrator may not execute a contract or procurement agreement with respect to follow-on commercial crew services during fiscal year 2011.

(2) EXCEPTION.—Notwithstanding paragraph (1), the Administrator may execute a contract or procurement agreement with respect to follow-on commercial crew services during fiscal year 2011 if—

(A) the requirements of paragraphs (1), (2), and (3) of subsection (b) are met; and

(B) the total amount involved for all such contracts and procurement agreements executed during fiscal year 2011 does not exceed $50,000,000 for fiscal year 2011.

(b) SUPPORT.—The Administrator may, beginning in fiscal year 2012 through the duration of the program, support follow-on commercially-developed crew transportation systems dependent upon the completion of each of the following:

(1) HUMAN RATING REQUIREMENTS.—Not later than 60 days after October 11, 2010, the Administrator shall develop and make available to the public detailed human rating processes

and requirements to guide the design of commercially-developed crew transportation capabilities, which requirements shall be at least equivalent to proven requirements for crew transportation in use as of October 11, 2010.

(2) COMMERCIAL MARKET ASSESSMENT.—Not later than 180 days after October 11, 2010, the Administrator shall submit to the appropriate committees of Congress an assessment, conducted, in coordination with the Federal Aviation Administration's Office of Commercial Space Transportation, for purposes of this paragraph, of the potential non-Government market for commercially-developed crew and cargo transportation systems and capabilities, including an assessment of the activities associated with potential private sector utilization of the ISS research and technology development capabilities and other potential activities in low-Earth orbit.

(3) PROCUREMENT SYSTEM REVIEW.—The Administrator shall review current Government procurement and acquisition practices and processes, including agreement authorities under the National Aeronautics and Space Act of 1958, 1 to determine the most cost effective means of procuring commercial crew transportation capabilities and related services in a manner that ensures appropriate accountability, transparency, and maximum efficiency in the procurement of such capabilities and services, which review shall include an identification of proposed measures to address risk management and means of indemnification of commercial providers of such capabilities and services, and measures for quality control, safety oversight, and the application of Federal oversight processes within the jurisdiction of other Federal agencies. A description of the proposed procurement process and justification of the proposed procurement for its selection shall be included in any proposed initiation of procurement activity for commercially-developed crew transportation capabilities and services and shall be subject to review by the appropriate committees of Congress before the initiation of any competitive process to procure such capabilities or services. In support of the review by such committees, the Comptroller General shall undertake an assessment of the proposed procurement process and provide a report to the appropriate committees of Congress within 90 days after the date on which the Administrator provides the description and justification to such committees.

(4) USE OF GOVERNMENT-SUPPLIED CAPABILITIES AND INFRASTRUCTURE.—In evaluating any proposed development activity for commercially-developed crew or cargo launch capabilities, the Administrator shall identify the anticipated contribution of government personnel, expertise, technologies, and infrastructure to be utilized in support of design, development, or operations of such capabilities. This assessment shall include a clear delineation of the full requirements for the commercial crew service (including the contingency for crew rescue). The Administrator shall include details and associated costs of such support as part of any proposed development initiative for the procurement of commercially-developed crew or cargo launch capabilities or services.

(5) FLIGHT DEMONSTRATION AND READINESS REQUIREMENTS.—The Administrator shall establish appropriate milestones and minimum performance objectives to be achieved before authority is granted to proceed to the procurement of commercially-developed crew transportation capabilities or systems. The guidelines shall include a procedure to provide independent assurance of flight safety and flight readiness before the authorization of United States government personnel to participate as crew onboard any commercial launch vehicle developed pursuant to this section.

(6) COMMERCIAL CREW RESCUE CAPABILITIES.—The provision of a commercial capability to provide ISS crew services shall include crew rescue requirements, and shall be undertaken through the procurement process initiated in conformance with this section. In the event such development is initiated, the Administrator shall make available any relevant government-owned intellectual property deriving from the development of a multi-purpose crew vehicle authorized by this chapter to commercial entities involved with such crew rescue capability development which shall be relevant to the design of a crew rescue capability. In addition, the Administrator shall seek to ensure that contracts for development of the multi-purpose crew vehicle contain provisions for the licensing of relevant intellectual property to participating commercial providers of any crew rescue capability development undertaken pursuant to this section. If one or more contractors involved with development of the multi-purpose crew vehicle seek to compete in development of a commercial crew service with crew rescue capability, separate legislative authority must be enacted to enable the Administrator to provide funding for any modifications of the multi-purpose crew vehicle necessary to fulfill the ISS crew rescue function.

(Pub. L. 111–267, title IV, § 403, Oct. 11, 2010, 124 Stat. 2820.)

REFERENCES IN TEXT

The National Aeronautics and Space Act of 1958, referred to in subsec. (b)(3), is Pub. L. 85-568, July 29, 1958, 72 Stat. 426, which was classified principally to chapter 26 (§ 2451 et seq.) of this title and was substantially repealed and restated as chapter 201 (§ 20101 et seq.) of Title 51, National and Commercial Space Programs, by Pub. L. 111–314, §§ 3, 6, Dec. 18, 2010, 124 Stat. 3328, 3444. For complete classification of this Act to the Code, see Short Title of 1958 Act note set out under section 10101 of Title 51 and Tables.

Subchapter IV—Continuation, Support, and Evolution of the International Space Station

§ 18351. Continuation of the International Space Station

(a) POLICY OF THE UNITED STATES.—It shall be the policy of the United States, in consultation with its international partners in the ISS program, to support full and complete utilization of the ISS through at least 2024.

(b) NASA ACTION.—In furtherance of the policy set forth in subsection (a), NASA shall—

(1) pursue international, commercial, and intragovernmental means to maximize ISS logistics supply, maintenance, and operational capabilities, reduce risks to ISS systems sustainability, and offset and minimize United States operations costs relating to the ISS;

(2) utilize, to the extent practicable, the ISS for the development of capabilities and technologies needed for the future of human space exploration beyond low-Earth orbit; and

(3) utilize, if practical and cost effective, the ISS for Science Mission Directorate missions in low-Earth orbit.

(Pub. L. 111–267, title V, § 501, Oct. 11, 2010, 124 Stat. 2822; Pub. L. 114–90, title I, § 114(b)(1), Nov. 25, 2015, 129 Stat. 715; Pub. L. 115–10, title III, § 301(c), Mar. 21, 2017, 131 Stat. 23.)

AMENDMENTS

2017—Pub. L. 115–10 amended section generally. Prior to amendment, section read as follows:

"(a) POLICY OF THE UNITED STATES.—It shall be the policy of the United States, in consultation with its international partners in the ISS program, to support full and complete utilization of the ISS through at least 2024.

"(b) NASA ACTIONS.—In furtherance of the policy set forth in subsection (a), NASA shall pursue international, commercial, and intragovernmental means to maximize ISS logistics supply, maintenance, and operational capabilities, reduce risks to ISS systems sustainability, and offset and minimize United States operations costs relating to the ISS."

2015—Pub. L. 114–90, § 114(b)(1)(A), struck out "through 2020" after "Station" in section catchline. Subsec. (a). Pub. L. 114–90, § 114(b)(1)(B), substituted "through at least 2024" for "through at least 2020".

§ 18352. Maximum utilization of the International Space Station

(a) IN GENERAL.—With assembly of the ISS complete, NASA shall take steps to maximize the productivity and use of the ISS with respect to scientific and technological research and develop-

ment, advancement of space exploration, and international collaboration.

(b) NASA ACTIONS.—In carrying out subsection (a), NASA shall, at a minimum, undertake the following:

(1) INNOVATIVE USE OF U.S. SEGMENT.—The United States segment of the ISS, which has been designated as a National Laboratory, shall be developed, managed and utilized in a manner that enables the effective and innovative use of such facility, as provided in section 18354 of this title.

(2) INTERNATIONAL COOPERATION.—The ISS shall continue to be utilized as a key component of international efforts to build missions and capabilities that further the development of a human presence beyond near-Earth space and advance United States security and economic goals. The Administrator shall actively seek ways to encourage and enable the use of ISS capabilities to support these efforts.

(3) DOMESTIC COLLABORATION.—The operations, management, and utilization of the ISS shall be conducted in a manner that provides opportunities for collaboration with other research programs and objectives of the United States Government in cooperation with commercial suppliers, users, and developers.

(Pub. L. 111–267, title V, § 502, Oct. 11, 2010, 124 Stat. 2823.)

§ 18353. Maintenance of the United States segment and assurance of continued operations of the International Space Station.

(a) IN GENERAL.—The Administrator shall take all actions necessary to ensure the safe and effective operation, maintenance, and maximum utilization of the United States segment of the ISS through at least September 30, 2024.

(b) VEHICLE AND COMPONENT REVIEW.—

(1) IN GENERAL.—The Administrator shall, as soon as is practicable after October 11, 2010, carry out a comprehensive assessment of the essential modules, operational systems and components, structural elements, and permanent scientific equipment on board or planned for delivery and installation aboard the ISS, including both United States and international partner elements, for purposes of identifying the spare or replacement modules, systems and components, elements, and equipment that are required to ensure complete, effective, and safe functioning and full scientific utilization of the ISS through September 30, 2020.[1]

(2) DATA.—In carrying out the assessment, the Administrator shall assemble any existing data, and provide for the development of any data or analysis not currently available, that is necessary for purposes of the assessment.

(c) REPORTS.—

(1) REPORT ON ASSESSMENT.—

(A) REPORT REQUIRED.—Not later than 90 days after October 11, 2010, the Administrator shall submit to the appropriate committees of Congress a report on the assessment required by subsection (b).

(B) ELEMENTS.—The report required by this paragraph shall include, at minimum, the following:

(i) A description of the spare or replacement modules, systems and components, elements, and equipment identified pursuant to the assessment that are currently produced, in inventory, or on order, a description of the state of their readiness, and a schedule for their delivery to the ISS (including the planned transportation means for such delivery), including for each such module, system or component, element, or equipment a description of—

(I) its specifications, including size, weight, and necessary configuration for launch and delivery to the ISS;

(II) its function;

(III) its location; and

(IV) its criticality for ISS system integrity.

(ii) A description of the spare or replacement modules, systems and components, elements, and equipment identified pursuant to the assessment that are not currently produced, in inventory, or on order, including for each such module, system or component, element, or equipment a description of—

(I) its specifications, including size, weight, and necessary configuration for launch and delivery to the ISS;

(II) its function;

(III) its location;

(IV) its criticality for ISS system integrity; and

(V) the anticipated cost and schedule for its design, procurement, manufacture, and delivery to the ISS.

(iii) A detailed summary of the delivery schedule and associated delivery vehicle requirements necessary to transport all spare and replacement elements considered essential for the ongoing and sustained functionality of all critical systems of the ISS, both in and of themselves and as an element of an integrated, mutually dependent essential capability, including an assessment of the current schedule for delivery, the availability of delivery vehicles to meet that schedule, and the likelihood of meeting that schedule through such vehicles.

(2) GAO REPORT.—

(A) REPORT REQUIRED.—Not later than 90 days after the submittal to Congress under paragraph (1) of the assessment required by subsection (b), the Comptroller General of the United States shall submit to the appropriate committees of Congress a report on the assessment. The report shall set forth an evaluation of the assessment by the Comptroller General, including an evaluation of the accuracy and level of confidence in the findings of the assessment.

(B) COOPERATION WITH GAO.—The Administrator shall provide for the monitoring and participation of the Comptroller General in the assessment in a manner that permits the Comptroller General to prepare and submit the report required by subparagraph (A).

(d) UTILIZATION OF RESEARCH FACILITIES AND CAPABILITIES.—Utilization of research facilities and capabilities aboard the ISS (other than exploration-related research and technology development facilities and capabilities, and associated ground support and logistics), shall be planned, managed, and supported as provided in section 18354 of this title. Exploration-related research and technology development facilities, capabilities, and associated ground support and logistics shall be planned, managed, and supported by the appropriate NASA organizations and officials in a manner that does not interfere with other activities under section 18354 of this title.

(e) SPACE SHUTTLE MISSION TO ISS.—

(1) SPACE SHUTTLE MISSION.—The Administrator shall fly the Launch-On-Need Shuttle mission currently designated in the Shuttle Flight Manifest dated February 28, 2010, to the ISS in fiscal year 2011, but no earlier than June 1, 2011, unless required earlier by an operations contingency, and pending the results of the assessment required by paragraph (2) and the determination under paragraph (3)(A).

(2) ASSESSMENT OF SAFE MEANS OF RETURN.—The Administrator shall provide for an assessment by the NASA Engineering and Safety Center of the procedures and plans developed to ensure the safety of the Space Shuttle crew, and alternative means of return, in the event the Space Shuttle is damaged or otherwise unable to return safely to Earth.

(3) SCHEDULE AND PAYLOAD.—The determination of the schedule and payload for the mission authorized by paragraph (1) shall take into account the following:

(A) The supply and logistics delivery requirements of the ISS.

(B) The findings of the study required by paragraph (2).

(4) FUNDS.—Amounts authorized to be appropriated by section 101(2)(B)[1] shall be available for the mission authorized by paragraph (1).

(f) SPACE SHUTTLE MANIFEST FLIGHT ASSURANCE.—

(1) IN GENERAL.—The Administrator shall take all actions necessary to preserve Space Shuttle launch capability through fiscal year 2011 in a manner that enables the launch, at a minimum, of missions and primary payloads in the Shuttle flight manifest as of February 28, 2010.

(2) CONTINUATION OF CONTRACTOR SUPPORT.—The Administrator may not terminate any contract that provides the system transitions necessary for shuttle derived hardware to be used on either the multi-purpose crew vehicle described in section 18323 of this title or the Space Launch System described in section 18322 of this title.

(Pub. L. 111–267, title V, § 503, Oct. 11, 2010, 124 Stat. 2823; Pub. L. 114–90, title I, § 114(b)(2), Nov. 25, 2015, 129 Stat. 716.)

REFERENCES IN TEXT

Reference to September 30, 2020, referred to in subsec. (b)(1), was not amended by section 114(b) of Pub. L. 114–90, which substituted references to "2024" for references to "2020" in other provisions throughout this subchapter. See also section 70907 of Title 51, National and Commercial Space Programs, as amended by section 114(b) of Pub. L. 114–90.

Section 101(2)(B), referred to in subsec. (e)(4), is Pub. L. 111–267, title I, § 101(2)(B), Oct. 11, 2010, 124 Stat. 2809, which is not classified to the Code.

AMENDMENTS

2015—Subsec. (a). Pub. L. 114–90, § 114(b)(2)(A), substituted "through at least September 30, 2024" for "through at least September 30, 2020".

Subsec. (b)(1). Pub. L. 114–90, § 114(b)(2)(B), substituted "The Administrator" for "In carrying out subsection (a), the Administrator".

§ 18354. Management of the ISS national laboratory

(a) COOPERATIVE AGREEMENT WITH NOT-FOR-PROFIT ENTITY FOR MANAGEMENT OF NATIONAL LABORATORY.—

(1) IN GENERAL.—The Administrator shall provide initial financial assistance and enter into a cooperative agreement with an appropriate organization that is exempt from taxation under section 501(c)(3) of title 26 to manage the activities of the ISS national laboratory in accordance with this section.

(2) QUALIFICATIONS.—The organization with which the Administrator enters into the cooperative agreement shall develop the capabilities to implement research and development projects utilizing the ISS national laboratory and to otherwise manage the activities of the ISS national laboratory.

(3) PROHIBITION ON OTHER ACTIVITIES.—The cooperative agreement shall require the organization entering into the agreement to engage exclusively in activities relating to the management of the ISS national laboratory and activities that promote its long term research and development mission as required by this section, without any other organizational objectives or responsibilities on behalf of the organization or any parent organization or other entity.

(b) NASA LIAISON.—

(1) DESIGNATION.—The Administrator shall designate an official or employee of the Space Operations Mission Directorate of NASA to act as liaison between NASA and the organization with which the Administrator enters into a cooperative agreement under subsection (a) with regard to the management of the ISS national laboratory.

(2) CONSULTATION WITH LIAISON.—The cooperative agreement shall require the organization entering into the agreement to carry out its responsibilities under the agreement in cooperation and consultation with the official or employee designated under paragraph (1).

(c) PLANNING AND COORDINATION OF ISS NATIONAL LABORATORY RESEARCH ACTIVITIES.—The Administrator shall provide initial financial assistance to the organization with which the Administrator enters into a cooperative agreement under subsection (a), in order for the organization to initiate the following:

(1) Planning and coordination of the ISS national laboratory research activities.

(2) Development and implementation of guidelines, selection criteria, and flight support requirements for non-NASA scientific utilization of ISS research capabilities and facilities available in United States-owned modules of the ISS or in partner-owned facilities of the ISS allocated to United States utilization by international agreement.

(3) Interaction with and integration of the International Space Station National Laboratory Advisory Committee established under section 70906 of title 51 with the governance of the organization, and review recommendations provided by that Committee regarding agreements with non-NASA departments and agencies of the United States Government, academic institutions and consortia, and commercial entities leading to the utilization of the ISS national laboratory facilities.

(4) Coordination of transportation requirements in support of the ISS national laboratory research and development objectives, including provision for delivery of instruments, logistics support, and related experiment materials, and provision for return to Earth of collected samples, materials, and scientific instruments in need of replacement or upgrade.

(5) Cooperation with NASA, other departments and agencies of the United States Government, the States, and commercial entities in ensuring the enhancement and sustained operations of non-exploration-related research payload ground support facilities for the ISS, including the Space Life Sciences Laboratory, the Space Station Processing Facility and Payload Operations Integration Center.

(6) Development and implementation of scientific outreach and education activities designed to ensure effective utilization of ISS research capabilities including the conduct of scientific assemblies, conferences, and other fora for the presentation of research findings, methods, and mechanisms for the dissemination of non-restricted research findings and the development of educational programs, course supplements, interaction with educational programs at all grade levels, including student-focused research opportunities for conduct of research in the ISS national laboratory facilities.

(7) Such other matters relating to the utilization of the ISS national laboratory facilities for research and development as the Administrator may consider appropriate.

(d) RESEARCH CAPACITY ALLOCATION AND INTEGRATION OF RESEARCH PAYLOADS.—

(1) ALLOCATION OF ISS RESEARCH CAPACITY.—As soon as practicable after October 11, 2010, but not later than October 1, 2011, ISS national laboratory managed experiments shall be guaranteed access to, and utilization of, not less than 50 percent of the United States research capacity allocation, includ-

ing power, cold stowage, and requisite crew time onboard the ISS through at least September 30, 2024. Access to the ISS research capacity includes provision for the adequate up mass and down mass capabilities to utilize the ISS research capacity, as available. The Administrator may allocate additional capacity to the ISS national laboratory should such capacity be in excess of NASA research requirements.

(2) ADDITIONAL RESEARCH CAPABILITIES.—If any NASA research plan is determined to require research capacity onboard the ISS beyond the percentage allocated under paragraph (1), such research plan shall be prepared in the form of a requested research opportunity to be submitted to the process established under this section for the consideration of proposed research within the capacity allocated to the ISS national laboratory. A proposal for such a research plan may include the establishment of partnerships with non-NASA institutions eligible to propose research to be conducted within the ISS national laboratory capacity. Until at least September 30, 2024, the official or employee designated under subsection (b) may grant an exception to this requirement in the case of a proposed experiment considered essential for purposes of preparing for exploration beyond low-Earth orbit, as determined by joint agreement between the organization with which the Administrator enters into a cooperative agreement under subsection (a) and the official or employee designated under subsection (b).

(3) RESEARCH PRIORITIES AND ENHANCED CAPACITY.—The organization with which the Administrator enters into the cooperative agreement shall consider recommendations of the National Academies Decadal Survey on Biological and Physical Sciences in Space in establishing research priorities and in developing proposed enhancements of research capacity and opportunities for the ISS national laboratory.

(4) RESPONSIBILITY FOR RESEARCH PAYLOAD.—NASA shall retain its roles and responsibilities in providing research payload physical, analytical, and operations integration during preflight, post-flight, transportation, and orbital phases essential to ensure safe and effective flight readiness and vehicle integration of research activities approved and prioritized by the organization with which the Administrator enters into the cooperative agreement and the official or employee designated under subsection (b).

(Pub. L. 111–267, title V, § 504, Oct. 11, 2010, 124 Stat. 2825; Pub. L. 114–90, title I, § 114(b)(3), Nov. 25, 2015, 129 Stat. 716.)

CODIFICATION

In subsec. (c)(3), "section 70906 of title 51" substituted for "section 602 of the National Aeronautics and Space Administration Authorization Act of 2008 (42 U.S.C. 17752)" on authority of Pub. L. 111–314, § 5(e), Dec. 18, 2010, 124 Stat. 3443, which Act enacted Title 51, National and Commercial Space Programs.

AMENDMENTS

2015—Subsec. (d)(1), (2). Pub. L. 114–90 substituted "at least September 30, 2024" for "September 30, 2020".

Subchapter V—Space Shuttle Retirement And Transition

§ 18361. Sense of Congress on the Space Shuttle program

(a) FINDINGS.—Congress makes the following findings:

(1) The Space Shuttle program represents a national asset consisting of critical skills and capabilities, including the ability to lift large payloads into space and return them to Earth.

(2) The Space Shuttle has carried more than 355 people from 16 nations into space.

(3) The Space Shuttle has projected the best of American values around the world, and Space Shuttle crews have sparked the imagination and dreams of the world's youth and young at heart.

(b) SENSE OF CONGRESS.—It is the sense of Congress that—

(1) it is essential that the retirement of the Space Shuttle and the transition to new human space flight capabilities be done in a manner that builds upon the legacy of this national asset; and

(2) it is imperative for the United States to retain the skills and the industrial capability to provide a follow-on Space Launch System that is primarily designed for missions beyond near-Earth space, while offering some potential for supplanting shuttle delivery capabilities to low-Earth orbit, particularly in support of ISS requirements, if necessary.

(Pub. L. 111–267, title VI, § 601, Oct. 11, 2010, 124 Stat. 2828.)

§ 18362. Retirement of Space Shuttle orbiters and transition of Space Shuttle program

(a) IN GENERAL.—The Administrator shall retire the Space Shuttle orbiters pursuant to a schedule established by the Administrator and in a manner consistent with provisions of this chapter regarding potential requirements for contingency utilization of Space Shuttle orbiters for ISS requirements.

(b) UTILIZATION OF WORKFORCE AND ASSETS IN FOLLOW-ON SPACE LAUNCH SYSTEM.—

(1) UTILIZATION OF VEHICLE ASSETS.—In carrying out subsection (a), the Administrator shall, to the maximum extent practicable, utilize workforce, assets, and infrastructure of the Space Shuttle program in efforts relating to the initiation of a follow-on Space Launch System developed pursuant to section 18322 of this title.

(2) OTHER ASSETS.—With respect to the workforce, assets, and infrastructure not utilized as described in paragraph (1), the Administrator shall work closely with other departments and agencies of the Federal Government, and the private sector, to divest unneeded assets and to assist displaced workers with retraining and other placement efforts. Amounts author-

ized to be appropriated by section 101(2)(B) shall be available for activities pursuant to this paragraph.

(Pub. L. 111–267, title VI, § 602, Oct. 11, 2010, 124 Stat. 2828.)

REFERENCES IN TEXT

Section 101(2)(B), referred to in subsec. (b)(2), is Pub. L. 111–267, title I, § 101(2)(B), Oct. 11, 2010, 124 Stat. 2809, which is not classified to the Code.

§ 18363. Disposition of orbiter vehicles

(a) IN GENERAL.—Upon the termination of the Space Shuttle program as provided in section 18362 of this title, the Administrator shall decommission any remaining Space Shuttle orbiter vehicles according to established safety and historic preservation procedures prior to their designation as surplus government property. The orbiter vehicles shall be made available and located for display and maintenance through a competitive procedure established pursuant to the disposition plan developed under section 613(a) of the National Aeronautics and Space Administration Authorization Act of 2008 (42 U.S.C. 17761(a)), with priority consideration given to eligible applicants meeting all conditions of that plan which would provide for the display and maintenance of orbiters at locations with the best potential value to the public, including where the location of the orbiters can advance educational opportunities in science, technology, engineering, and mathematics disciplines, and with an historical relationship with either the launch, flight operations, or processing of the Space Shuttle orbiters or the retrieval of NASA manned space vehicles, or significant contributions to human space flight. The Smithsonian Institution, which, as of October 11, 2001, houses the Space Shuttle Enterprise, shall determine any new location for the Enterprise.

(b) DISPLAY AND MAINTENANCE.—The orbiter vehicles made available under subsection (a) shall be displayed and maintained through agreements and procedures established pursuant to section 613(a) of the National Aeronautics and Space Administration Authorization Act of 2008 (42 U.S.C. 17761(a)).

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to NASA such sums as may be necessary to carry out this section. The amounts authorized to be appropriated by this subsection shall be in addition to any amounts authorized to be appropriated by title I, and may be requested by the President as supplemental requirements, if needed, in the appropriate fiscal years.

(Pub. L. 111–267, title VI, § 603, Oct. 11, 2010, 124 Stat. 2829.)

REFERENCES IN TEXT

Section 613(a) of the National Aeronautics and Space Administration Authorization Act of 2008, referred to in subsecs. (a) and (b), is section 613(a) of Pub. L. 110–422, formerly classified to section 17761(a) of this title, which was transferred and is set out as a note under section 70501 of Title 51, National and Commercial Space Programs.

Title I, referred to in subsec. (c), is title I of Pub. L. 111–267, Oct. 11, 2010, 124 Stat. 2809, which is not classified to the Code.

Subchapter VI—Earth Science

§ 18371. Interagency collaboration implementation approach

The Director of OSTP shall establish a mechanism to ensure greater coordination of the research, operations, and activities relating to civilian Earth observation of those Agencies, including NASA, that have active programs that either contribute directly or indirectly to these areas. This mechanism should include the development of a strategic implementation plan that is updated at least every 3 years, and includes a process for external independent advisory input. This plan should include a description of the responsibilities of the various Agency roles in Earth observations, recommended cost-sharing and procurement arrangements between Agencies and other entities, including international arrangements, and a plan for ensuring the provision of sustained, long term space-based climate observations. The Director shall provide a report to Congress within 90 days after October 11, 2010, on the implementation plan for this mechanism.

(Pub. L. 111–267, title VII, § 702, Oct. 11, 2010, 124 Stat. 2830.)

§ 18372. Transitioning experimental research to operations

The Administrator shall coordinate with the Administrator of NOAA and the Director of the United States Geological Survey to establish a formal mechanism that plans, coordinates, and supports the transitioning of NASA research findings, assets, and capabilities to NOAA operations and United States Geological Survey operations. In defining this mechanism, NASA should consider the establishment of a formal or informal Interagency Transition Office. The Administrator of NASA shall provide an implementation plan for this mechanism to Congress within 90 days after October 11, 2010.

(Pub. L. 111–267, title VII, § 703, Oct. 11, 2010, 124 Stat. 2830.)

§ 18373. Decadal Survey missions implementation for Earth observation

The Administrator shall undertake to implement, as appropriate, missions identified in the National Research Council's Earth Science Decadal Survey within the scope of the funds authorized for the Earth Science Mission Directorate.

(Pub. L. 111–267, title VII, § 704, Oct. 11, 2010, 124 Stat. 2831.)

§ 18374. Instrument test-beds and venture class missions

The Administrator shall pursue innovative ways to fly instrument-level payloads for early demonstration or as comanifested [sic] payloads. The Congress encourages the use of the ISS as an accessible platform for the conduct of such activities. Additionally,

in order to address the cost and schedule challenges associated with large flight systems, NASA should pursue smaller systems where practicable and warranted.

(Pub. L. 111–267, title VII, § 706, Oct. 11, 2010, 124 Stat. 2831.)

Subchapter VII—Space Science

§ 18381. Technology development

The Administrator shall ensure that the Science Mission Directorate maintains a long term technology development program for space and Earth science. This effort should be coordinated with an overall Agency technology investment approach, as authorized in section 905 of this Act.

(Pub. L. 111–267, title VIII, § 801, Oct. 11, 2010, 124 Stat. 2832.)

REFERENCES IN TEXT

Section 905 of this Act, referred to in text, is Pub. L. 111–267, title IX, § 905, Oct. 11, 2010, 124 Stat. 2836, which is not classified to the Code.

§ 18382. Suborbital research activities

(a) IN GENERAL.—The report of the National Academy of Sciences, Revitalizing NASA's Suborbital Program: Advancing Science, Driving Innovation and Developing Workforce, found that suborbital science missions were absolutely critical to building an aerospace workforce capable of meeting the needs of current and future human and robotic space exploration.

(b) MANAGEMENT.—The Administrator shall designate an officer or employee of the Science Mission Directorate to act as the responsible official for all Suborbital Research in the Science Mission Directorate. The designee shall be responsible for the development of short- and long term strategic plans for maintaining, renewing and extending suborbital facilities and capabilities, monitoring progress towards goals in the plans, and be responsible for integration of suborbital activities and workforce development within the agency, thereby ensuring the long term recognition of their combined value to the directorate, to NASA, and to the Nation.

(c) ESTABLISHMENT OF SUBORBITAL RESEARCH PROGRAM.—The Administrator shall establish a Suborbital Research Program within the Science Mission Directorate that shall include the use of sounding rockets, aircraft, high altitude balloons, suborbital reusable launch vehicles, and commercial launch vehicles to advance science and train the next generation of scientists and engineers in systems engineering and systems integration which are vital to maintaining critical skills in the aerospace workforce. The program shall integrate existing suborbital research programs with orbital missions at the discretion of the designated officer or employee and shall emphasize the participation of undergraduate and graduate students and post-doctoral researchers when formulating announcements of opportunity.

(d) REPORT.—The Administrator shall report to the appropriate committees of Congress on the number and type of suborbital mis-

sions conducted in each fiscal year and the number of undergraduate and graduate students participating in the missions. The report shall be made annually for each fiscal year under this section.

(e) AUTHORIZATION.—There are authorized to be appropriated to the Administrator such sums as may be necessary to carry out this section.

(Pub. L. 111–267, title VIII, § 802, Oct. 11, 2010, 124 Stat. 2832.)

§ 18383. In-space servicing

The Administrator shall continue to take all necessary steps to ensure that provisions are made for in-space or human servicing and repair of all future observatory-class scientific spacecraft intended to be deployed in Earth-orbit or at a Lagrangian point to the extent practicable and appropriate. The Administrator should ensure that agency investments and future capabilities for space technology, robotics, and human space flight take the ability to service and repair these spacecraft into account, where appropriate, and incorporate such capabilities into design and operational plans.

(Pub. L. 111–267, title VIII, § 804, Oct. 11, 2010, 124 Stat. 2833.)

§ 18384. Decadal results

NASA shall take into account the current decadal surveys from the National Academies' Space Studies Board when submitting the President's budget request to the Congress.

(Pub. L. 111–267, title VIII, § 805, Oct. 11, 2010, 124 Stat. 2833.)

§ 18385. On-going restoration of radioisotope thermoelectric generator material production

(a) FINDINGS.—The Congress finds the following:

(1) The United States has led the world in the scientific exploration of space for nearly 50 years.

(2) Missions such as Viking, Voyager, Cassini, and New Horizons have greatly expanded knowledge of our solar system and planetary characteristics and evolution.

(3) Radioisotope power systems are the only available power sources for deep space missions making it possible to travel to such distant destinations as Mars, Jupiter, Saturn, Pluto, and beyond and maintain operational control and systems viability for extended mission durations.

(4) Current radioisotope power systems supplies and production will not fully support NASA missions planned even in the next decade and, without a new domestic production capability, the United States will no longer have the means to explore the majority of the solar system by the end of this decade.

(5) Continuing to rely on Russia or other foreign sources for radioisotope power system fuel production is not a secure option.

(6) Reestablishing domestic production will require a long lead-time. Thus, meeting future space exploration mission needs requires that a restart project begin at the earliest opportunity.

(b) IN GENERAL.—The Administrator shall, in coordination with the Secretary of Energy, pursue a joint approach beginning in fiscal year 2011 towards restarting and sustaining the domestic production of radioisotope thermoelectric generator material for deep space and other science and exploration missions. Funds authorized by this chapter for NASA shall be made available under a reimbursable agreement with the Department of Energy for the purpose of reestablishing facilities to produce fuel required for radioisotope thermoelectric generators to enable future missions.

(c) REPORT.—Within 120 days after October 11, 2010, the Administrator and the Secretary of Energy shall submit a joint report to the appropriate committees of Congress on coordinated agreements, planned implementation, and anticipated schedule, production quantities, and mission applications under this section.

(Pub. L. 111–267, title VIII, § 806, Oct. 11, 2010, 124 Stat. 2833.)

§ 18386. Collaboration with ESMD and SOMD on robotic missions

The Administrator shall ensure that the Exploration Systems Mission Directorate and the Space Operations Mission Directorate coordinate with the Science Mission Directorate on an overall approach and plan for interagency and international collaboration on robotic missions that are NASA or internationally developed, including lunar, Lagrangian, near-Earth orbit, and Mars spacecraft, such as the International Lunar Network. Within 90 days after October 11, 2010, the Administrator shall provide a plan to the appropriate committees of Congress for implementation of the collaborative approach required by this section. The Administrator may not cancel or initiate any Exploration Systems Mission Directorate or Science Mission Directorate robotic project before the plan is submitted to the appropriate committees of Congress.

(Pub. L. 111–267, title VIII, § 807, Oct. 11, 2010, 124 Stat. 2834.)

§ 18387. Near-Earth object survey and policy with respect to threats posed

(a) POLICY REAFFIRMATION.—Congress reaffirms the policy set forth in section 20102(g) of title 51 relating to surveying near-Earth asteroids and comets.

(b) IMPLEMENTATION.—The Director of the OSTP shall implement, before September 30, 2012, a policy for notifying Federal agencies and relevant emergency response institutions of an impending near-Earth object threat if near-term public safety is at risk, and assign a Federal agency or agencies to be responsible for protecting the United States and working with the international community on such threats.

(Pub. L. 111–267, title VIII, § 808, Oct. 11, 2010, 124 Stat. 2834.)

CODIFICATION

In subsec. (a), "section 20102(g) of title 51" substituted for "section 102(g) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2451(g))" on authority of Pub. L. 111–314, § 5(e), Dec. 18, 2010, 124 Stat. 3443, which Act enacted Title 51, National and Commercial Space Programs.

§ 18388. Space weather

(a) FINDINGS.—The Congress finds the following:

(1) Space weather events pose a significant threat to modern technological systems.

(2) The effects of severe space weather events on the electric power grid, telecommunications and entertainment satellites, airline communications during polar routes, and space-based position, navigation and timing systems could have significant societal, economic, national security, and health impacts.

(3) Earth and Space Observing satellites, such as the Advanced Composition Explorer, Geostationary Operational Environmental Satellites, Polar Operational Environmental Satellites, and Defense Meteorological Satellites, provide crucial data necessary to predict space weather events.

(b) ACTION REQUIRED.—The Director of OSTP shall—

(1) improve the Nation's ability to prepare, avoid, mitigate, respond to, and recover from potentially devastating impacts of space weather events;

(2) coordinate the operational activities of the National Space Weather Program Council members, including the NOAA Space Weather Prediction Center and the U.S. Air Force Weather Agency; and

(3) submit a report to the appropriate committees of Congress within 180 days after October 11, 2010, that—

(A) details the current data sources, both space- and ground-based, that are necessary for space weather forecasting; and

(B) details the space- and ground-based systems that will be required to gather data necessary for space weather forecasting for the next 10 years.

(Pub. L. 111§ 267, title VIII, § 809, Oct. 11, 2010, 124 Stat. 2834.)

EX. ORD. NO. 13744. COORDINATING EFFORTS TO PREPARE THE NATION FOR SPACE WEATHER EVENTS

Ex. Ord. No. 13744, Oct. 13, 2016, 81 F.R. 71573, provided: By the authority vested in me as President by the Constitution and the laws of the United States of America, and to prepare the Nation for space weather events, it is hereby ordered as follows:

SECTION 1. *Policy.* Space weather events, in the form of solar flares, solar energetic particles, and geomagnetic disturbances, occur regularly, some with measurable effects on critical infrastructure systems and technologies, such as the Global Positioning System (GPS), satellite operations and communication, aviation, and the electrical power grid. Extreme space weather events—those that could significantly degrade critical infrastructure—could disable large portions of the electrical power grid, resulting in cascading failures that would affect key services such as water supply, healthcare, and transportation. Space weather has the potential to simultaneously affect and disrupt health and safety across entire continents. Successfully preparing for space weather events is an all-of-nation endeavor that requires partnerships across governments, emergency managers, academia, the media, the insurance industry, non-profits, and the private sector.

It is the policy of the United States to prepare for space weather events to minimize the extent of economic loss and human hardship. The Federal Government must have (1) the capability to predict and detect a space weather event, (2) the plans and programs necessary to alert the public and private sectors to enable mitigating actions for an impending space weather event, (3) the protection and mitigation plans, protocols, and standards required to reduce risks to critical infrastructure prior to and during a credible threat, and (4) the ability to respond to and recover from the effects of space weather. Executive departments and agencies (agencies) must coordinate their efforts to prepare for the effects of space weather events.

SEC. 2. *Objectives*. This order defines agency roles and responsibilities and directs agencies to take specific actions to prepare the Nation for the hazardous effects of space weather. These activities are to be implemented in conjunction with those identified in the 2015 National Space Weather Action Plan (Action Plan) and any subsequent updates. Implementing this order and the Action Plan will require the Federal Government to work across agencies and to develop, as appropriate, enhanced and innovative partnerships with State, tribal, and local governments; academia; non-profits; the private sector; and international partners. These efforts will enhance national preparedness and speed the creation of a space-weather-ready Nation.

SEC. 3. *Coordination*. (a) The Director of the Office of Science and Technology Policy (OSTP), in consultation with the Assistant to the President for Homeland Security and Counterterrorism and the Director of the Office of Management and Budget (OMB), shall coordinate the development and implementation of Federal Government activities to prepare the Nation for space weather events, including the activities established in section 5 of this order and the recommendations of the National Science and Technology Council (NSTC), established by Executive Order 12881 of November 23, 1993 (Establishment of the National Science and Technology Council).

(b) To ensure accountability for and coordination of research, development, and implementation of activities identified in this order and in the Action Plan, the NSTC shall establish a Space Weather Operations, Research, and Mitigation Subcommittee (Subcommittee). The Subcommittee member agencies shall conduct activities to advance the implementation of this order, to achieve the goals identified in the 2015 National Space Weather Strategy and any subsequent updates, and to coordinate and monitor the implementation of the activities specified in the Action Plan and provide subsequent updates.

SEC. 4. *Roles and Responsibilities*. To the extent permitted by law, the agencies below shall adopt the following roles and responsibilities, which are key to ensuring enhanced space weather forecasting, situational awareness, space weather preparedness, and continuous Federal Government operations during and after space weather events.

(a) The Secretary of Defense shall ensure the timely provision of operational space weather observations, analyses, forecasts, and other products to support the mission of the Department of Defense

and coalition partners, including the provision of alerts and warnings for space weather phenomena that may affect weapons systems, military operations, or the defense of the United States.

(b) The Secretary of the Interior shall support the research, development, deployment, and operation of capabilities that enhance the understanding of variations of the Earth's magnetic field associated with solar-terrestrial interactions.

(c) The Secretary of Commerce shall:

(i) provide timely and accurate operational space weather forecasts, watches, warnings, alerts, and real-time space weather monitoring for the government, civilian, and commercial sectors, exclusive of the responsibilities of the Secretary of Defense; and

(ii) ensure the continuous improvement of operational space weather services, utilizing partnerships, as appropriate, with the research community, including academia and the private sector, and relevant agencies to develop, validate, test, and transition space weather observation platforms and models from research to operations and from operations to research.

(d) The Secretary of Energy shall facilitate the protection and restoration of the reliability of the electrical power grid during a presidentially declared grid security emergency associated with a geomagnetic disturbance pursuant to 16 U.S.C. 824o–1.

(e) The Secretary of Homeland Security shall:

(i) ensure the timely redistribution of space weather alerts and warnings that support national preparedness, continuity of government, and continuity of operations; and

(ii) coordinate response and recovery from the effects of space weather events on critical infrastructure and the broader community.

(f) The Administrator of the National Aeronautics and Space Administration (NASA) shall:

(i) implement and support a national research program to understand the Sun and its interactions with Earth and the solar system to advance space weather modeling and prediction capabilities applicable to space weather forecasting;

(ii) develop and operate space-weather-related research missions, instrument capabilities, and models; and

(iii) support the transition of space weather models and technology from research to operations and from operations to research.

(g) The Director of the National Science Foundation (NSF) shall support fundamental research linked to societal needs for space weather information through investments and partnerships, as appropriate.

(h) The Secretary of State, in consultation with the heads of relevant agencies, shall carry out diplomatic and public diplomacy efforts to strengthen global capacity to respond to space weather events.

(i) The Secretaries of Defense, the Interior, Commerce, Transportation, Energy, and Homeland Security, along with the Administrator of NASA and the Director of NSF, shall work together, consistent with their ongoing activities, to develop models, observation systems, technologies, and approaches that inform and enhance national preparedness for the effects of space weather events, includ-

ing how space weather events may affect critical infrastructure and change the threat landscape with respect to other hazards.

(j) The heads of all agencies that support National Essential Functions, defined by Presidential Policy Directive 40 (PPD–40) of July 15, 2016 (National Continuity Policy), shall ensure that space weather events are adequately addressed in their all-hazards preparedness planning, including mitigation, response, and recovery, as directed by PPD–8 of March 30, 2011 (National Preparedness).

(k) NSTC member agencies shall coordinate through the NSTC to establish roles and responsibilities beyond those identified in section 4 of this order to enhance space weather preparedness, consistent with each agency's legal authority.

SEC. 5. *Implementation.*

(a) Within 120 days of the date of this order, the Secretary of Energy, in consultation with the Secretary of Homeland Security, shall develop a plan to test and evaluate available devices that mitigate the effects of geomagnetic disturbances on the electrical power grid through the development of a pilot program that deploys such devices, *in situ,* in the electrical power grid. After the development of the plan, the Secretary shall implement the plan in collaboration with industry. In taking action pursuant to this subsection, the Secretaries of Energy and Homeland Security shall consult with the Chairman of the Federal Energy Regulatory Commission.

(b) Within 120 days of the date of this order, the heads of the sector-specific agencies that oversee the lifeline critical infrastructure functions as defined by the National Infrastructure Protection Plan of 2013—including communications, energy, transportation, and water and wastewater systems—as well as the Nuclear Reactors, Materials, and Waste Sector, shall assess their executive and statutory authority, and limits of that authority, to direct, suspend, or control critical infrastructure operations, functions, and services before, during, and after a space weather event. The heads of each sector-specific agency shall provide a summary of these assessments to the Subcommittee.

(c) Within 90 days of receipt of the assessments ordered in section 5(b) of this order, the Subcommittee shall provide a report on the findings of these assessments with recommendations to the Director of OSTP, the Assistant to the President for Homeland Security and Counterterrorism, and the Director of OMB. The assessments may be used to inform the development and implementation of policy establishing authorities and responsibilities for agencies in response to a space weather event.

(d) Within 60 days of the date of this order, the Secretaries of Defense and Commerce, the Administrator of NASA, and the Director of NSF, in collaboration with other agencies as appropriate, shall identify mechanisms for advancing space weather observations, models, and predictions, and for sustaining and transitioning appropriate capabilities from research to operations and operations to research, collaborating with industry and academia to the extent possible.

(e) Within 120 days of the date of this order, the Secretaries of Defense and Commerce shall make historical data from the GPS constellation and other U.S. Government satellites publicly avail-

able, in accordance with Executive Order 13642 of May 9, 2013 (Making Open and Machine Readable the New Default for Government Information), to enhance model validation and improvements in space weather forecasting and situational awareness.

(f) Within 120 days of the date of this order, the Secretary of Homeland Security, through the Administrator of the Federal Emergency Management Agency and in coordination with relevant agencies, shall lead the development of a coordinated Federal operating concept and associated checklist to coordinate Federal assets and activities to respond to notification of, and protect against, impending space weather events. Within 180 days of the publication of the operating concept and checklist, agencies shall develop operational plans documenting their procedures and responsibilities to prepare for, protect against, and mitigate the effects of impending space weather events, in support of the Federal operating concept and compatible with the National Preparedness System described in PPD–8.

SEC. 6. *Stakeholder Engagement.* The agencies identified in this order shall seek public-private and international collaborations to enhance observation networks, conduct research, develop prediction models and mitigation approaches, enhance community resilience and preparedness, and supply the services necessary to protect life and property and promote economic prosperity, as consistent with law.

SEC. 7. *Definitions.* As used in this order:

(a) "Prepare" and "preparedness" have the same meaning they have in PPD–8. They refer to the actions taken to plan, organize, equip, train, and exercise to build and sustain the capabilities necessary to prevent, protect against, mitigate the effects of, respond to, and recover from those threats that pose the greatest risk to the security of the Nation. This includes the prediction and notification of space weather events.

(b) "Space weather" means variations in the space environment between the Sun and Earth (and throughout the solar system) that can affect technologies in space and on Earth. The primary types of space weather events are solar flares, solar energetic particles, and geomagnetic disturbances.

(c) "Solar flare" means a brief eruption of intense energy on or near the Sun's surface that is typically associated with sunspots.

(d) "Solar energetic particles" means ions and electrons ejected from the Sun that are typically associated with solar eruptions.

(e) "Geomagnetic disturbance" means a temporary disturbance of Earth's magnetic field resulting from solar activity.

(f) "Critical infrastructure" has the meaning provided in section 1016(e) of the USA Patriot Act of 2001 (42 U.S.C. 5195c(e)), namely systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.

(g) "Sector-Specific Agency" means the agencies designated under PPD–21 of February 12, 2013 (Critical Infrastructure Security and Resilience), or any successor directive, to be responsible for providing institutional knowledge and specialized expertise as well as

leading, facilitating, or supporting the security and resilience programs and associated activities of its designated critical infrastructure sector in the all-hazards environment.

SEC. 8. *General Provisions.*

(a) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to an agency, or the head thereof; or

(ii) the functions of the Director of OMB relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

BARACK OBAMA.

Subchapter VIII—Aeronautics and Space Technology

§ 18401. Aeronautics research goals

The Administrator should ensure that NASA maintains a strong aeronautics research portfolio ranging from fundamental research through systems research with specific research goals, including the following:

(1) AIRSPACE CAPACITY.—NASA's Aeronautics Research Mission Directorate shall address research needs of the Next Generation Air Transportation System, including the ability of the National Airspace System to handle up to 3 times the current travel demand by 2025.

(2) ENVIRONMENTAL SUSTAINABILITY.—The Directorate shall consider and pursue concepts to reduce noise, emissions, and fuel consumption while maintaining high safety standards and shall pursue research related to alternative fuels.

(3) AVIATION SAFETY.—The Directorate shall proactively address safety challenges with new and current air vehicles and with operations in the Nation's current and future air transportation system.

(Pub. L. 111–267, title IX, § 902, Oct. 11, 2010, 124 Stat. 2835.)

§ 18402. Research collaboration

(a) DEPARTMENT OF DEFENSE.—The Administrator shall continue to coordinate with the Secretary of Defense, through the National Partnership for Aeronautics Testing, to develop and implement joint plans for those elements of the Nation's research, development, testing, and engineering infrastructure that are of common interest and use.

(b) FEDERAL AVIATION ADMINISTRATION.—The Administrator shall continue to coordinate with, and work closely with, the Administrator of the Federal Aviation Administration, under the framework of the Senior Policy Council, in development of the Next Generation Air Transportation Program. The Administrator shall encourage the Council to explore areas for greater collaboration, including areas where NASA can help to accelerate the development and demonstration of NextGen technologies.

(Pub. L. 111–267, title IX, § 903, Oct. 11, 2010, 124 Stat. 2835.)

§ 18403. Goal for Agency space technology

It is critical that NASA maintain an Agency space technology base that helps align mission directorate investments and supports long term needs to complement mission-directorate funded research and support, where appropriate, multiple users, building upon its Innovative Partnerships Program and other partnering approaches.

(Pub. L. 111–267, title IX, § 904, Oct. 11, 2010, 124 Stat. 2836.)

§ 18404. National space technology policy

(a) IN GENERAL.—The President or the President's designee, in consultation with appropriate Federal agencies, shall develop a national policy to guide the space technology development programs of the United States through 2020. The policy shall include national goals for technology development and shall describe the role and responsibilities of each Federal agency that will carry out the policy. In developing the policy, the President or the President's designee shall utilize external studies that have been conducted on the state of United States technology development and have suggested policies to ensure continued competitiveness.

(b) CONTENT.—

(1) At a minimum, the national space technology development policy shall describe for NASA—

(A) the priority areas of research for technology investment;

(B) the basis on which and the process by which priorities for ensuing fiscal years will be selected;

(C) the facilities and personnel needed to carry out the technology development program; and

(D) the budget assumptions on which the policy is based, which for fiscal years 2011, 2012, and 2013 shall be the authorized level for NASA's technology program authorized by this chapter.

(2) The policy shall be based on the premise that the Federal Government has an established interest in conducting research and development programs that help preserve the role of the United States as a global leader in space technologies and their application.

(3) CONSIDERATIONS.—In developing the national space technology development policy, the President or the President's designee shall consider, and include a discussion in the report required by subsection (c), of the following issues:

(A) The extent to which NASA should focus on long term, high-risk research or more incremental technology development, and the expected impact of that decision on the United States economy.

(B) The extent to which NASA should address military and commercial needs.

(C) How NASA will coordinate its technology program with other Federal agencies.

(D) The extent to which NASA will conduct research in-house, fund university research, and collaborate on industry research and the expected impact of that mix of funding on the supply of United States workers for industry.

(4) CONSULTATION.—In the development of the national space technology development policy, the President or the President's designee shall consult widely with academic and industry experts and with other Federal agencies. The Administrator may enter into an arrangement with the National Academy of Sciences to help develop the policy.

(c) REPORT.—

(1) POLICY.—Not later than 1 year after October 11, 2010, the President shall transmit a report setting forth national space technology policy to the appropriate committees of Congress and to the Senate Committee on Appropriations and the House of Representatives Committee on Appropriations.

(2) IMPLEMENTATION.—Not later than 60 days after the President transmits the report required by paragraph (1) to the Congress, the Administrator shall transmit a report to the same committees describing how NASA will carry out the policy.

(Pub. L. 111–267, title IX, § 906, Oct. 11, 2010, 124 Stat. 2836.)

§ 18405. Commercial Reusable Suborbital Research Program

(a) IN GENERAL.—The report of the National Academy of Sciences, revitalizing NASA's suborbital program: Advancing Science, Driving Innovation and Developing Workforce, found that suborbital science missions were absolutely critical to building an aerospace workforce capable of meeting the needs of current and future human and robotic space exploration.

(b) MANAGEMENT.—The Administrator shall designate an officer or employee of the Space Technology Program to act as the responsible official for the Commercial Reusable Suborbital Research Program in the Space Technology Program. The designee shall be responsible for the development of short- and long term strategic plans for maintaining, renewing and extending suborbital facilities and capabilities.

(c) ESTABLISHMENT.—The Administrator shall establish a Commercial Reusable Suborbital Research Program within the Space Technology Program that shall fund the development of payloads for scientific research, technology development, and education, and shall provide flight opportunities for those payloads to microgravity environments and suborbital altitudes. The Commercial Reusable Suborbital Research Program may fund engineering and integration demonstrations, proofs of concept, or educational experiments for commercial reusable vehicle flights. The program shall endeavor to work with NASA's Mission Directorates to help achieve NASA's research, technology, and education goals.

(d) REPORT.—The Administrator shall submit a report annually to the appropriate committees of Congress describing progress in carrying out the Commercial Reusable Suborbital Research program, including the number and type of suborbital missions planned in each fiscal year.

(e) AUTHORIZATION.—There are authorized to be appropriated to the Administrator $15,000,000 for each of fiscal years 2011 through 2013 to carry out this section.

(Pub. L. 111–267, title IX, § 907, Oct. 11, 2010, 124 Stat. 2837.)

Subchapter IX—Education

§ 18421. Study of potential commercial orbital platform program impact on science, technology, engineering, and mathematics

A fundamental and unique capability of NASA is in stimulating science, technology, engineering, and mathematics education in the United States. In ensuring maximum use of that capability, the Administrator shall carry out a study to—

(1) identify the benefits of and lessons learned from ongoing and previous NASA orbital student programs including, at a minimum, the Get Away Special (GAS) and Earth Knowledge Acquired by Middle School Students (EarthKAM) programs, on science, technology, engineering, and mathematics education;

(2) assess the potential impacts on science, technology, engineering, and mathematics education of a program that would facilitate the development of scientific and educational payloads involving United States students and educators and the flights of those payloads on commercially available orbital platforms, when available and operational, with the goal of providing frequent and regular payload launches;

(3) identify NASA expertise, such as NASA science, engineering, payload development, and payload operations, that could be made available to facilitate a science, technology, engineering, and mathematics program using commercial orbital platforms; and

(4) identify the issues that would need to be addressed before NASA could properly assess the merits and feasibility of the program described in paragraph (2).

(Pub. L. 111–267, title X, § 1003, Oct. 11, 2010, 124 Stat. 2838; Pub. L. 111–358, title II, § 205(a), Jan. 4, 2011, 124 Stat. 3995.)

AMENDMENTS

2011—Pub. L. 111–358 amended section generally. Prior to amendment, text read as follows: "A fundamental and unique capability of NASA is in stimulating science, technology, engineering, and mathematics education in the United States. In ensuring maximum use of that capability, NASA shall—

"(1) establish a program to annually sponsor scientific and educational payloads developed with United States student and educator involvement to be flown on commercially available orbital platforms, when available and operational, with the goal of launching at least 50 such payloads (with at least one from each of the 50 States) to orbit on at least one mission per year;

"(2) contract with providers of commercial orbital platform services for their use by the STEM Commercial Orbital Platform program, preceded by the issuance of a request for proposal, not later

than 90 days after October 11, 2010, to enter into at least one funded, competitively-awarded contract for commercial orbital platform services and make awards within 180 days after such date; and

"(3) engage with United States students and educators and make available NASA's science, engineering, payload development, and payload operations expertise to student teams selected to participate in the STEM-Commercial Orbital Platform program."

EFFECTIVE DATE OF 2011 AMENDMENT

Pub. L. 111–358, title II, § 205(c), Jan. 4, 2011, 124 Stat. 3996, provided that: "The amendment made by subsection (a) [amending this section] shall take effect on October 12, 2010."

Subchapter X—Re-Scoping and Revitalizing Institutional Capabilities

§ 18431. Workforce stabilization and critical skills preservation

Prior to receipt by the Congress of the study, recommendations, and implementation strategy developed pursuant to section 1103, none of the funds authorized for use under this Act may be used to transfer the functions, missions, or activities, and associated civil service and contractor positions, from any NASA facility without authorization by the Congress to implement the proposed strategy. The Administrator shall preserve the critical skills and competencies in place at NASA centers prior to October 11, 2010, in order to facilitate timely implementation of the requirements of this chapter and to minimize disruption to the workforce. The Administrator may not implement any reduction-in-force or other involuntary separations of permanent, non-Senior-Executive-Service, civil servant employees before September 30, 2013, except for cause on charges of misconduct, delinquency, or inefficiency.

(Pub. L. 111–267, title XI, § 1105, Oct. 11, 2010, 124 Stat. 2840.)

REFERENCES IN TEXT

Section 1103, referred to in text, is Pub. L. 111–267, title XI, § 1103, Oct. 11, 2010, 124 Stat. 2840, which is not classified to the Code.

This Act, referred to in text, is Pub. L. 111–267, Oct. 11, 2010, 124 Stat. 2805, known as the National Aeronautics and Space Administration Authorization Act of 2010, which enacted this chapter (§ 18301 et seq.) and various other provisions, including provisions authorizing appropriations, which were not classified to the Code. For complete classification of this Act to the Code, see Short Title note set out under section 18301 of this title and Tables.

Subchapter XI—Other Matters

§ 18441. National and international orbital debris mitigation

(a) FINDINGS.—Congress makes the following findings:

(1) A national and international effort is needed to develop a coordinated approach towards the prevention, negation, and removal of orbital debris.

(2) The guidelines issued by the Inter-Agency Space Debris Coordination Committee provide a consensus understanding of 10 national space agencies (including NASA) plus the European Space Agency on the necessity of mitigating the creation of space debris and measures for doing so. NASA's participation on the Committee should be robust, and NASA should urge other space-relevant Federal agencies (including the Departments of State, Defense, and Commerce) to work to ensure that their counterpart agencies in foreign governments are aware of these national commitments and the importance in which the United States holds them.

(3) Key components of such an approach should include—

(A) a process for debris prevention through agreements regarding spacecraft design, operations, and end-of-life disposition plans to minimize orbiting vehicles or elements which are nonfunctional;

(B) the development of a robust Space Situational Awareness network that can identify potential collisions and provide sufficient trajectory and orbital data to enable avoidance maneuvers;

(C) the interagency development of an overall strategy for review by the President, with recommendations for proposed international collaborative efforts to address this challenge.

(b) INTERNATIONAL DISCUSSION.—

(1) IN GENERAL.—The Administrator shall, in consultation with such other departments and agencies of the Federal Government as the Administrator considers appropriate, continue and strengthen discussions with the representatives of other space-faring countries, within the Inter-Agency Space Debris Coordination Committee and elsewhere, to deal with this orbital debris mitigation.

(2) INTERAGENCY EFFORT.—For purposes of carrying out this subsection, the Director of OSTP, in coordination with the Director of the National Security Council and using the President's Council of Advisors on Science and Technology coordinating mechanism, shall develop an overall strategy for review by the President, with recommendations for proposed international collaborative efforts to address this challenge.

(Pub. L. 111–267, title XII, § 1202, Oct. 11, 2010, 124 Stat. 2841.)

§ 18442. Reports on program and cost assessment and control assessment

(a) FINDINGS.—Congress makes the following findings:

(1) The adherence of NASA to program cost and schedule targets and discipline across NASA programs remains a concern.

(2) The James Webb Space Telescope has exceeded its cost estimate.

(3) In 2007 the Government Accountability Office issued a report on NASA's high risk acquisition performance.

(4) In response, NASA prepared a corrective action plan two years ago.

(b) REPORTS.—

(1) REPORTS REQUIRED.—Not later than 90 days after October 11, 2010, and not later than April 30 of each year thereafter, the Administrator shall submit to the appropriate committees of Congress a report on the implementation during the preceding year for the corrective action plan referred to in subsection (a)(4).

(2) ELEMENTS.—Each report under this subsection shall set forth, for the year covered by such report, the following:

(A) A description of each NASA program that has exceeded its cost baseline by 15 percent or more or is more than 2 years behind its projected development schedule.

(B) For each program specified under subparagraph (A), a plan for such decrease in scope or requirements, or other measures, to be undertaken to control cost and schedule, including any cost monitoring or corrective actions undertaken pursuant to the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155),[1] and the amendments made by that Act.

(Pub. L. 111–267, title XII, § 1203, Oct. 11, 2010, 124 Stat. 2841.)

REFERENCES IN TEXT

The National Aeronautics and Space Administration Authorization Act of 2005, referred to in subsec. (b)(2)(B), is Pub. L. 109–155, Dec. 30, 2005, 119 Stat. 2895, which was classified principally to chapter 150 (§ 16601 et seq.) of this title and was substantially repealed and restated in chapters 305 (§ 30501 et seq.), 401 (§ 40101 et seq.), 603 (§ 60301 et seq.) and 707 (§ 70701 et seq.) and sections 20301, 20302, 30103(a), (b), 30104, 30306, 30703, 30704, 30902, 31301, 31501, 40701, 40904 to 40909, 50505, 50116, 60505, 70501 to 70503, and 70902 to 70905 of Title 51, National and Commercial Space Programs, by Pub. L. 111–314, §§ 3, 6, Dec. 18, 2010, 124 Stat. 3328, 3444. For complete classification of this Act to the Code, see Short Title of 2005 Act note set out under section 10101 of Title 51 and Tables.

§ 18443. Eligibility for service of individual currently serving as Administrator of NASA

The individual serving in the position of Administrator of the National Aeronautics and Space Administration as of October 11,

2010, comes from civilian life and is therefore eligible to serve in such position, in conformance with section 20111 of title 51.

(Pub. L. 111–267, title XII, § 1204, Oct. 11, 2010, 124 Stat. 2842.)

CODIFICATION

In text, "section 20111 of title 51" substituted for "section 202 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2472(a))" on authority of Pub. L. 111–314, § 5(e), Dec. 18, 2010, 124 Stat. 3443, which Act enacted Title 51, National and Commercial Space Programs.

§ 18444. Counterfeit parts

(a) IN GENERAL.—The Administrator shall plan, develop, and implement a program, in coordination with other Federal agencies, to detect, track, catalog, and reduce the number of counterfeit electronic parts in the NASA supply chain.

(b) REQUIREMENTS.—In carrying out the program, the Administrator shall establish—

(1) counterfeit part identification training for all employees that procure, process, distribute, and install electronic parts that will—

(A) teach employees how to identify counterfeit parts;

(B) educate employees on procedures to follow if they suspect a part is counterfeit;

(C) regularly update employees on new threats, identification techniques, and reporting requirements; and

(D) integrate industry associations, manufacturers, suppliers, and other Federal agencies, as appropriate;

(2) an internal database to track all suspected and confirmed counterfeit electronic parts that will maintain, at a minimum—

(A) companies and individuals known and suspected of selling counterfeit parts;

(B) parts known and suspected of being counterfeit, including lot and date codes, part numbers, and part images;

(C) countries of origin;

(D) sources of reporting;

(E) United States Customs seizures; and

(F) Government-Industry Data Exchange Program reports and other public or private sector database notifications; and

(3) a mechanism to report all information on suspected and confirmed counterfeit electronic parts to law enforcement agencies, industry associations, and other databases, and to issue bulletins to industry on counterfeit electronic parts and related counterfeit activity.

(c) REVIEW OF PROCUREMENT AND ACQUISITION POLICY.—

(1) IN GENERAL.—In establishing the program, the Administrator shall amend existing acquisition and procurement policy to purchase electronic parts from trusted or approved manufacturers. To determine trusted or approved manufacturers, the Administrator shall establish a list, assessed and adjusted at least annually, and create criteria for manufacturers to meet in order to be placed onto the list.

(2) CRITERIA.—The criteria may include—

(A) authentication or encryption codes;

(B) embedded security markings in parts;

(C) unique, harder to copy labels and markings;

(D) identifying distinct lot and serial codes on external packaging;

(E) radio frequency identification embedded into high-value parts;

(F) physical destruction of all defective, damaged, and sub-standard parts that are by-products of the manufacturing process;

(G) testing certifications;

(H) maintenance of procedures for handling any counterfeit parts that slip through;

(I) maintenance of secure facilities to prevent unauthorized access to proprietary information; and

(J) maintenance of product return, buy back, and inventory control practices that limit counterfeiting.

(d) REPORT TO CONGRESS.—Within one year after October 11, 2010, the Administrator shall report on the progress of implementing this section to the appropriate committees of Congress.

(Pub. L. 111–267, title XII, § 1206, Oct. 11, 2010, 124 Stat. 2843.)

§ 18445. Information security

(a) MONITORING RISK.—

(1) UPDATE ON SYSTEM IMPLEMENTATION.—Not later than 120 days after October 11, 2010, and on a biennial basis thereafter, the chief information officer of NASA, in coordination with other national security agencies, shall provide to the appropriate committees of Congress—

(A) an update on efforts to implement a system to provide dynamic, comprehensive, real-time information regarding risk of unauthorized remote, proximity, and insider use or access, for all information infrastructure under the responsibility of the chief information officer, and mission-related networks, including contractor networks;

(B) an assessment of whether the system has demonstrably and quantifiably reduced network risk compared to alternative methods of measuring security; and

(C) an assessment of the progress that each center and facility has made toward implementing the system.

(2) EXISTING ASSESSMENTS.—The assessments required of the Inspector General under section 3545 of title 44 shall evaluate the effectiveness of the system described in this subsection.

(b) INFORMATION SECURITY AWARENESS AND EDUCATION.—

(1) IN GENERAL.—In consultation with the Department of Education, other national security agencies, and other agency directorates, the chief information officer shall institute an information security awareness and education program for all operators and users of NASA information infrastructure, with the goal of reducing unauthorized remote, proximity, and insider use or access.

(2) PROGRAM REQUIREMENTS.—

(A) The program shall include, at a minimum, ongoing classified and unclassified threat-based briefings, and automated exercises and examinations that simulate common attack techniques.

(B) All agency employees and contractors engaged in the operation or use of agency information infrastructure shall participate in the program.

(C) Access to NASA information infrastructure shall only be granted to operators and users who regularly satisfy the requirements of the program.

(D) The chief human capital officer of NASA, in consultation with the chief information officer, shall create a system to reward operators and users of agency information infrastructure for continuous high achievement in the program.

(c) INFORMATION INFRASTRUCTURE DEFINED.—In this section, the term "information infrastructure" means the underlying framework that information systems and assets rely on to process, transmit, receive, or store information electronically, including programmable electronic devices and communications networks and any associated hardware, software, or data.

(Pub. L. 111–267, title XII, § 1207, Oct. 11, 2010, 124 Stat. 2844.)

REFERENCES IN TEXT

Section 3545 of title 44, referred to in subsec. (a)(2), was repealed by Pub. L. 113–283, § 2(a), Dec. 18, 2014, 128 Stat. 3073. Provisions similar to section 3545 of title 44 are now contained in section 3555 of title 44, as enacted by Pub. L. 113–283.

PART 2

INTERNATIONAL SPACE LAW

Part 2 contains several relevant pieces of international law to the understanding of space law. Where federal laws are binding only unto the domiciled citizens of a sovereign State, international law is binding unto all sovereign States who have agreed and consented to being bound to an agreement between two or more countries.

Space law is an extension of international law, much like air, maritime, and laws of war. As previously mentioned in the Introduction, space law really came into being at around the time *Sputnik* was launched. That is not to say, however, that it was never before thought of. Many monographs and discussions took place decades before the 1967 signing of the seminal body of international space law—the Outer Space Treaty. Much of these discussions focused on militarization of airspace, how to define airspace and the border between airspace and outer space. After the adoption of the Antarctica Agreement and in the midst of decolonialization, the idea of making outer space a common place for all mankind came to become an important aspect of space law, and a central component of the Outer Space Treaty.

In years following the Outer Space Treaty, subsequent treaties were also ratified by the United States and consented by the Senate. These subsequent treaties pertained to matters over making efforts to rescue astronauts, to impute liability to the sovereign State for any spacefaring activities conducted by a national or registered object of the sovereign State, and to register and identify any objects being placed into space with the United Nations.

Detailed in Part 2, sections 1 through 6, are the fundamental treaties of space law: The Outer Space Treaty, The Rescue Agreement, The Liability Treaty, The Registration Treaty, The Moon Treaty, and the annexes of principles to the collection. The United States is party to each individual treaty apart from the Moon Treaty. The Moon Treaty is unique among these treaties in that none of the major space faring nations (including the U.S., Russia, China, Japan, India, or much of Europe) are party to the treaty. The primary reason for this was due to concerns that the treaty might preclude the exploitation of useful resources on the moon. Nonetheless, the treaty was ratified by the requisite number of nations to go into effect. The Moon Treaty represents, perhaps, the high-water mark for international attempts to make all of outer space of common use to all mankind, and demonstrates the limits of convincing spacefaring nations to cede potential future commercial or national efforts to international control.

Since this publication's objective was to provide legal information on space activities, international agreements on satellites, telecommunication, spectrum, were not included. Nor were any persuasive authorities on military space operations included.

In concluding Part 2, Section 7 is the Vienna Convention on the Law of Treaties (VCLT). While this treaty is not binding against the United States, the U.S. State Department has publicly recog-

nized the majority of the VCLT to be a matter of customary international law.[1] We have chosen to include VCLT in this publication because this treaty, despite only being signed by the United States, is used by many international lawyers to interpret treaties, including the Outer Space Treaty. More information about VCLT and treaty interpretation is explained further by John Bergstresser in the commentary immediately following the section title.

[1] Vienna Convention on the Law of Treaties. Retrieved September 30, 2019, from https://2009-2017.state.gov/s/1/treaty/faqs/70139.htm.

SECTION 1

OUTER SPACE TREATY

Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies

The States Parties to this Treaty,

Inspired by the great prospects opening up before mankind as a result of man's entry into outer space,

Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes,

Believing that the exploration and use of outer space should be carried on for the benefit of all peoples irrespective of the degree of their economic or scientific development,

Desiring to contribute to broad international cooperation in the scientific as well as the legal aspects of the exploration and use of outer space for peaceful purposes,

Believing that such cooperation will contribute to the development of mutual understanding and to the strengthening of friendly relations between States and peoples,

Recalling resolution 1962 (XVIII), entitled "Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space", which was adopted unanimously by the United Nations General Assembly on 13 December 1963,

Recalling resolution 1884 (XVIII), calling upon States to refrain from placing in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction or from installing such weapons on celestial bodies, which was adopted unanimously by the United Nations General Assembly on 17 October 1963,

Taking account of United Nations General Assembly resolution 110 (II) of 3 November 1947, which condemned propaganda designed or likely to provoke or encourage any threat to the peace, breach of the peace or act of aggression, and considering that the aforementioned resolution is applicable to outer space,

Convinced that a Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, will further the purposes and principles of the Charter of the United Nations, Have agreed on the following:

Article I

The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with inter-

national law, and there shall be free access to all areas of celestial bodies.

There shall be freedom of scientific investigation in outer space, including the Moon and other celestial bodies, and States shall facilitate and encourage international cooperation in such investigation.

Article II

Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

Article III

States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the Moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding.

Article IV

States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.

The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited.

Article V

States Parties to the Treaty shall regard astronauts as envoys of mankind in outer space and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of another State Party or on the high seas. When astronauts make such a landing, they shall be safely and promptly returned to the State of registry of their space vehicle.

In carrying on activities in outer space and on celestial bodies, the astronauts of one State Party shall render all possible assistance to the astronauts of other States Parties.

States Parties to the Treaty shall immediately inform the other States Parties to the Treaty or the Secretary-General of the United Nations of any phenomena they discover in outer space, including the Moon and other celestial bodies, which could constitute a danger to the life or health of astronauts.

Article VI

States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the Moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization.

Article VII

Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the Moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space, including the Moon and other celestial bodies.

Article VIII

A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body. Ownership of objects launched into outer space, including objects landed or constructed on a celestial body, and of their component parts, is not affected by their presence in outer space or on a celestial body or by their return to the Earth. Such objects or component parts found beyond the limits of the State Party to the Treaty on whose registry they are carried shall be returned to that State Party, which shall, upon request, furnish identifying data prior to their return.

Article IX

In the exploration and use of outer space, including the Moon and other celestial bodies, States Parties to the Treaty shall be guided by the principle of cooperation and mutual assistance and shall conduct all their activities in outer space, including the Moon and other celestial bodies, with due regard to the corresponding interests of all other States Parties to the Treaty. States Parties to the Treaty shall pursue studies of outer space, including the Moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose. If a State Party to the Treaty has rea-

son to believe that an activity or experiment planned by it or its nationals in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State Party to the Treaty which has reason to believe that an activity or experiment planned by another State Party in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, may request consultation concerning the activity or experiment.

Article X

In order to promote international cooperation in the exploration and use of outer space, including the Moon and other celestial bodies, in conformity with the purposes of this Treaty, the States Parties to the Treaty shall consider on a basis of equality any requests by other States Parties to the Treaty to be afforded an opportunity to observe the flight of space objects launched by those States.

The nature of such an opportunity for observation and the conditions under which it could be afforded shall be determined by agreement between the States concerned.

Article XI

In order to promote international cooperation in the peaceful exploration and use of outer space, States Parties to the Treaty conducting activities in outer space, including the Moon and other celestial bodies, agree to inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations and results of such activities. On receiving the said information, the Secretary General of the United Nations should be prepared to disseminate it immediately and effectively.

Article XII

All stations, installations, equipment and space vehicles on the Moon and other celestial bodies shall be open to representatives of other States Parties to the Treaty on a basis of reciprocity. Such representatives shall give reasonable advance notice of a projected visit, in order that appropriate consultations may be held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited.

Article XIII

The provisions of this Treaty shall apply to the activities of States Parties to the Treaty in the exploration and use of outer space, including the Moon and other celestial bodies, whether such activities are carried on by a single State Party to the Treaty or jointly with other States, including cases where they are carried on

within the framework of international intergovernmental organizations.

Any practical questions arising in connection with activities carried on by international intergovernmental organizations in the exploration and use of outer space, including the Moon and other celestial bodies, shall be resolved by the States Parties to the Treaty either with the appropriate international organization or with one or more States members of that international organization, which are Parties to this Treaty.

Article XIV

1. This Treaty shall be open to all States for signature. Any State which does not sign this Treaty before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America, which are hereby designated the Depositary Governments.

3. This Treaty shall enter into force upon the deposit of instruments of ratification by five Governments including the Governments designated as Depositary Governments under this Treaty.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Treaty, the date of its entry into force and other notices.

6. This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article XV

Any State Party to the Treaty may propose amendments to this Treaty. Amendments shall enter into force for each State Party to the Treaty accepting the amendments upon their acceptance by a majority of the States Parties to the Treaty and thereafter for each remaining State Party to the Treaty on the date of acceptance by it.

Article XVI

Any State Party to the Treaty may give notice of its withdrawal from the Treaty one year after its entry into force by written notification to the Depositary Governments. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article XVII

This Treaty, of which the Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited in the ar-

chives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized, have signed this Treaty.

DONE in triplicate, at the cities of London, Moscow and Washington, D.C., the twenty-seventh day of January, one thousand nine hundred and sixty-seven.

SECTION 2

RESCUE AGREEMENT OF 1968—OUTER SPACE TREATY FOLLOW-UP

Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space

The Contracting Parties,

Noting the great importance of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,[2] which calls for the rendering of all possible assistance to astronauts in the event of accident, distress or emergency landing, the prompt and safe return of astronauts, and the return of objects launched into outer space,

Desiring to develop and give further concrete expression to these duties,

Wishing to promote international cooperation in the peaceful exploration and use of outer space,

Prompted by sentiments of humanity, *Have agreed* on the following:

Article 1

Each Contracting Party which receives information or discovers that the personnel of a spacecraft have suffered accident or are experiencing conditions of distress or have made an emergency or unintended landing in territory under its jurisdiction or on the high seas or in any other place not under the jurisdiction of any State shall immediately:

(a) Notify the launching authority or, if it cannot identify and immediately communicate with the launching authority, immediately make a public announcement by all appropriate means of communication at its disposal;

(b) Notify the Secretary-General of the United Nations, who should disseminate the information without delay by all appropriate means of communication at his disposal.

Article 2

If, owing to accident, distress, emergency or unintended landing, the personnel of a spacecraft land in territory under the jurisdiction of a Contracting Party, it shall immediately take all possible steps to rescue them and render them all necessary assistance. It shall inform the launching authority and also the Secretary-General of the United Nations of the steps it is taking and of their progress. If assistance by the launching authority would help to effect a prompt rescue or would contribute substantially to the effectiveness of search and rescue operations, the launching authority shall cooperate with the Contracting Party with a view to the effec-

[2] Resolution 2222 (XXI), annex.

tive conduct of search and rescue operations. Such operations shall be subject to the direction and control of the Contracting Party, which shall act in close and continuing consultation with the launching authority.

Article 3

If information is received or it is discovered that the personnel of a spacecraft have alighted on the high seas or in any other place not under the jurisdiction of any State, those Contracting Parties which are in a position to do so shall, if necessary, extend assistance in search and rescue operations for such personnel to assure their speedy rescue. They shall inform the launching authority and the Secretary-General of the United Nations of the steps they are taking and of their progress.

Article 4

If, owing to accident, distress, emergency or unintended landing, the personnel of a spacecraft land in territory under the jurisdiction of a Contracting Party or have been found on the high seas or in any other place not under the jurisdiction of any State, they shall be safely and promptly returned to representatives of the launching authority.

Article 5

1. Each Contracting Party which receives information or discovers that a space object or its component parts has returned to Earth in territory under its jurisdiction or on the high seas or in any other place not under the jurisdiction of any State, shall notify the launching authority and the Secretary-General of the United Nations.

2. Each Contracting Party having jurisdiction over the territory on which a space object or its component parts has been discovered shall, upon the request of the launching authority and with assistance from that authority if requested, take such steps as it finds practicable to recover the object or component parts.

3. Upon request of the launching authority, objects launched into outer space or their component parts found beyond the territorial limits of the launching authority shall be returned to or held at the disposal of representatives of the launching authority, which shall, upon request, furnish identifying data prior to their return.

4. Notwithstanding paragraphs 2 and 3 of this article, a Contracting Party which has reason to believe that a space object or its component parts discovered in territory under its jurisdiction, or recovered by it elsewhere, is of a hazardous or deleterious nature may so notify the launching authority, which shall immediately take effective steps, under the direction and control of the said Contracting Party, to eliminate possible danger of harm.

5. Expenses incurred in fulfilling obligations to recover and return a space object or its component parts under paragraphs 2 and 3 of this article shall be borne by the launching authority.

Article 6

For the purposes of this Agreement, the term "launching authority" shall refer to the State responsible for launching, or, where an international intergovernmental organization is responsible for launching, that organization, provided that that organization declares its acceptance of the rights and obligations provided for in this Agreement and a majority of the States members of that organization are Contracting Parties to this Agreement and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

Article 7

1. This Agreement shall be open to all States for signature. Any State which does not sign this Agreement before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Agreement shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America, which are hereby designated the Depositary Governments.

3. This Agreement shall enter into force upon the deposit of instruments of ratification by five Governments including the Governments designated as Depositary Governments under this Agreement.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Agreement, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Agreement, the date of its entry into force and other notices.

6. This Agreement shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article 8

Any State Party to the Agreement may propose amendments to this Agreement. Amendments shall enter into force for each State Party to the Agreement accepting the amendments upon their acceptance by a majority of the States Parties to the Agreement and thereafter for each remaining State Party to the Agreement on the date of acceptance by it.

Article 9

Any State Party to the Agreement may give notice of its withdrawal from the Agreement one year after its entry into force by written notification to the Depositary Governments. Such with-

drawal shall take effect one year from the date of receipt of this notification.

Article 10

This Agreement, of which the Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Agreement shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized, have signed this Agreement.

DONE in triplicate, at the cities of London, Moscow and Washington, D.C., the twenty-second day of April, one thousand nine hundred and sixty-eight.

SECTION 3

SPACE LIABILITY CONVENTION OF 1972—OUTER SPACE TREATY FOLLOW-UP

Convention on International Liability for Damage Caused by Space Objects

The States Parties to this Convention,

Recognizing the common interest of all mankind in furthering the exploration and use of outer space for peaceful purposes,

Recalling the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,

Taking into consideration that, notwithstanding the precautionary measures to be taken by States and international intergovernmental organizations involved in the launching of space objects, damage may on occasion be caused by such objects,

Recognizing the need to elaborate effective international rules and procedures concerning liability for damage caused by space objects and to ensure, in particular, the prompt payment under the terms of this Convention of a full and equitable measure of compensation to victims of such damage,

Believing that the establishment of such rules and procedures will contribute to the strengthening of international cooperation in the field of the exploration and use of outer space for peaceful purposes,

Have agreed on the following:

Article I

For the purposes of this Convention:

(a) The term "damage" means loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organizations; (*b*) The term "launching" includes attempted launching;

(c) The term "launching State" means:

(i) A State which launches or procures the launching of a space object;

(ii) A State from whose territory or facility a space object is launched;

(d) The term "space object" includes component parts of a space object as well as its launch vehicle and parts thereof.

Article II

A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the Earth or to aircraft in flight.

Article III

In the event of damage being caused elsewhere than on the surface of the Earth to a space object of one launching State or to per-

sons or property on board such a space object by a space object of another launching State, the latter shall be liable only if the damage is due to its fault or the fault of persons for whom it is responsible.

Article IV

1. In the event of damage being caused elsewhere than on the surface of the Earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, and of damage thereby being caused to a third State or to its natural or juridical persons, the first two States shall be jointly and severally liable to the third State, to the extent indicated by the following:

(a) If the damage has been caused to the third State on the surface of the Earth or to aircraft in flight, their liability to the third State shall be absolute;

(b) If the damage has been caused to a space object of the third State or to persons or property on board that space object elsewhere than on the surface of the Earth, their liability to the third State shall be based on the fault of either of the first two States or on the fault of persons for whom either is responsible.

2. In all cases of joint and several liability referred to in paragraph 1 of this article, the burden of compensation for the damage shall be apportioned between the first two States in accordance with the extent to which they were at fault; if the extent of the fault of each of these States cannot be established, the burden of compensation shall be apportioned equally between them. Such apportionment shall be without prejudice to the right of the third State to seek the entire compensation due under this Convention from any or all of the launching States which are jointly and severally liable.

Article V

1. Whenever two or more States jointly launch a space object, they shall be jointly and severally liable for any damage caused.

2. A launching State which has paid compensation for damage shall have the right to present a claim for indemnification to other participants in the joint launching. The participants in a joint launching may conclude agreements regarding the apportioning among themselves of the financial obligation in respect of which they are jointly and severally liable. Such agreements shall be without prejudice to the right of a State sustaining damage to seek the entire compensation due under this Convention from any or all of the launching States which are jointly and severally liable.

3. A State from whose territory or facility a space object is launched shall be regarded as a participant in a joint launching.

Article VI

1. Subject to the provisions of paragraph 2 of this article, exoneration from absolute liability shall be granted to the extent that a launching State establishes that the damage has resulted either wholly or partially from gross negligence or from an act or omission

done with intent to cause damage on the part of a claimant State or of natural or juridical persons it represents.

2. No exoneration whatever shall be granted in cases where the damage has resulted from activities conducted by a launching State which are not in conformity with international law including, in particular, the Charter of the United Nations and the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

Article VII

The provisions of this Convention shall not apply to damage caused by a space object of a launching State to:

(a) Nationals of that launching State;

(b) Foreign nationals during such time as they are participating in the operation of that space object from the time of its launching or at any stage thereafter until its descent, or during such time as they are in the immediate vicinity of a planned launching or recovery area as the result of an invitation by that launching State.

Article VIII

1. A State which suffers damage, or whose natural or juridical persons suffer damage, may present to a launching State a claim for compensation for such damage.

2. If the State of nationality has not presented a claim, another State may, in respect of damage sustained in its territory by any natural or juridical person, present a claim to a launching State.

3. If neither the State of nationality nor the State in whose territory the damage was sustained has presented a claim or notified its intention of presenting a claim, another State may, in respect of damage sustained by its permanent residents, present a claim to a launching State.

Article IX

A claim for compensation for damage shall be presented to a launching State through diplomatic channels. If a State does not maintain diplomatic relations with the launching State concerned, it may request another State to present its claim to that launching State or otherwise represent its interests under this Convention. It may also present its claim through the Secretary-General of the United Nations, provided the claimant State and the launching State are both Members of the United Nations.

Article X

1. A claim for compensation for damage may be presented to a launching State not later than one year following the date of the occurrence of the damage or the identification of the launching State which is liable.

2. If, however, a State does not know of the occurrence of the damage or has not been able to identify the launching State which is liable, it may present a claim within one year following the date on which it learned of the aforementioned facts; however, this pe-

riod shall in no event exceed one year following the date on which the State could reasonably be expected to have learned of the facts through the exercise of due diligence.

3. The time limits specified in paragraphs 1 and 2 of this article shall apply even if the full extent of the damage may not be known. In this event, however, the claimant State shall be entitled to revise the claim and submit additional documentation after the expiration of such time limits until one year after the full extent of the damage is known.

Article XI

1. Presentation of a claim to a launching State for compensation for damage under this Convention shall not require the prior exhaustion of any local remedies which may be available to a claimant State or to natural or juridical persons it represents.

2. Nothing in this Convention shall prevent a State, or natural or juridical persons it might represent, from pursuing a claim in the courts or administrative tribunals or agencies of a launching State. A State shall not, however, be entitled to present a claim under this Convention in respect of the same damage for which a claim is being pursued in the courts or administrative tribunals or agencies of a launching State or under another international agreement which is binding on the States concerned.

Article XII

The compensation which the launching State shall be liable to pay for damage under this Convention shall be determined in accordance with international law and the principles of justice and equity, in order to provide such reparation in respect of the damage as will restore the person, natural or juridical, State or international organization on whose behalf the claim is presented to the condition which would have existed if the damage had not occurred.

Article XIII

Unless the claimant State and the State from which compensation is due under this Convention agree on another form of compensation, the compensation shall be paid in the currency of the claimant State or, if that State so requests, in the currency of the State from which compensation is due.

Article XIV

If no settlement of a claim is arrived at through diplomatic negotiations as provided for in article IX, within one year from the date on which the claimant State notifies the launching State that it has submitted the documentation of its claim, the parties concerned shall establish a Claims Commission at the request of either party.

Article XV

1. The Claims Commission shall be composed of three members: one appointed by the claimant State, one appointed by the launch-

ing State and the third member, the Chairman, to be chosen by both parties jointly. Each party shall make its appointment within two months of the request for the establishment of the Claims Commission.

2. If no agreement is reached on the choice of the Chairman within four months of the request for the establishment of the Commission, either party may request the Secretary-General of the United Nations to appoint the Chairman within a further period of two months.

Article XVI

1. If one of the parties does not make its appointment within the stipulated period, the Chairman shall, at the request of the other party, constitute a single-member Claims Commission.

2. Any vacancy which may arise in the Commission for whatever reason shall be filled by the same procedure adopted for the original appointment.

3. The Commission shall determine its own procedure.

4. The Commission shall determine the place or places where it shall sit and all other administrative matters.

5. Except in the case of decisions and awards by a single-member Commission, all decisions and awards of the Commission shall be by majority vote.

Article XVII

No increase in the membership of the Claims Commission shall take place by reason of two or more claimant States or launching States being joined in any one proceeding before the Commission. The claimant States so joined shall collectively appoint one member of the Commission in the same manner and subject to the same conditions as would be the case for a single claimant State. When two or more launching States are so joined, they shall collectively appoint one member of the Commission in the same way. If the claimant States or the launching States do not make the appointment within the stipulated period, the Chairman shall constitute a single-member Commission.

Article XVIII

The Claims Commission shall decide the merits of the claim for compensation and determine the amount of compensation payable, if any.

Article XIX

1. The Claims Commission shall act in accordance with the provisions of article XII.

2. The decision of the Commission shall be final and binding if the parties have so agreed; otherwise the Commission shall render a final and recommendatory award, which the parties shall consider in good faith. The Commission shall state the reasons for its decision or award.

3. The Commission shall give its decision or award as promptly as possible and no later than one year from the date of its estab-

lishment, unless an extension of this period is found necessary by the Commission.

4. The Commission shall make its decision or award public. It shall deliver a certified copy of its decision or award to each of the parties and to the Secretary-General of the United Nations.

Article XX

The expenses in regard to the Claims Commission shall be borne equally by the parties, unless otherwise decided by the Commission.

Article XXI

If the damage caused by a space object presents a large-scale danger to human life or seriously interferes with the living conditions of the population or the functioning of vital centres, the States Parties, and in particular the launching State, shall examine the possibility of rendering appropriate and rapid assistance to the State which has suffered the damage, when it so requests. However, nothing in this article shall affect the rights or obligations of the States Parties under this Convention.

Article XXII

1. In this Convention, with the exception of articles XXIV to XXVII, references to States shall be deemed to apply to any international intergovernmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Convention and if a majority of the States members of the organization are States Parties to this Convention and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

2. States members of any such organization which are States Parties to this Convention shall take all appropriate steps to ensure that the organization makes a declaration in accordance with the preceding paragraph.

3. If an international intergovernmental organization is liable for damage by virtue of the provisions of this Convention, that organization and those of its members which are States Parties to this Convention shall be jointly and severally liable; provided, however, that:

(a) Any claim for compensation in respect of such damage shall be first presented to the organization;

(b) Only where the organization has not paid, within a period of six months, any sum agreed or determined to be due as compensation for such damage, may the claimant State invoke the liability of the members which are States Parties to this Convention for the payment of that sum.

4. Any claim, pursuant to the provisions of this Convention, for compensation in respect of damage caused to an organization which has made a declaration in accordance with paragraph 1 of this article shall be presented by a State member of the organization which is a State Party to this Convention.

Article XXIII

1. The provisions of this Convention shall not affect other international agreements in force insofar as relations between the States Parties to such agreements are concerned.

2. No provision of this Convention shall prevent States from concluding international agreements reaffirming, supplementing or extending its provisions.

Article XXIV

1. This Convention shall be open to all States for signature. Any State which does not sign this Convention before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Convention shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America, which are hereby designated the Depositary Governments.

3. This Convention shall enter into force on the deposit of the fifth instrument of ratification.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Convention, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Convention, the date of its entry into force and other notices.

6. This Convention shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article XXV

Any State Party to this Convention may propose amendments to this Convention. Amendments shall enter into force for each State Party to the Convention accepting the amendments upon their acceptance by a majority of the States Parties to the Convention and thereafter for each remaining State Party to the Convention on the date of acceptance by it.

Article XXVI

Ten years after the entry into force of this Convention, the question of the review of this Convention shall be included in the provisional agenda of the United Nations General Assembly in order to consider, in the light of past application of the Convention, whether it requires revision. However, at any time after the Convention has been in force for five years, and at the request of one third of the States Parties to the Convention, and with the concurrence of the majority of the States Parties, a conference of the States Parties shall be convened to review this Convention.

Article XXVII

Any State Party to this Convention may give notice of its withdrawal from the Convention one year after its entry into force by written notification to the Depositary Governments. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article XXVIII

This Convention, of which the Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Convention shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized thereto, have signed this Convention.

DONE in triplicate, at the cities of London, Moscow and Washington, D.C., this twenty-ninth day of March, one thousand nine hundred and seventy-two.

SECTION 4

REGISTRATION CONVENTION OF 1976—OUTER SPACE TREATY FOLLOW-UP

Convention on Registration of Objects Launched into Outer Space

The States Parties to this Convention,

Recognizing the common interest of all mankind in furthering the exploration and use of outer space for peaceful purposes,

Recalling that the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,[3] of 27 January 1967 affirms that States shall bear international responsibility for their national activities in outer space and refers to the State on whose registry an object launched into outer space is carried,

Recalling also that the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space[1] of 22 April 1968 provides that a launching authority shall, upon request, furnish identifying data prior to the return of an object it has launched into outer space found beyond the territorial limits of the launching authority,

Recalling further that the Convention on International Liability for Damage Caused by Space Objects[4] of 29 March 1972 establishes international rules and procedures concerning the liability of launching States for damage caused by their space objects,

Desiring, in the light of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, to make provision for the national registration by launching States of space objects launched into outer space,

Desiring further that a central register of objects launched into outer space be established and maintained, on a mandatory basis, by the Secretary-General of the United Nations,

Desiring also to provide for States Parties additional means and procedures to assist in the identification of space objects,

Believing that a mandatory system of registering objects launched into outer space would, in particular, assist in their identification and would contribute to the application and development of international law governing the exploration and use of outer space,

Have agreed on the following:

Article I

For the purposes of this Convention:

(a) The term "launching State" means:

(i) A State which launches or procures the launching of a space object;

[3] Resolution 2345 (XXII), annex.

[4] Resolution 2777 (XXVI), annex.

(ii) A State from whose territory or facility a space object is launched;

(b) The term "space object" includes component parts of a space object as well as its launch vehicle and parts thereof;

(c) The term "State of registry" means a launching State on whose registry a space object is carried in accordance with article II.

Article II

1. When a space object is launched into Earth orbit or beyond, the launching State shall register the space object by means of an entry in an appropriate registry which it shall maintain. Each launching State shall inform the Secretary-General of the United Nations of the establishment of such a registry.

2. Where there are two or more launching States in respect of any such space object, they shall jointly determine which one of them shall register the object in accordance with paragraph 1 of this article, bearing in mind the provisions of article VIII of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and without prejudice to appropriate agreements concluded or to be concluded among the launching States on jurisdiction and control over the space object and over any personnel thereof.

3. The contents of each registry and the conditions under which it is maintained shall be determined by the State of registry concerned.

Article III

1. The Secretary-General of the United Nations shall maintain a Register in which the information furnished in accordance with article IV shall be recorded.

2. There shall be full and open access to the information in this Register.

Article IV

1. Each State of registry shall furnish to the Secretary-General of the United Nations, as soon as practicable, the following information concerning each space object carried on its registry:

(a) Name of launching State or States;

(b) An appropriate designator of the space object or its registration number;

(c) Date and territory or location of launch;

(d) Basic orbital parameters, including:

(i) Nodal period;

(ii) Inclination;

(iii) Apogee;

(iv) Perigee;

(e) General function of the space object.

2. Each State of registry may, from time to time, provide the Secretary General of the United Nations with additional information concerning a space object carried on its registry.

3. Each State of registry shall notify the Secretary-General of the United Nations, to the greatest extent feasible and as soon as practicable, of space objects concerning which it has previously transmitted information, and which have been but no longer are in Earth orbit.

Article V

Whenever a space object launched into Earth orbit or beyond is marked with the designator or registration number referred to in article IV, paragraph 1 (*b*), or both, the State of registry shall notify the Secretary-General of this fact when submitting the information regarding the space object in accordance with article IV. In such case, the Secretary-General of the United Nations shall record this notification in the Register.

Article VI

Where the application of the provisions of this Convention has not enabled a State Party to identify a space object which has caused damage to it or to any of its natural or juridical persons, or which may be of a hazardous or deleterious nature, other States Parties, including in particular States possessing space monitoring and tracking facilities, shall respond to the greatest extent feasible to a request by that State Party, or transmitted through the Secretary-General on its behalf, for assistance under equitable and reasonable conditions in the identification of the object. A State Party making such a request shall, to the greatest extent feasible, submit information as to the time, nature and circumstances of the events giving rise to the request. Arrangements under which such assistance shall be rendered shall be the subject of agreement between the parties concerned.

Article VII

1. In this Convention, with the exception of articles VIII to XII inclusive, references to States shall be deemed to apply to any international intergovernmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Convention and if a majority of the States members of the organization are States Parties to this Convention and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

2. States members of any such organization which are States Parties to this Convention shall take all appropriate steps to ensure that the organization makes a declaration in accordance with paragraph 1 of this article.

Article VIII

1. This Convention shall be open for signature by all States at United Nations Headquarters in New York. Any State which does not sign this Convention before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Convention shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Secretary-General of the United Nations.

3. This Convention shall enter into force among the States which have deposited instruments of ratification on the deposit of the fifth such instrument with the Secretary-General of the United Nations.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Convention, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Secretary-General shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Convention, the date of its entry into force and other notices.

Article IX

Any State Party to this Convention may propose amendments to the Convention. Amendments shall enter into force for each State Party to the Convention accepting the amendments upon their acceptance by a majority of the States Parties to the Convention and thereafter for each remaining State Party to the Convention on the date of acceptance by it.

Article X

Ten years after the entry into force of this Convention, the question of the review of the Convention shall be included in the provisional agenda of the United Nations General Assembly in order to consider, in the light of past application of the Convention, whether it requires revision. However, at any time after the Convention has been in force for five years, at the request of one third of the States Parties to the Convention and with the concurrence of the majority of the States Parties, a conference of the States Parties shall be convened to review this Convention. Such review shall take into account in particular any relevant technological developments, including those relating to the identification of space objects.

Article XI

Any State Party to this Convention may give notice of its withdrawal from the Convention one year after its entry into force by written notification to the Secretary-General of the United Nations. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article XII

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send certified copies thereof to all signatory and acceding States.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto by their respective Governments, have signed this Convention, opened for signature at New York on the fourteenth day of January, one thousand nine hundred and seventy-five.

SECTION 5

MOON TREATY OF 1979—OUTER SPACE TREATY FOLLOW-UP

Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

The States Parties to this Agreement,

Noting the achievements of States in the exploration and use of the Moon and other celestial bodies,

Recognizing that the Moon, as a natural satellite of the Earth, has an important role to play in the exploration of outer space,

Determined to promote on the basis of equality the further development of cooperation among States in the exploration and use of the Moon and other celestial bodies,

Desiring to prevent the Moon from becoming an area of international conflict,

Bearing in mind the benefits which may be derived from the exploitation of the natural resources of the Moon and other celestial bodies,

Recalling the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,[1] the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space,[2] the Convention on International Liability for Damage Caused by Space Objects,[3] and the Convention on Registration of Objects Launched into Outer Space,[5]

Taking into account the need to define and develop the provisions of these international instruments in relation to the Moon and other celestial bodies, having regard to further progress in the exploration and use of outer space,

Have agreed on the following:

Article 1

1. The provisions of this Agreement relating to the Moon shall also apply to other celestial bodies within the solar system, other than the Earth, except insofar as specific legal norms enter into force with respect to any of these celestial bodies.

2. For the purposes of this Agreement reference to the Moon shall include orbits around or other trajectories to or around it.

3. This Agreement does not apply to extraterrestrial materials which reach the surface of the Earth by natural means.

Article 2

All activities on the Moon, including its exploration and use, shall be carried out in accordance with international law, in particular the Charter of the United Nations, and taking into account the Declaration on Principles of International Law concerning Friendly Relations and Cooperation among States in accordance

[5] Resolution 3235 (XXIX), annex.

with the Charter of the United Nations,[6] adopted by the General Assembly on 24 October 1970, in the interest of maintaining international peace and security and promoting international cooperation and mutual understanding, and with due regard to the corresponding interests of all other States Parties.

Article 3

1. The Moon shall be used by all States Parties exclusively for peaceful purposes.

2. Any threat or use of force or any other hostile act or threat of hostile act on the Moon is prohibited. It is likewise prohibited to use the Moon in order to commit any such act or to engage in any such threat in relation to the Earth, the Moon, spacecraft, the personnel of spacecraft or manmade space objects.

3. States Parties shall not place in orbit around or other trajectory to or around the Moon objects carrying nuclear weapons or any other kinds of weapons of mass destruction or place or use such weapons on or in the Moon.

4. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on the Moon shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration and use of the Moon shall also not be prohibited.

Article 4

1. The exploration and use of the Moon shall be the province of all mankind and shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development. Due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living and conditions of economic and social progress and development in accordance with the Charter of the United Nations.

2. States Parties shall be guided by the principle of cooperation and mutual assistance in all their activities concerning the exploration and use of the Moon. International cooperation in pursuance of this Agreement should be as wide as possible and may take place on a multilateral basis, on a bilateral basis or through international intergovernmental organizations.

Article 5

1. States Parties shall inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of their activities concerned with the exploration and use of the Moon. Information on the time, purposes, locations, orbital parameters and duration shall be given in respect of each mission to the Moon as soon as possible after launching, while information on the results of each mission, including scientific results, shall be fur-

[6] Resolution 2625 (XXV), annex.

nished upon completion of the mission. In the case of a mission lasting more than sixty days, information on conduct of the mission, including any scientific results, shall be given periodically, at thirty-day intervals. For missions lasting more than six months, only significant additions to such information need be reported thereafter.

2. If a State Party becomes aware that another State Party plans to operate simultaneously in the same area of or in the same orbit around or trajectory to or around the Moon, it shall promptly inform the other State of the timing of and plans for its own operations.

3. In carrying out activities under this Agreement, States Parties shall promptly inform the Secretary-General, as well as the public and the international scientific community, of any phenomena they discover in outer space, including the Moon, which could endanger human life or health, as well as of any indication of organic life.

Article 6

1. There shall be freedom of scientific investigation on the Moon by all States Parties without discrimination of any kind, on the basis of equality and in accordance with international law.

2. In carrying out scientific investigations and in furtherance of the provisions of this Agreement, the States Parties shall have the right to collect on and remove from the Moon samples of its mineral and other substances. Such samples shall remain at the disposal of those States Parties which caused them to be collected and may be used by them for scientific purposes. States Parties shall have regard to the desirability of making a portion of such samples available to other interested States Parties and the international scientific community for scientific investigation. States Parties may in the course of scientific investigations also use mineral and other substances of the Moon in quantities appropriate for the support of their missions.

3. States Parties agree on the desirability of exchanging scientific and other personnel on expeditions to or installations on the Moon to the greatest extent feasible and practicable.

Article 7

1. In exploring and using the Moon, States Parties shall take measures to prevent the disruption of the existing balance of its environment, whether by introducing adverse changes in that environment, by its harmful contamination through the introduction of extra-environmental matter or otherwise. States Parties shall also take measures to avoid harmfully affecting the environment of the Earth through the introduction of extraterrestrial matter or otherwise.

2. States Parties shall inform the Secretary-General of the United Nations of the measures being adopted by them in accordance with paragraph 1 of this article and shall also, to the maximum extent feasible, notify him in advance of all placements by them of radioactive materials on the Moon and of the purposes of such placements.

3. States Parties shall report to other States Parties and to the Secretary General concerning areas of the Moon having special scientific interest in order that, without prejudice to the rights of other States Parties, consideration may be given to the designation of such areas as international scientific preserves for which special protective arrangements are to be agreed upon in consultation with the competent bodies of the United Nations.

Article 8

1. States Parties may pursue their activities in the exploration and use of the Moon anywhere on or below its surface, subject to the provisions of this Agreement.

2. For these purposes States Parties may, in particular:

(a) Land their space objects on the Moon and launch them from the Moon;

(b) Place their personnel, space vehicles, equipment, facilities, stations and installations anywhere on or below the surface of the Moon.

Personnel, space vehicles, equipment, facilities, stations and installations may move or be moved freely over or below the surface of the Moon.

3. Activities of States Parties in accordance with paragraphs 1 and 2 of this article shall not interfere with the activities of other States Parties on the Moon. Where such interference may occur, the States Parties concerned shall undertake consultations in accordance with article 15, paragraphs 2 and 3, of this Agreement.

Article 9

1. States Parties may establish manned and unmanned stations on the Moon. A State Party establishing a station shall use only that area which is required for the needs of the station and shall immediately inform the Secretary-General of the United Nations of the location and purposes of that station. Subsequently, at annual intervals that State shall likewise inform the Secretary-General whether the station continues in use and whether its purposes have changed.

2. Stations shall be installed in such a manner that they do not impede the free access to all areas of the Moon of personnel, vehicles and equipment of other States Parties conducting activities on the Moon in accordance with the provisions of this Agreement or of article I of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

Article 10

1. States Parties shall adopt all practicable measures to safeguard the life and health of persons on the Moon. For this purpose they shall regard any person on the Moon as an astronaut within the meaning of article V of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies and as part of the personnel of a spacecraft within the meaning of the Agreement on

the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

2. States Parties shall offer shelter in their stations, installations, vehicles and other facilities to persons in distress on the Moon.

Article 11

1. The Moon and its natural resources are the common heritage of mankind, which finds its expression in the provisions of this Agreement, in particular in paragraph 5 of this article.

2. The Moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means.

3. Neither the surface nor the subsurface of the Moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person. The placement of personnel, space vehicles, equipment, facilities, stations and installations on or below the surface of the Moon, including structures connected with its surface or subsurface, shall not create a right of ownership over the surface or the subsurface of the Moon or any areas thereof. The foregoing provisions are without prejudice to the international regime referred to in paragraph 5 of this article.

4. States Parties have the right to exploration and use of the Moon without discrimination of any kind, on the basis of equality and in accordance with international law and the terms of this Agreement.

5. States Parties to this Agreement hereby undertake to establish an international regime, including appropriate procedures, to govern the exploitation of the natural resources of the Moon as such exploitation is about to become feasible. This provision shall be implemented in accordance with article 18 of this Agreement.

6. In order to facilitate the establishment of the international regime referred to in paragraph 5 of this article, States Parties shall inform the Secretary General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of any natural resources they may discover on the Moon.

7. The main purposes of the international regime to be established shall include:

(a) The orderly and safe development of the natural resources of the Moon;

(b) The rational management of those resources;

(c) The expansion of opportunities in the use of those resources;

(d) An equitable sharing by all States Parties in the benefits derived from those resources, whereby the interests and needs of the developing countries, as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the Moon, shall be given special consideration.

8. All the activities with respect to the natural resources of the Moon shall be carried out in a manner compatible with the pur-

poses specified in paragraph 7 of this article and the provisions of article 6, paragraph 2, of this Agreement.

Article 12

1. States Parties shall retain jurisdiction and control over their personnel, vehicles, equipment, facilities, stations and installations on the Moon. The ownership of space vehicles, equipment, facilities, stations and installations shall not be affected by their presence on the Moon.

2. Vehicles, installations and equipment or their component parts found in places other than their intended location shall be dealt with in accordance with article 5 of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

3. In the event of an emergency involving a threat to human life, States Parties may use the equipment, vehicles, installations, facilities or supplies of other States Parties on the Moon. Prompt notification of such use shall be made to the Secretary-General of the United Nations or the State Party concerned.

Article 13

A State Party which learns of the crash landing, forced landing or other unintended landing on the Moon of a space object, or its component parts, that were not launched by it, shall promptly inform the launching State Party and the Secretary-General of the United Nations.

Article 14

1. States Parties to this Agreement shall bear international responsibility for national activities on the Moon, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in this Agreement. States Parties shall ensure that non-governmental entities under their jurisdiction shall engage in activities on the Moon only under the authority and continuing supervision of the appropriate State Party.

2. States Parties recognize that detailed arrangements concerning liability for damage caused on the Moon, in addition to the provisions of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies and the Convention on International Liability for Damage Caused by Space Objects, may become necessary as a result of more extensive activities on the Moon. Any such arrangements shall be elaborated in accordance with the procedure provided for in article 18 of this Agreement.

Article 15

1. Each State Party may assure itself that the activities of other States Parties in the exploration and use of the Moon are compatible with the provisions of this Agreement. To this end, all space vehicles, equipment, facilities, stations and installations on the

Moon shall be open to other States Parties. Such States Parties shall give reasonable advance notice of a projected visit, in order that appropriate consultations may be held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited. In pursuance of this article, any State Party may act on its own behalf or with the full or partial assistance of any other State Party or through appropriate international procedures within the framework of the United Nations and in accordance with the Charter.

2. A State Party which has reason to believe that another State Party is not fulfilling the obligations incumbent upon it pursuant to this Agreement or that another State Party is interfering with the rights which the former State has under this Agreement may request consultations with that State Party. A State Party receiving such a request shall enter into such consultations without delay. Any other State Party which requests to do so shall be entitled to take part in the consultations. Each State Party participating in such consultations shall seek a mutually acceptable resolution of any controversy and shall bear in mind the rights and interests of all States Parties. The Secretary-General of the United Nations shall be informed of the results of the consultations and shall transmit the information received to all States Parties concerned.

3. If the consultations do not lead to a mutually acceptable settlement which has due regard for the rights and interests of all States Parties, the parties concerned shall take all measures to settle the dispute by other peaceful means of their choice appropriate to the circumstances and the nature of the dispute. If difficulties arise in connection with the opening of consultations or if consultations do not lead to a mutually acceptable settlement, any State Party may seek the assistance of the Secretary-General, without seeking the consent of any other State Party concerned, in order to resolve the controversy. A State Party which does not maintain diplomatic relations with another State Party concerned shall participate in such consultations, at its choice, either itself or through another State Party or the Secretary-General as intermediary.

Article 16

With the exception of articles 17 to 21, references in this Agreement to States shall be deemed to apply to any international intergovernmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Agreement and if a majority of the States members of the organization are States Parties to this Agreement and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. States members of any such organization which are States Parties to this Agreement shall take all appropriate steps to ensure that the organization makes a declaration in accordance with the foregoing.

Article 17

Any State Party to this Agreement may propose amendments to the Agreement. Amendments shall enter into force for each State Party to the Agreement accepting the amendments upon their acceptance by a majority of the States Parties to the Agreement and thereafter for each remaining State Party to the Agreement on the date of acceptance by it.

Article 18

Ten years after the entry into force of this Agreement, the question of the review of the Agreement shall be included in the provisional agenda of the General Assembly of the United Nations in order to consider, in the light of past application of the Agreement, whether it requires revision. However, at any time after the Agreement has been in force for five years, the Secretary-General of the United Nations, as depositary, shall, at the request of one third of the States Parties to the Agreement and with the concurrence of the majority of the States Parties, convene a conference of the States Parties to review this Agreement. A review conference shall also consider the question of the implementation of the provisions of article 11, paragraph 5, on the basis of the principle referred to in paragraph 1 of that article and taking into account in particular any relevant technological developments.

Article 19

1. This Agreement shall be open for signature by all States at United Nations Headquarters in New York.

2. This Agreement shall be subject to ratification by signatory States. Any State which does not sign this Agreement before its entry into force in accordance with paragraph 3 of this article may accede to it at any time. Instruments of ratification or accession shall be deposited with the Secretary-General of the United Nations.

3. This Agreement shall enter into force on the thirtieth day following the date of deposit of the fifth instrument of ratification.

4. For each State depositing its instrument of ratification or accession after the entry into force of this Agreement, it shall enter into force on the thirtieth day following the date of deposit of any such instrument.

5. The Secretary-General shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or accession to this Agreement, the date of its entry into force and other notices.

Article 20

Any State Party to this Agreement may give notice of its withdrawal from the Agreement one year after its entry into force by written notification to the SecretaryGeneral of the United Nations. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article 21

The original of this Agreement, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send certified copies thereof to all signatory and acceding States.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto by their respective Governments, have signed this Agreement, opened for signature at New York on the eighteenth day of December, one thousand nine hundred and seventy-nine.

SECTION 6

PRINCIPLES ADOPTED BY THE UNITED NATIONS GENERAL ASSEMBLY

Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space

The General Assembly,

Inspired by the great prospects opening up before mankind as a result of man's entry into outer space,

Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes,

Believing that the exploration and use of outer space should be carried on for the betterment of mankind and for the benefit of States irrespective of their degree of economic or scientific development,

Desiring to contribute to broad international cooperation in the scientific as well as in the legal aspects of exploration and use of outer space for peaceful purposes,

Believing that such cooperation will contribute to the development of mutual understanding and to the strengthening of friendly relations between nations and peoples,

Recalling its resolution 110 (II) of 3 November 1947, which condemned propaganda designed or likely to provoke or encourage any threat to the peace, breach of the peace, or act of aggression, and considering that the aforementioned resolution is applicable to outer space,

Taking into consideration its resolutions 1721 (XVI) of 20 December 1961 and 1802 (XVII) of 14 December 1962, adopted unanimously by the States Members of the United Nations,

Solemnly declares that in the exploration and use of outer space States should be guided by the following principles:

1. The exploration and use of outer space shall be carried on for the benefit and in the interests of all mankind.

2. Outer space and celestial bodies are free for exploration and use by all States on a basis of equality and in accordance with international law.

3. Outer space and celestial bodies are not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

4. The activities of States in the exploration and use of outer space shall be carried on in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding.

5. States bear international responsibility for national activities in outer space, whether carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried on in conformity with the principles set forth in the present Declaration. The activities of non-governmental entities in outer space shall require authorization and continuing supervision by the State concerned. When activities are carried on in outer

space by an international organization, responsibility for compliance with the principles set forth in this Declaration shall be borne by the international organization and by the States participating in it.

6. In the exploration and use of outer space, States shall be guided by the principle of cooperation and mutual assistance and shall conduct all their activities in outer space with due regard for the corresponding interests of other States. If a State has reason to believe that an outer space activity or experiment planned by it or its nationals would cause potentially harmful interference with activities of other States in the peaceful exploration and use of outer space, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State which has reason to believe that an outer space activity or experiment planned by another State would cause potentially harmful interference with activities in the peaceful exploration and use of outer space may request consultation concerning the activity or experiment.

7. The State on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and any personnel thereon, while in outer space. Ownership of objects launched into outer space, and of their component parts, is not affected by their passage through outer space or by their return to the Earth. Such objects or component parts found beyond the limits of the State of registry shall be returned to that State, which shall furnish identifying data upon request prior to return.

8. Each State which launches or procures the launching of an object into outer space, and each State from whose territory or facility an object is launched, is internationally liable for damage to a foreign State or to its natural or juridical persons by such object or its component parts on the Earth, in air space, or in outer space.

9. States shall regard astronauts as envoys of mankind in outer space, and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of a foreign State or on the high seas. Astronauts who make such a landing shall be safely and promptly returned to the State of registry of their space vehicle.

Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting

The General Assembly,

Recalling its resolution 2916 (XXVII) of 9 November 1972, in which it stressed the necessity of elaborating principles governing the use by States of artificial Earth satellites for international direct television broadcasting, and mindful of the importance of concluding an international agreement or agreements,

Recalling further its resolutions 3182 (XXVIII) of 18 December 1973, 3234 (XXIX) of 12 November 1974, 3388 (XXX) of 18 November 1975, 31/8 of 8 November 1976, 32/196 of 20 December 1977, 33/16 of 10 November 1978, 34/ 66 of 5 December 1979 and 35/14 of 3 November 1980, and its resolution 36/35 of 18 November 1981 in which it decided to consider at its thirty-seventh session the adoption of a draft set of principles governing the use by States of

artificial Earth satellites for international direct television broadcasting,

Noting with appreciation the efforts made in the Committee on the Peaceful Uses of Outer Space and its Legal Subcommittee to comply with the directives issued in the above-mentioned resolutions,

Considering that several experiments of direct broadcasting by satellite have been carried out and that a number of direct broadcasting satellite systems are operational in some countries and may be commercialized in the very near future,

Taking into consideration that the operation of international direct broadcasting satellites will have significant international political, economic, social and cultural implications,

Believing that the establishment of principles for international direct television broadcasting will contribute to the strengthening of international cooperation in this field and further the purposes and principles of the Charter of the United Nations,

Adopts the Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting set forth in the annex to the present resolution.

Annex. ***Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting***

A. Purposes and objectives

1. Activities in the field of international direct television broadcasting by satellite should be carried out in a manner compatible with the sovereign rights of States, including the principle of non-intervention, as well as with the right of everyone to seek, receive and impart information and ideas as enshrined in the relevant United Nations instruments.

2. Such activities should promote the free dissemination and mutual exchange of information and knowledge in cultural and scientific fields, assist in educational, social and economic development, particularly in the developing countries, enhance the qualities of life of all peoples and provide recreation with due respect to the political and cultural integrity of States.

3. These activities should accordingly be carried out in a manner compatible with the development of mutual understanding and the strengthening of friendly relations and cooperation among all States and peoples in the interest of maintaining international peace and security.

B. Applicability of international law

4. Activities in the field of international direct television broadcasting by satellite should be conducted in accordance with international law, including the Charter of the United Nations, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,[1] of 27 January 1967, the relevant provisions of the International Telecommunication Convention and its Radio Regulations and of international instruments relating to friendly relations and cooperation among States and to human rights.

C. Rights and benefits

5. Every State has an equal right to conduct activities in the field of international direct television broadcasting by satellite and to authorize such activities by persons and entities under its jurisdiction. All States and peoples are entitled to and should enjoy the benefits from such activities. Access to the technology in this field should be available to all States without discrimination on terms mutually agreed by all concerned.

D. International cooperation

6. Activities in the field of international direct television broadcasting by satellite should be based upon and encourage international cooperation. Such cooperation should be the subject of appropriate arrangements. Special consideration should be given to the needs of the developing countries in the use of international direct television broadcasting by satellite for the purpose of accelerating their national development.

E. Peaceful settlement of disputes

7. Any international dispute that may arise from activities covered by these principles should be settled through established procedures for the peaceful settlement of disputes agreed upon by the parties to the dispute in accordance with the provisions of the Charter of the United Nations.

F. State responsibility

8. States should bear international responsibility for activities in the field of international direct television broadcasting by satellite carried out by them or under their jurisdiction and for the conformity of any such activities with the principles set forth in this document.

9. When international direct television broadcasting by satellite is carried out by an international intergovernmental organization, the responsibility referred to in paragraph 8 above should be borne both by that organization and by the States participating in it.

G. Duty and right to consult

10. Any broadcasting or receiving State within an international direct television broadcasting satellite service established between them requested to do so by any other broadcasting or receiving State within the same service should promptly enter into consultations with the requesting State regarding its activities in the field of international direct television broadcasting by satellite, without prejudice to other consultations which these States may undertake with any other State on that subject.

H. Copyright and neighbouring rights

11. Without prejudice to the relevant provisions of international law, States should cooperate on a bilateral and multilateral basis for protection of copyright and neighbouring rights by means of appropriate agreements between the interested States or the competent legal entities acting under their jurisdiction. In such cooperation they should give special consideration to the interests of

developing countries in the use of direct television broadcasting for the purpose of accelerating their national development.

I. Notification to the United Nations

12. In order to promote international cooperation in the peaceful exploration and use of outer space, States conducting or authorizing activities in the field of international direct television broadcasting by satellite should inform the Secretary-General of the United Nations, to the greatest extent possible, of the nature of such activities. On receiving this information, the Secretary-General should disseminate it immediately and effectively to the relevant specialized agencies, as well as to the public and the international scientific community.

J. Consultations and agreements between States

13. A State which intends to establish or authorize the establishment of an international direct television broadcasting satellite service shall without delay notify the proposed receiving State or States of such intention and shall promptly enter into consultation with any of those States which so requests.

14. An international direct television broadcasting satellite service shall only be established after the conditions set forth in paragraph 13 above have been met and on the basis of agreements and/or arrangements in conformity with the relevant instruments of the International Telecommunication Union and in accordance with these principles.

15. With respect to the unavoidable overspill of the radiation of the satellite signal, the relevant instruments of the International Telecommunication Union shall be exclusively applicable.

Principles Relating to Remote Sensing of the Earth from Outer Space

The General Assembly,

Recalling its resolution 3234 (XXIX) of 12 November 1974, in which it recommended that the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space should consider the question of the legal implications of remote sensing of the Earth from space, as well as its resolutions 3388 (XXX) of 18 November 1975, 31/8 of 8 November 1976, 32/196 A of 20 December 1977, 33/16 of 10 November 1978, 34/66 of 5 December 1979, 35/14 of 3 November 1980, 36/35 of 18 November 1981, 37/89 of 10 December 1982, 38/80 of 15 December 1983, 39/96 of 14 December 1984 and 40/162 of 16 December 1985, in which it called for a detailed consideration of the legal implications of remote sensing of the Earth from space, with the aim of formulating draft principles relating to remote sensing,

Having considered the report of the Committee on the Peaceful Uses of Outer Space on the work of its twenty-ninth session[7] and the text of the draft principles relating to remote sensing of the Earth from space, annexed thereto,

[7] *Official Records of the General Assembly, Forty-first Session, Supplement No. 20* (A/41/20 and Corr.1).

Noting with satisfaction that the Committee on the Peaceful Uses of Outer Space, on the basis of the deliberations of its Legal Subcommittee, has endorsed the text of the draft principles relating to remote sensing of the Earth from space,

Believing that the adoption of the principles relating to remote sensing of the Earth from space will contribute to the strengthening of international cooperation in this field,

Adopts the principles relating to remote sensing of the Earth from space set forth in the annex to the present resolution.

Annex. *Principles Relating to Remote Sensing of the Earth from Outer Space*

Principle I

For the purposes of these principles with respect to remote sensing activities:

(a) The term "remote sensing" means the sensing of the Earth's surface from space by making use of the properties of electromagnetic waves emitted, reflected or diffracted by the sensed objects, for the purpose of improving natural resources management, land use and the protection of the environment;

(b) The term "primary data" means those raw data that are acquired by remote sensors borne by a space object and that are transmitted or delivered to the ground from space by telemetry in the form of electromagnetic signals, by photographic film, magnetic tape or any other means;

(c) The term "processed data" means the products resulting from the processing of the primary data, needed to make such data usable;

(d) The term "analysed information" means the information resulting from the interpretation of processed data, inputs of data and knowledge from other sources;

(e) The term "remote sensing activities" means the operation of remote sensing space systems, primary data collection and storage stations, and activities in processing, interpreting and disseminating the processed data.

Principle II

Remote sensing activities shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic, social or scientific and technological development, and taking into particular consideration the needs of the developing countries.

Principle III

Remote sensing activities shall be conducted in accordance with international law, including the Charter of the United Nations, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,[1] and the relevant instruments of the International Telecommunication Union.

Principle IV

Remote sensing activities shall be conducted in accordance with the principles contained in article I of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, which, in particular, provides that the exploration and use of outer space shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and stipulates the principle of freedom of exploration and use of outer space on the basis of equality. These activities shall be conducted on the basis of respect for the principle of full and permanent sovereignty of all States and peoples over their own wealth and natural resources, with due regard to the rights and interests, in accordance with international law, of other States and entities under their jurisdiction. Such activities shall not be conducted in a manner detrimental to the legitimate rights and interests of the sensed State.

Principle V

States carrying out remote sensing activities shall promote international cooperation in these activities. To this end, they shall make available to other States opportunities for participation therein. Such participation shall be based in each case on equitable and mutually acceptable terms.

Principle VI

In order to maximize the availability of benefits from remote sensing activities, States are encouraged, through agreements or other arrangements, to provide for the establishment and operation of data collecting and storage stations and processing and interpretation facilities, in particular within the framework of regional agreements or arrangements wherever feasible.

Principle VII

States participating in remote sensing activities shall make available technical assistance to other interested States on mutually agreed terms.

Principle VIII

The United Nations and the relevant agencies within the United Nations system shall promote international cooperation, including technical assistance and coordination in the area of remote sensing.

Principle IX

In accordance with article IV of the Convention on Registration of Objects Launched into Outer Space [4] and article XI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, a State carrying out a programme of remote sensing shall inform the Secretary-General of the United Nations. It shall, moreover, make available any other relevant information to the greatest extent feasible and practicable to any other State, particularly any

developing country that is affected by the programme, at its request.

Principle X

Remote sensing shall promote the protection of the Earth's natural environment.

To this end, States participating in remote sensing activities that have identified information in their possession that is capable of averting any phenomenon harmful to the Earth's natural environment shall disclose such information to States concerned.

Principle XI

Remote sensing shall promote the protection of mankind from natural disasters.

To this end, States participating in remote sensing activities that have identified processed data and analysed information in their possession that may be useful to States affected by natural disasters, or likely to be affected by impending natural disasters, shall transmit such data and information to States concerned as promptly as possible.

Principle XII

As soon as the primary data and the processed data concerning the territory under its jurisdiction are produced, the sensed State shall have access to them on a non-discriminatory basis and on reasonable cost terms. The sensed State shall also have access to the available analysed information concerning the territory under its jurisdiction in the possession of any State participating in remote sensing activities on the same basis and terms, taking particularly into account the needs and interests of the developing countries.

Principle XIII

To promote and intensify international cooperation, especially with regard to the needs of developing countries, a State carrying out remote sensing of the Earth from space shall, upon request, enter into consultations with a State whose territory is sensed in order to make available opportunities for participation and enhance the mutual benefits to be derived therefrom.

Principle XIV

In compliance with article VI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, States operating remote sensing satellites shall bear international responsibility for their activities and assure that such activities are conducted in accordance with these principles and the norms of international law, irrespective of whether such activities are carried out by governmental or non-governmental entities or through international organizations to which such States are parties. This principle is without prejudice to the applicability of the norms of international law on State responsibility for remote sensing activities.

Principle XV

Any dispute resulting from the application of these principles shall be resolved through the established procedures for the peaceful settlement of disputes.

Principles Relevant to the Use of Nuclear Power Sources in Outer Space

The General Assembly,

Having considered the report of the Committee on the Peaceful Uses of Outer Space on the work of its thirty-fifth session[8] and the text of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space as approved by the Committee and annexed to its report,[9]

Recognizing that for some missions in outer space nuclear power sources are particularly suited or even essential owing to their compactness, long life and other attributes,

Recognizing also that the use of nuclear power sources in outer space should focus on those applications which take advantage of the particular properties of nuclear power sources,

Recognizing further that the use of nuclear power sources in outer space should be based on a thorough safety assessment, including probabilistic risk analysis, with particular emphasis on reducing the risk of accidental exposure of the public to harmful radiation or radioactive material,

Recognizing the need, in this respect, for a set of principles containing goals and guidelines to ensure the safe use of nuclear power sources in outer space,

Affirming that this set of Principles applies to nuclear power sources in outer space devoted to the generation of electric power on board space objects for nonpropulsive purposes, which have characteristics generally comparable to those of systems used and missions performed at the time of the adoption of the Principles,

Recognizing that this set of Principles will require future revision in view of emerging nuclear power applications and of evolving international recommendations on radiological protection,

Adopts the Principles Relevant to the Use of Nuclear Power Sources in Outer Space as set forth below.

Principle 1. Applicability of international law

Activities involving the use of nuclear power sources in outer space shall be carried out in accordance with international law, including in particular the Charter of the United Nations and the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.[1]

Principle 2. Use of terms

1. For the purpose of these Principles, the terms "launching State" and "State launching" mean the State which exercises juris-

[8] *Official Records of the General Assembly, Forty-seventh Session, Supplement No. 20* (A/47/20).

[9] Ibid., annex.

diction and control over a space object with nuclear power sources on board at a given point in time relevant to the principle concerned.

2. For the purpose of principle 9, the definition of the term "launching State" as contained in that principle is applicable.

3. For the purposes of principle 3, the terms "foreseeable" and "all possible" describe a class of events or circumstances whose overall probability of occurrence is such that it is considered to encompass only credible possibilities for purposes of safety analysis. The term "general concept of defence-in-depth" when applied to nuclear power sources in outer space refers to the use of design features and mission operations in place of or in addition to active systems, to prevent or mitigate the consequences of system malfunctions. Redundant safety systems are not necessarily required for each individual component to achieve this purpose. Given the special requirements of space use and of varied missions, no particular set of systems or features can be specified as essential to achieve this objective. For the purposes of paragraph 2(*d*) of principle 3, the term "made critical" does not include actions such as zero-power testing which are fundamental to ensuring system safety.

Principle 3. Guidelines and criteria for safe use

In order to minimize the quantity of radioactive material in space and the risks involved, the use of nuclear power sources in outer space shall be restricted to those space missions which cannot be operated by non-nuclear energy sources in a reasonable way.

1. General goals for radiation protection and nuclear safety

(a) States launching space objects with nuclear power sources on board shall endeavour to protect individuals, populations and the biosphere against radiological hazards. The design and use of space objects with nuclear power sources on board shall ensure, with a high degree of confidence, that the hazards, in foreseeable operational or accidental circumstances, are kept below acceptable levels as defined in paragraphs 1(*b*) and (*c*).

Such design and use shall also ensure with high reliability that radioactive material does not cause a significant contamination of outer space;

(b) During the normal operation of space objects with nuclear power sources on board, including re-entry from the sufficiently high orbit as defined in paragraph 2(*b*), the appropriate radiation protection objective for the public recommended by the International Commission on Radiological Protection shall be observed. During such normal operation there shall be no significant radiation exposure;

(c) To limit exposure in accidents, the design and construction of the nuclear power source systems shall take into account relevant and generally accepted international radiological protection guidelines.

Except in cases of low-probability accidents with potentially serious radiological consequences, the design for the nuclear power source systems shall, with a high degree of confidence, restrict radiation exposure to a limited geographical region and to individuals

to the principal limit of 1 mSv in a year. It is permissible to use a subsidiary dose limit of 5 mSv in a year for some years, provided that the average annual effective dose equivalent over a lifetime does not exceed the principal limit of 1 mSv in a year.

The probability of accidents with potentially serious radiological consequences referred to above shall be kept extremely small by virtue of the design of the system.

Future modifications of the guidelines referred to in this paragraph shall be applied as soon as practicable;

(d) Systems important for safety shall be designed, constructed and operated in accordance with the general concept of defence-in-depth. Pursuant to this concept, foreseeable safety-related failures or malfunctions must be capable of being corrected or counteracted by an action or a procedure, possibly automatic.

The reliability of systems important for safety shall be ensured, inter alia, by redundancy, physical separation, functional isolation and adequate independence of their components.

Other measures shall also be taken to raise the level of safety.

2. Nuclear reactors

(a) Nuclear reactors may be operated:

(i) On interplanetary missions;

(ii) In sufficiently high orbits as defined in paragraph 2(*b*);

(iii) In low-Earth orbits if they are stored in sufficiently high orbits after the operational part of their mission.

(b) The sufficiently high orbit is one in which the orbital lifetime is long enough to allow for a sufficient decay of the fission products to approximately the activity of the actinides. The sufficiently high orbit must be such that the risks to existing and future outer space missions and of collision with other space objects are kept to a minimum. The necessity for the parts of a destroyed reactor also to attain the required decay time before re-entering the Earth's atmosphere shall be considered in determining the sufficiently high orbit altitude;

(c) Nuclear reactors shall use only highly enriched uranium 235 as fuel. The design shall take into account the radioactive decay of the fission and activation products;

(d) Nuclear reactors shall not be made critical before they have reached their operating orbit or interplanetary trajectory;

(e) The design and construction of the nuclear reactor shall ensure that it cannot become critical before reaching the operating orbit during all possible events, including rocket explosion, reentry, impact on ground or water, submersion in water or water intruding into the core;

(f) In order to reduce significantly the possibility of failures in satellites with nuclear reactors on board during operations in an orbit with a lifetime less than in the sufficiently high orbit (including operations for transfer into the sufficiently high orbit), there shall be a highly reliable operational system to ensure an effective and controlled disposal of the reactor.

3. Radioisotope generators

(a) Radioisotope generators may be used for interplanetary missions and other missions leaving the gravity field of the Earth.

They may also be used in Earth orbit if, after conclusion of the operational part of their mission, they are stored in a high orbit. In any case ultimate disposal is necessary;

(b) Radioisotope generators shall be protected by a containment system that is designed and constructed to withstand the heat and aerodynamic forces of re-entry in the upper atmosphere under foreseeable orbital conditions, including highly elliptical or hyperbolic orbits where relevant. Upon impact, the containment system and the physical form of the isotope shall ensure that no radioactive material is scattered into the environment so that the impact area can be completely cleared of radioactivity by a recovery operation.

Principle 4. Safety assessment

1. A launching State as defined in principle 2, paragraph 1, at the time of launch shall, prior to the launch, through cooperative arrangements, where relevant, with those which have designed, constructed or manufactured the nuclear power sources, or will operate the space object, or from whose territory or facility such an object will be launched, ensure that a thorough and comprehensive safety assessment is conducted. This assessment shall cover as well all relevant phases of the mission and shall deal with all systems involved, including the means of launching, the space platform, the nuclear power source and its equipment and the means of control and communication between ground and space.

2. This assessment shall respect the guidelines and criteria for safe use contained in principle 3.

3. Pursuant to article XI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, the results of this safety assessment, together with, to the extent feasible, an indication of the approximate intended time-frame of the launch, shall be made publicly available prior to each launch, and the Secretary-General of the United Nations shall be informed on how States may obtain such results of the safety assessment as soon as possible prior to each launch.

Principle 5. Notification of re-entry

1. Any State launching a space object with nuclear power sources on board shall in a timely fashion inform States concerned in the event this space object is malfunctioning with a risk of re-entry of radioactive materials to the Earth. The information shall be in accordance with the following format:

(a) *System parameters:*

(i) Name of launching State or States, including the address of the authority which may be contacted for additional information or assistance in case of accident;

(ii) International designation;

(iii) Date and territory or location of launch;

(iv) Information required for best prediction of orbit lifetime, trajectory and impact region;

(v) General function of spacecraft;

(b) *Information on the radiological risk of nuclear power source(s):*

(i) Type of nuclear power source: radioisotopic/reactor;

(ii) The probable physical form, amount and general radiological characteristics of the fuel and contaminated and/or activated components likely to reach the ground. The term "fuel" refers to the nuclear material used as the source of heat or power.

This information shall also be transmitted to the Secretary-General of the United Nations.

2. The information, in accordance with the format above, shall be provided by the launching State as soon as the malfunction has become known. It shall be updated as frequently as practicable and the frequency of dissemination of the updated information shall increase as the anticipated time of re-entry into the dense layers of the Earth's atmosphere approaches so that the international community will be informed of the situation and will have sufficient time to plan for any national response activities deemed necessary.

3. The updated information shall also be transmitted to the Secretary-General of the United Nations with the same frequency.

Principle 6. Consultations

States providing information in accordance with principle 5 shall, as far as reasonably practicable, respond promptly to requests for further information or consultations sought by other States.

Principle 7. Assistance to States

1. Upon the notification of an expected re-entry into the Earth's atmosphere of a space object containing a nuclear power source on board and its components, all States possessing space monitoring and tracking facilities, in the spirit of international cooperation, shall communicate the relevant information that they may have available on the malfunctioning space object with a nuclear power source on board to the Secretary-General of the United Nations and the State concerned as promptly as possible to allow States that might be affected to assess the situation and take any precautionary measures deemed necessary.

2. After re-entry into the Earth's atmosphere of a space object containing a nuclear power source on board and its components:

(a) The launching State shall promptly offer and, if requested by the affected State, provide promptly the necessary assistance to eliminate actual and possible harmful effects, including assistance to identify the location of the area of impact of the nuclear power source on the Earth's surface, to detect the re-entered material and to carry out retrieval or clean-up operations;

(b) All States, other than the launching State, with relevant technical capabilities and international organizations with such technical capabilities shall, to the extent possible, provide necessary assistance upon request by an affected State.

In providing the assistance in accordance with subparagraphs (*a*) and (*b*) above, the special needs of developing countries shall be taken into account.

Principle 8. Responsibility

In accordance with article VI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer

Space, including the Moon and Other Celestial Bodies, States shall bear international responsibility for national activities involving the use of nuclear power sources in outer space, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that such national activities are carried out in conformity with that Treaty and the recommendations contained in these Principles. When activities in outer space involving the use of nuclear power sources are carried on by an international organization, responsibility for compliance with the aforesaid Treaty and the recommendations contained in these Principles shall be borne both by the international organization and by the States participating in it.

Principle 9. Liability and compensation

1. In accordance with article VII of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and the provisions of the Convention on International Liability for Damage Caused by Space Objects,3 each State which launches or procures the launching of a space object and each State from whose territory or facility a space object is launched shall be internationally liable for damage caused by such space objects or their component parts. This fully applies to the case of such a space object carrying a nuclear power source on board. Whenever two or more States jointly launch such a space object, they shall be jointly and severally liable for any damage caused, in accordance with article V of the abovementioned Convention.

2. The compensation that such States shall be liable to pay under the aforesaid Convention for damage shall be determined in accordance with international law and the principles of justice and equity, in order to provide such reparation in respect of the damage as will restore the person, natural or juridical, State or international organization on whose behalf a claim is presented to the condition which would have existed if the damage had not occurred.

3. For the purposes of this principle, compensation shall include reimbursement of the duly substantiated expenses for search, recovery and clean-up operations, including expenses for assistance received from third parties.

Principle 10. Settlement of disputes

Any dispute resulting from the application of these Principles shall be resolved through negotiations or other established procedures for the peaceful settlement of disputes, in accordance with the Charter of the United Nations.

Principle 11. Review and revision

These Principles shall be reopened for revision by the Committee on the Peaceful Uses of Outer Space no later than two years after their adoption.

Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries

The General Assembly,

Having considered the report of the Committee on the Peaceful Uses of Outer Space on the work of its thirty-ninth session [10] [11] and the text of the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries, as approved by the Committee and annexed to its report,[1]

Bearing in mind the relevant provisions of the Charter of the United Nations,

Recalling notably the provisions of the Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,[1]

Recalling also its relevant resolutions relating to activities in outer space,

Bearing in mind the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space,[12] and of other international conferences relevant in this field,

Recognizing the growing scope and significance of international cooperation among States and between States and international organizations in the exploration and use of outer space for peaceful purposes,

Considering experiences gained in international cooperative ventures,

Convinced of the necessity and the significance of further strengthening international cooperation in order to reach a broad and efficient collaboration in this field for the mutual benefit and in the interest of all parties involved,

Desirous of facilitating the application of the principle that the exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interest of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind,

Adopts the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries, set forth in the annex to the present resolution.

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[10] *Official Records of the General Assembly, Fifty-first Session, Supplement No. 20* (A/51/20).
[11] Ibid., annex IV.
[12] OSC

SECTION 7

VIENNA CONVENTION ON THE LAWS OF TREATIES—TREATY INTERPRETATION

As previously stated, the Vienna Convention on the Law of Treaties (VCLT) is not a binding treaty regarding the United States. The United States recognizes that many articles enumerated in this treaty are already widely accepted as customary norms by other sovereign States. This widely accepted custom is known as customary international law.

Slavery, genocide, and crimes against humanity are but some examples of customary international law. VCLT reflects already well-established norms of customary international law and while the United States is not a party to the treaty, the United States follows many of these customary practices. Thus, the United States largely follows the VCLT without actually binding itself to the treaty.

The purpose for including VCLT in this publication is simply because the United States and many international lawyers continue to use VCLT as the primary authority on interpreting treaties. The Vienna Convention on the Law of Treaties provides a substantive legal framework on drafting treaties, interpreting vague or ambiguous language, withdrawing from treaties, hostilities, disagreements, and amending, ratifying, or making reservations to treaties. In short, it is the guide to treaties from womb to tomb and is widely accepted and utilized in whole or in part by sovereign States. Certain treaties such as the Outer Space Treaty, *supra*, contain language, or lack thereof, that makes it difficult to interpret whether certain action is permissible. Some examples of these types of questions are whether the mining of outer space resources could be interpreted as state appropriation of a celestial body or whether the launching of a kinetic weapon on earth to a satellite could be viewed as militarizing outer space. Because the Vienna Convention on the Law of Treaties is widely used to interpret the Outer Space Treaty, it is included in this publication as an interpretive resource.

Vienna Convention on the Law of Treaties

1969

Done at Vienna on 23 May 1969. Entered into force on 27 January 1980. United Nations, *Treaty Series*, vol. 1155, p. 331

******United Nations Seal To Come******

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2005

Vienna Convention on the Law of Treaties

Done at Vienna on 23 May 1969

The States Parties to the present Convention,

Considering the fundamental role of treaties in the history of international relations,

Recognizing the ever-increasing importance of treaties as a source of international law and as a means of developing peaceful cooperation among nations, whatever their constitutional and social systems,

Noting that the principles of free consent and of good faith and the *pacta sunt servanda* rule are universally recognized,

Affirming that disputes concerning treaties, like other international disputes, should be settled by peaceful means and in conformity with the principles of justice and international law,

Recalling the determination of the peoples of the United Nations to establish conditions under which justice and respect for the obligations arising from treaties can be maintained,

Having in mind the principles of international law embodied in the Charter of the United Nations, such as the principles of the equal rights and self-determination of peoples, of the sovereign equality and independence of all States, of non-interference in the domestic affairs of States, of the prohibition of the threat or use of force and of universal respect for, and observance of, human rights and fundamental freedoms for all,

Believing that the codification and progressive development of the law of treaties achieved in the present Convention will promote the purposes of the United Nations set forth in the Charter, namely, the maintenance of international peace and security, the development of friendly relations and the achievement of cooperation among nations,

Affirming that the rules of customary international law will continue to govern questions not regulated by the provisions of the present Convention,

Have agreed as follows:

PART I.

INTRODUCTION

Article 1

Scope of the present Convention

The present Convention applies to treaties between States.

Article 2

Use of terms

1. For the purposes of the present Convention:

(a) "treaty" means an international agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation;

(b) "ratification", "acceptance", "approval" and "accession" mean in each case the international act so named whereby a State establishes on the international plane its consent to be bound by a treaty;

(c) "full powers" means a document emanating from the competent authority of a State designating a person or persons to represent the State for negotiating, adopting or authenticating the text of a treaty, for expressing the consent of the State to be bound by a treaty, or for accomplishing any other act with respect to a treaty;

(d) "reservation" means a unilateral statement, however phrased or named, made by a State, when signing, ratifying, accepting, approving or acceding to a treaty, whereby it purports to exclude or to modify the legal effect of certain provisions of the treaty in their application to that State;

(e) "negotiating State" means a State which took part in the drawing up and adoption of the text of the treaty;

(f) "contracting State" means a State which has consented to be bound by the treaty, whether or not the treaty has entered into force;

(g) "party" means a State which has consented to be bound by the treaty and for which the treaty is in force;

(h) "third State" means a State not a party to the treaty;

(i) "international organization" means an intergovernmental organization.

2. The provisions of paragraph 1 regarding the use of terms in the present Convention are without prejudice to the use of those terms or to the meanings which may be given to them in the internal law of any State.

Article 3

International agreements not within the scope of the present Convention

The fact that the present Convention does not apply to international agreements concluded between States and other subjects of international law or between such other subjects of international law, or to international agreements not in written form, shall not affect:

(a) the legal force of such agreements;

(b) the application to them of any of the rules set forth in the present Convention to which they would be subject under international law independently of the Convention;

(c) the application of the Convention to the relations of States as between themselves under international agreements to which other subjects of international law are also parties.

Article 4

Non-retroactivity of the present Convention

Without prejudice to the application of any rules set forth in the present Convention to which treaties would be subject under international law independently of the Convention, the Convention applies only to treaties which are concluded by States after the entry into force of the present Convention with regard to such States.

Article 5

Treaties constituting international organizations and treaties adopted within an international organization

The present Convention applies to any treaty which is the constituent instrument of an international organization and to any treaty adopted within an international organization without prejudice to any relevant rules of the organization.

PART II.

CONCLUSION AND ENTRY INTO FORCE OF TREATIES

SECTION 1. CONCLUSION OF TREATIES

Article 6

Capacity of States to conclude treaties

Every State possesses capacity to conclude treaties.

Article 7

Full powers

1. A person is considered as representing a State for the purpose of adopting or authenticating the text of a treaty or for the purpose of expressing the consent of the State to be bound by a treaty if:

(a) he produces appropriate full powers; or

(b) it appears from the practice of the States concerned or from other circumstances that their intention was to consider that person as representing the State for such purposes and to dispense with full powers.

2. In virtue of their functions and without having to produce full powers, the following are considered as representing their State:

(a) Heads of State, Heads of Government and Ministers for Foreign Affairs, for the purpose of performing all acts relating to the conclusion of a treaty;

(b) heads of diplomatic missions, for the purpose of adopting the text of a treaty between the accrediting State and the State to which they are accredited;

(c) representatives accredited by States to an international conference or to an international organization or one of its organs, for the purpose of adopting the text of a treaty in that conference, organization or organ.

Article 8

Subsequent confirmation of an act performed without authorization

An act relating to the conclusion of a treaty performed by a person who cannot be considered under article 7 as authorized to represent a State for that purpose is without legal effect unless afterwards confirmed by that State.

Article 9

Adoption of the text

1. The adoption of the text of a treaty takes place by the consent of all the States participating in its drawing up except as provided in paragraph 2.

2. The adoption of the text of a treaty at an international conference takes place by the vote of two thirds of the States present and voting, unless by the same majority they shall decide to apply a different rule.

Article 10

Authentication of the text

The text of a treaty is established as authentic and definitive:

(a) by such procedure as may be provided for in the text or agreed upon by the States participating in its drawing up; or

(b) failing such procedure, by the signature, signature ad referendum or initialling by the representatives of those States of the text of the treaty or of the Final Act of a conference incorporating the text.

Article 11

Means of expressing consent to be bound by a treaty

The consent of a State to be bound by a treaty may be expressed by signature, exchange of instruments constituting a treaty, ratification, acceptance, approval or accession, or by any other means if so agreed.

Article 12

Consent to be bound by a treaty expressed by signature

1. The consent of a State to be bound by a treaty is expressed by the signature of its representative when:

(a) the treaty provides that signature shall have that effect;

(b) it is otherwise established that the negotiating States were agreed that signature should have that effect; or

(c) the intention of the State to give that effect to the signature appears from the full powers of its representative or was expressed during the negotiation.

2. For the purposes of paragraph 1:

(a) the initialling of a text constitutes a signature of the treaty when it is established that the negotiating States so agreed;

(b) the signature ad referendum of a treaty by a representative, if confirmed by his State, constitutes a full signature of the treaty.

Article 13

Consent to be bound by a treaty expressed by an exchange of instruments constituting a treaty

The consent of States to be bound by a treaty constituted by instruments exchanged between them is expressed by that exchange when:

(a) the instruments provide that their exchange shall have that effect; or

(b) it is otherwise established that those States were agreed that the exchange of instruments should have that effect.

Article 14

Consent to be bound by a treaty expressed by ratification, acceptance or approval

1. The consent of a State to be bound by a treaty is expressed by ratification when:

(a) the treaty provides for such consent to be expressed by means of ratification;

(b) it is otherwise established that the negotiating States were agreed that ratification should be required;

(c) the representative of the State has signed the treaty subject to ratification; or

(d) the intention of the State to sign the treaty subject to ratification appears from the full powers of its representative or was expressed during the negotiation.

2. The consent of a State to be bound by a treaty is expressed by acceptance or approval under conditions similar to those which apply to ratification.

Article 15

Consent to be bound by a treaty expressed by accession

The consent of a State to be bound by a treaty is expressed by accession when:

(a) the treaty provides that such consent may be expressed by that State by means of accession;

(b) it is otherwise established that the negotiating States were agreed that such consent may be expressed by that State by means of accession; or

(c) all the parties have subsequently agreed that such consent may be expressed by that State by means of accession.

Article 16

Exchange or deposit of instruments of ratification, acceptance, approval or accession

Unless the treaty otherwise provides, instruments of ratification, acceptance, approval or accession establish the consent of a State to be bound by a treaty upon:

(a) their exchange between the contracting States;

(b) their deposit with the depositary; or

(c) their notification to the contracting States or to the depositary, if so agreed.

Article 17

Consent to be bound by part of a treaty and choice of differing provisions

1. Without prejudice to articles 19 to 23, the consent of a State to be bound by part of a treaty is effective only if the treaty so permits or the other contracting States so agree.

2. The consent of a State to be bound by a treaty which permits a choice between differing provisions is effective only if it is made clear to which of the provisions the consent relates.

Article 18

Obligation not to defeat the object and purpose of a treaty prior to its entry into force

A State is obliged to refrain from acts which would defeat the object and purpose of a treaty when:

(a) it has signed the treaty or has exchanged instruments constituting the treaty subject to ratification, acceptance or approval, until it shall have made its intention clear not to become a party to the treaty; or

(b) it has expressed its consent to be bound by the treaty, pending the entry into force of the treaty and provided that such entry into force is not unduly delayed.

SECTION 2. RESERVATIONS

Article 19

Formulation of reservations

A State may, when signing, ratifying, accepting, approving or acceding to a treaty, formulate a reservation unless:

(a) the reservation is prohibited by the treaty;

(b) the treaty provides that only specified reservations, which do not include the reservation in question, may be made; or

(c) in cases not failing under subparagraphs (a) and (b), the reservation is incompatible with the object and purpose of the treaty.

Article 20

Acceptance of and objection to reservations

1. A reservation expressly authorized by a treaty does not require any subsequent acceptance by the other contracting States unless the treaty so provides.

2. When it appears from the limited number of the negotiating States and the object and purpose of a treaty that the application of the treaty in its entirety between all the parties is an essential condition of the consent of each one to be bound by the treaty, a reservation requires acceptance by all the parties.

3. When a treaty is a constituent instrument of an international organization and unless it otherwise provides, a reservation requires the acceptance of the competent organ of that organization.

4. In cases not falling under the preceding paragraphs and unless the treaty otherwise provides:

(a) acceptance by another contracting State of a reservation constitutes the reserving State a party to the treaty in relation to that other State if or when the treaty is in force for those States;

(b) an objection by another contracting State to a reservation does not preclude the entry into force of the treaty as between the objecting and reserving States unless a contrary intention is definitely expressed by the objecting State;

(c) an act expressing a State's consent to be bound by the treaty and containing a reservation is effective as soon as at least one other contracting State has accepted the reservation.

5. For the purposes of paragraphs 2 and 4 and unless the treaty otherwise provides, a reservation is considered to have been accepted by a State if it shall have raised no objection to the reservation by the end of a period of twelve months after it was notified of the reservation or by the date on which it expressed its consent to be bound by the treaty, whichever is later.

Article 21

Legal effects of reservations and of objections to reservations

1. A reservation established with regard to another party in accordance with articles 19, 20 and 23:

(a) modifies for the reserving State in its relations with that other party the provisions of the treaty to which the reservation relates to the extent of the reservation; and

(b) modifies those provisions to the same extent for that other party in its relations with the reserving State.

2. The reservation does not modify the provisions of the treaty for the other parties to the treaty inter se.

3. When a State objecting to a reservation has not opposed the entry into force of the treaty between itself and the reserving State, the provisions to which the reservation relates do not apply as between the two States to the extent of the reservation.

Article 22

Withdrawal of reservations and of objections to reservations

1. Unless the treaty otherwise provides, a reservation may be withdrawn at any time and the consent of a State which has accepted the reservation is not required for its withdrawal.

2. Unless the treaty otherwise provides, an objection to a reservation may be withdrawn at any time.

3. Unless the treaty otherwise provides, or it is otherwise agreed:

(a) the withdrawal of a reservation becomes operative in relation to another contracting State only when notice of it has been received by that State;

(b) the withdrawal of an objection to a reservation becomes operative only when notice of it has been received by the State which formulated the reservation.

Article 23

Procedure regarding reservations

1. A reservation, an express acceptance of a reservation and an objection to a reservation must be formulated in writing and communicated to the contracting States and other States entitled to become parties to the treaty.

2. If formulated when signing the treaty subject to ratification, acceptance or approval, a reservation must be formally confirmed by the reserving State when expressing its consent to be bound by the treaty. In such a case the reservation shall be considered as having been made on the date of its confirmation.

3. An express acceptance of, or an objection to, a reservation made previously to confirmation of the reservation does not itself require confirmation.

4. The withdrawal of a reservation or of an objection to a reservation must be formulated in writing.

SECTION 3. ENTRY INTO FORCE AND PROVISIONAL, APPLICATION OF TREATIES

Article 24

Entry into force

1. A treaty enters into force in such manner and upon such date as it may provide or as the negotiating States may agree.

2. Failing any such provision or agreement, a treaty enters into force as soon as consent to be bound by the treaty has been established for all the negotiating States.

3. When the consent of a State to be bound by a treaty is established on a date after the treaty has come into force, the treaty enters into force for that State on that date, unless the treaty otherwise provides.

4. The provisions of a treaty regulating the authentication of its text, the establishment of the consent of States to be bound by the treaty, the manner or date of its entry into force, reservations, the functions of the depositary and other matters arising necessarily

before the entry into force of the treaty apply from the time of the adoption of its text.

Article 25

Provisional application

1. A treaty or a part of a treaty is applied provisionally pending its entry into force if:

(a) the treaty itself so provides; or

(b) the negotiating States have in some other manner so agreed.

2. Unless the treaty otherwise provides or the negotiating States have otherwise agreed, the provisional application of a treaty or a part of a treaty with respect to a State shall be terminated if that State notifies the other States between which the treaty is being applied provisionally of its intention not to become a party to the treaty.

PART III.

OBSERVANCE, APPLICATION AND INTERPRETATION OF TREATIES

SECTION 1. OBSERVANCE OF TREATIES

Article 26

"Pacta sunt servanda"

Every treaty in force is binding upon the parties to it and must be performed by them in good faith.

Article 27

Internal law and observance of treaties

A party may not invoke the provisions of its internal law as justification for its failure to perform a treaty. This rule is without prejudice to article 46.

SECTION 2. APPLICATION OF TREATIES

Article 28

Non-retroactivity of treaties

Unless a different intention appears from the treaty or is otherwise established, its provisions do not bind a party in relation to any act or fact which took place or any situation which ceased to exist before the date of the entry into force of the treaty with respect to that party.

Article 29

Territorial scope of treaties

Unless a different intention appears from the treaty or is otherwise established, a treaty is binding upon each party in respect of its entire territory.

Article 30

Application of successive treaties relating to the same subject matter

1. Subject to Article 103 of the Charter of the United Nations, the rights and obligations of States Parties to successive treaties relating to the same subject matter shall be determined in accordance with the following paragraphs.

2. When a treaty specifies that it is subject to, or that it is not to be considered as incompatible with, an earlier or later treaty, the provisions of that other treaty prevail.

3. When all the parties to the earlier treaty are parties also to the later treaty but the earlier treaty is not terminated or suspended in operation under article 59, the earlier treaty applies only to the extent that its provisions are compatible with those of the later treaty.

4. When the parties to the later treaty do not include all the parties to the earlier one:

(a) as between States Parties to both treaties the same rule applies as in paragraph 3;

(b) as between a State party to both treaties and a State party to only one of the treaties, the treaty to which both States are parties governs their mutual rights and obligations.

5. Paragraph 4 is without prejudice to article 41, or to any question of the termination or suspension of the operation of a treaty under article 60 or to any question of responsibility which may arise for a State from the conclusion or application of a treaty the provisions of which are incompatible with its obligations towards another State under another treaty.

SECTION 3. INTERPRETATION OF TREATIES

Article 31

General rule of interpretation

1. A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.

2. The context for the purpose of the interpretation of a treaty shall comprise, in addition to the text, including its preamble and annexes:

(a) any agreement relating to the treaty which was made between all the parties in connection with the conclusion of the treaty;

(b) any instrument which was made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty.

3. There shall be taken into account, together with the context:
(a) any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions;
(b) any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation;
(c) any relevant rules of international law applicable in the relations between the parties.
4. A special meaning shall be given to a term if it is established that the parties so intended.

Article 32

Supplementary means of interpretation

Recourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the meaning resulting from the application of article 31, or to determine the meaning when the interpretation according to article 31:
(a) leaves the meaning ambiguous or obscure; or
(b) leads to a result which is manifestly absurd or unreasonable.

Article 33

Interpretation of treaties authenticated in two or more languages

1. When a treaty has been authenticated in two or more languages, the text is equally authoritative in each language, unless the treaty provides or the parties agree that, in case of divergence, a particular text shall prevail.
2. A version of the treaty in a language other than one of those in which the text was authenticated shall be considered an authentic text only if the treaty so provides or the parties so agree.
3. The terms of the treaty are presumed to have the same meaning in each authentic text.
4. Except where a particular text prevails in accordance with paragraph 1, when a comparison of the authentic texts discloses a difference of meaning which the application of articles 31 and 32 does not remove, the meaning which best reconciles the texts, having regard to the object and purpose of the treaty, shall be adopted.

SECTION 4. TREATIES AND THIRD STATES

Article 34

General rule regarding third States

A treaty does not create either obligations or rights for a third State without its consent.

Article 35

Treaties providing for obligations for third States

An obligation arises for a third State from a provision of a treaty if the parties to the treaty intend the provision to be the means of

establishing the obligation and the third State expressly accepts that obligation in writing.

Article 36

Treaties providing for rights for third States

1. A right arises for a third State from a provision of a treaty if the parties to the treaty intend the provision to accord that right either to the third State, or to a group of States to which it belongs, or to all States, and the third State assents thereto. Its assent shall be presumed so long as the contrary is not indicated, unless the treaty otherwise provides.

2. A State exercising a right in accordance with paragraph 1 shall comply with the conditions for its exercise provided for in the treaty or established in conformity with the treaty.

Article 37

Revocation or modification of obligations or rights of third States

1. When an obligation has arisen for a third State in conformity with article 35, the obligation may be revoked or modified only with the consent of the parties to the treaty and of the third State, unless it is established that they had otherwise agreed.

2. When a right has arisen for a third State in conformity with article 36, the right may not be revoked or modified by the parties if it is established that the right was intended not to be revocable or subject to modification without the consent of the third State.

Article 38

Rules in a treaty becoming binding on third States through international custom

Nothing in articles 34 to 37 precludes a rule set forth in a treaty from becoming binding upon a third State as a customary rule of international law, recognized as such.

PART IV.

AMENDMENT AND MODIFICATION OF TREATIES

Article 39

General rule regarding the amendment of treaties

A treaty may be amended by agreement between the parties. The rules laid down in Part II apply to such an agreement except insofar as the treaty may otherwise provide.

Article 40

Amendment of multilateral treaties

1. Unless the treaty otherwise provides, the amendment of multilateral treaties shall be governed by the following paragraphs.

2. Any proposal to amend a multilateral treaty as between all the parties must be notified to all the contracting States, each one of which shall have the right to take part in:

(a) the decision as to the action to be taken in regard to such proposal;

(b) the negotiation and conclusion of any agreement for the amendment of the treaty.

3. Every State entitled to become a party to the treaty shall also be entitled to become a party to the treaty as amended.

4. The amending agreement does not bind any State already a party to the treaty which does not become a party to the amending agreement; article 30, paragraph 4 (b), applies in relation to such State.

5. Any State which becomes a party to the treaty after the entry into force of the amending agreement shall, failing an expression of a different intention by that State:

(a) be considered as a party to the treaty as amended; and

(b) be considered as a party to the unamended treaty in relation to any party to the treaty not bound by the amending agreement.

Article 41

Agreements to modify multilateral treaties between certain of the parties only

1. Two or more of the parties to a multilateral treaty may conclude an agreement to modify the treaty as between themselves alone if:

(a) the possibility of such a modification is provided for by the treaty; or

(b) the modification in question is not prohibited by the treaty and:

(i) does not affect the enjoyment by the other parties of their rights under the treaty or the performance of their obligations;

(ii) does not relate to a provision, derogation from which is incompatible with the effective execution of the object and purpose of the treaty as a whole.

2. Unless in a case falling under paragraph 1(*a*) the treaty otherwise provides, the parties in question shall notify the other parties of their intention to conclude the agreement and of the modification to the treaty for which it provides.

PART V.

INVALIDITY, TERMINATION AND SUSPENSION OF THE OPERATION OF TREATIES

SECTION 1. GENERAL PROVISIONS

Article 42

Validity and continuance in force of treaties

1. The validity of a treaty or of the consent of a State to be bound by a treaty may be impeached only through the application of the present Convention.

2. The termination of a treaty, its denunciation or the withdrawal of a party, may take place only as a result of the application of the provisions of the treaty or of the present Convention. The same rule applies to suspension of the operation of a treaty.

Article 43

Obligations imposed by international law independently of a treaty

The invalidity, termination or denunciation of a treaty, the withdrawal of a party from it, or the suspension of its operation, as a result of the application of the present Convention or of the provisions of the treaty, shall not in any way impair the duty of any State to fulfil any obligation embodied in the treaty to which it would be subject under international law independently of the treaty.

Article 44

Separability of treaty provisions

1. A right of a party, provided for in a treaty or arising under article 56, to denounce, withdraw from or suspend the operation of the treaty may be exercised only with respect to the whole treaty unless the treaty otherwise provides or the parties otherwise agree.

2. A ground for invalidating, terminating, withdrawing from or suspending the operation of a treaty recognized in the present Convention may be invoked only with respect to the whole treaty except as provided in the following paragraphs or in article 60.

3. If the ground relates solely to particular clauses, it may be invoked only with respect to those clauses where:

(a) the said clauses are separable from the remainder of the treaty with regard to their application;

(b) it appears from the treaty or is otherwise established that acceptance of those clauses was not an essential basis of the consent of the other party or parties to be bound by the treaty as a whole; and

(c) continued performance of the remainder of the treaty would not be unjust.

4. In cases falling under articles 49 and 50, the State entitled to invoke the fraud or corruption may do so with respect either to the whole treaty or, subject to paragraph 3, to the particular clauses alone.

5. In cases falling under articles 51, 52 and 53, no separation of the provisions of the treaty is permitted.

Article 45

Loss of a right to invoke a ground for invalidating, terminating, withdrawing from or suspending the operation of a treaty

A State may no longer invoke a ground for invalidating, terminating, withdrawing from or suspending the operation of a treaty under articles 46 to 50 or articles 60 and 62 if, after becoming aware of the facts:

(a) it shall have expressly agreed that the treaty is valid or remains in force or continues in operation, as the case may be; or

(b) it must by reason of its conduct be considered as having acquiesced in the validity of the treaty or in its maintenance in force or in operation, as the case may be.

SECTION 2. INVALIDITY OF TREATIES

Article 46

Provisions of internal law regarding competence to conclude treaties

1. A State may not invoke the fact that its consent to be bound by a treaty has been expressed in violation of a provision of its internal law regarding competence to conclude treaties as invalidating its consent unless that violation was manifest and concerned a rule of its internal law of fundamental importance.

2. A violation is manifest if it would be objectively evident to any State conducting itself in the matter in accordance with normal practice and in good faith.

Article 47

Specific restrictions on authority to express the consent of a State

If the authority of a representative to express the consent of a State to be bound by a particular treaty has been made subject to a specific restriction, his omission to observe that restriction may not be invoked as invalidating the consent expressed by him unless the restriction was notified to the other negotiating States prior to his expressing such consent.

Article 48

Error

1. A State may invoke an error in a treaty as invalidating its consent to be bound by the treaty if the error relates to a fact or situation which was assumed by that State to exist at the time when the treaty was concluded and formed an essential basis of its consent to be bound by the treaty.

2. Paragraph 1 shall not apply if the State in question contributed by its own conduct to the error or if the circumstances were such as to put that State on notice of a possible error.

3. An error relating only to the wording of the text of a treaty does not affect its validity; article 79 then applies.

Article 49

Fraud

If a State has been induced to conclude a treaty by the fraudulent conduct of another negotiating State, the State may invoke the fraud as invalidating its consent to be bound by the treaty.

Article 50

Corruption of a representative of a State

If the expression of a State's consent to be bound by a treaty has been procured through the corruption of its representative directly or indirectly by another negotiating State, the State may invoke such corruption as invalidating its consent to be bound by the treaty.

Article 51

Coercion of a representative of a State

The expression of a State's consent to be bound by a treaty which has been procured by the coercion of its representative through acts or threats directed against him shall be without any legal effect.

Article 52

Coercion of a State by the threat or use of force

A treaty is void if its conclusion has been procured by the threat or use of force in violation of the principles of international law embodied in the Charter of the United Nations.

Article 53

Treaties conflicting with a peremptory norm of general international law ("jus cogens")

A treaty is void if, at the time of its conclusion, it conflicts with a peremptory norm of general international law. For the purposes of the present Convention, a peremptory norm of general international law is a norm accepted and recognized by the international community of States as a whole as a norm from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character.

SECTION 3. TERMINATION AND SUSPENSION OF THE OPERATION OF TREATIES

Article 54

Termination of or withdrawal from a treaty under its provisions or by consent of the parties

The termination of a treaty or the withdrawal of a party may take place:

(a) in conformity with the provisions of the treaty; or

(b) at any time by consent of all the parties after consultation with the other contracting States.

Article 55

Reduction of the parties to a multilateral treaty below the number necessary for its entry into force

Unless the treaty otherwise provides, a multilateral treaty does not terminate by reason only of the fact that the number of the parties falls below the number necessary for its entry into force.

Article 56

Denunciation of or withdrawal from a treaty containing no provision regarding termination, denunciation or withdrawal

1. A treaty which contains no provision regarding its termination and which does not provide for denunciation or withdrawal is not subject to denunciation or withdrawal unless:

(a) it is established that the parties intended to admit the possibility of denunciation or withdrawal; or

(b) a right of denunciation or withdrawal may be implied by the nature of the treaty.

2. A party shall give not less than twelve months' notice of its intention to denounce or withdraw from a treaty under paragraph 1.

Article 57

Suspension of the operation of a treaty under its provisions or by consent of the parties

The operation of a treaty in regard to all the parties or to a particular party may be suspended:

(a) in conformity with the provisions of the treaty; or

(b) at any time by consent of all the parties after consultation with the other contracting States.

Article 58

Suspension of the operation of a multilateral treaty by agreement between certain of the parties only

1. Two or more parties to a multilateral treaty may conclude an agreement to suspend the operation of provisions of the treaty, temporarily and as between themselves alone, if:

(a) the possibility of such a suspension is provided for by the treaty; or

(b) the suspension in question is not prohibited by the treaty and:

(i) does not affect the enjoyment by the other parties of their rights under the treaty or the performance of their obligations;

(ii) is not incompatible with the object and purpose of the treaty.

2. Unless in a case falling under paragraph 1(*a*) the treaty otherwise provides, the parties in question shall notify the other parties of their intention to conclude the agreement and of those provisions of the treaty the operation of which they intend to suspend.

Article 59

Termination or suspension of the operation of a treaty implied by conclusion of a later treaty

1. A treaty shall be considered as terminated if all the parties to it conclude a later treaty relating to the same subject matter and:

(a) it appears from the later treaty or is otherwise established that the parties intended that the matter should be governed by that treaty; or

(b) the provisions of the later treaty are so far incompatible with those of the earlier one that the two treaties are not capable of being applied at the same time.

2. The earlier treaty shall be considered as only suspended in operation if it appears from the later treaty or is otherwise established that such was the intention of the parties.

Article 60

Termination or suspension of the operation of a treaty as a consequence of its breach

1. A material breach of a bilateral treaty by one of the parties entitles the other to invoke the breach as a ground for terminating the treaty or suspending its operation in whole or in part.

2. A material breach of a multilateral treaty by one of the parties entitles:

(a) the other parties by unanimous agreement to suspend the operation of the treaty in whole or in part or to terminate it either:

(i) in the relations between themselves and the defaulting State; or

(ii) as between all the parties;

(b) a party specially affected by the breach to invoke it as a ground for suspending the operation of the treaty in whole or in part in the relations between itself and the defaulting State;

(c) any party other than the defaulting State to invoke the breach as a ground for suspending the operation of the treaty in whole or in part with respect to itself if the treaty is of such a character that a material breach of its provisions by one party radically changes the position of every party with respect to the further performance of its obligations under the treaty.

3. A material breach of a treaty, for the purposes of this article, consists in:

(a) a repudiation of the treaty not sanctioned by the present Convention; or

(b) the violation of a provision essential to the accomplishment of the object or purpose of the treaty.

4. The foregoing paragraphs are without prejudice to any provision in the treaty applicable in the event of a breach.

5. Paragraphs 1 to 3 do not apply to provisions relating to the protection of the human person contained in treaties of a humanitarian character, in particular to provisions prohibiting any form of reprisals against persons protected by such treaties.

Article 61

Supervening impossibility of performance

1. A party may invoke the impossibility of performing a treaty as a ground for terminating or withdrawing from it if the impossibility results from the permanent disappearance or destruction of an object indispensable for the execution of the treaty. If the impossibility is temporary, it may be invoked only as a ground for suspending the operation of the treaty.

2. Impossibility of performance may not be invoked by a party as a ground for terminating, withdrawing from or suspending the operation of a treaty if the impossibility is the result of a breach by that party either of an obligation under the treaty or of any other international obligation owed to any other party to the treaty.

Article 62

Fundamental change of circumstances

1. A fundamental change of circumstances which has occurred with regard to those existing at the time of the conclusion of a treaty, and which was not foreseen by the parties, may not be invoked as a ground for terminating or withdrawing from the treaty unless:

(a) the existence of those circumstances constituted an essential basis of the consent of the parties to be bound by the treaty; and

(b) the effect of the change is radically to transform the extent of obligations still to be performed under the treaty.

2. A fundamental change of circumstances may not be invoked as a ground for terminating or withdrawing from a treaty:

(a) if the treaty establishes a boundary; or

(b) if the fundamental change is the result of a breach by the party invoking it either of an obligation under the treaty or of any other international obligation owed to any other party to the treaty.

3. If, under the foregoing paragraphs, a party may invoke a fundamental change of circumstances as a ground for terminating or withdrawing from a treaty it may also invoke the change as a ground for suspending the operation of the treaty.

Article 63

Severance of diplomatic or consular relations

The severance of diplomatic or consular relations between parties to a treaty does not affect the legal relations established between them by the treaty except insofar as the existence of diplomatic or consular relations is indispensable for the application of the treaty.

Article 64

Emergence of a new peremptory norm of general international law ("jus cogens")

If a new peremptory norm of general international law emerges, any existing treaty which is in conflict with that norm becomes void and terminates.

SECTION 4. PROCEDURE

Article 65

Procedure to be followed with respect to invalidity, termination, withdrawal from or suspension of the operation of a treaty

1. A party which, under the provisions of the present Convention, invokes either a defect in its consent to be bound by a treaty or a ground for impeaching the validity of a treaty, terminating it, withdrawing from it or suspending its operation, must notify the other parties of its claim. The notification shall indicate the measure proposed to be taken with respect to the treaty and the reasons therefor.

2. If, after the expiry of a period which, except in cases of special urgency, shall not be less than three months after the receipt of the notification, no party has raised any objection, the party making the notification may carry out in the manner provided in article 67 the measure which it has proposed.

3. If, however, objection has been raised by any other party, the parties shall seek a solution through the means indicated in Article 33 of the Charter of the United Nations.

4. Nothing in the foregoing paragraphs shall affect the rights or obligations of the parties under any provisions in force binding the parties with regard to the settlement of disputes.

5. Without prejudice to article 45, the fact that a State has not previously made the notification prescribed in paragraph 1 shall not prevent it from making such notification in answer to another party claiming performance of the treaty or alleging its violation.

Article 66

Procedures for judicial settlement, arbitration and conciliation

If, under paragraph 3 of article 65, no solution has been reached within a period of 12 months following the date on which the objection was raised, the following procedures shall be followed:

(a) any one of the parties to a dispute concerning the application or the interpretation of article 53 or 64 may, by a written application, submit it to the International Court of Justice for a decision unless the parties by common consent agree to submit the dispute to arbitration;

(b) any one of the parties to a dispute concerning the application or the interpretation of any of the other articles in part V of the present Convention may set in motion the procedure specified in the Annex to the Convention by submitting a request to that effect to the Secretary-General of the United Nations.

Article 67

Instruments for declaring invalid, terminating, withdrawing from or suspending the operation of a treaty

1. The notification provided for under article 65, paragraph 1, must be made in writing.

2. Any act of declaring invalid, terminating, withdrawing from or suspending the operation of a treaty pursuant to the provisions of the treaty or of paragraphs 2 or 3 of article 65 shall be carried out through an instrument communicated to the other parties. If the instrument is not signed by the Head of State, Head of Government or Minister for Foreign Affairs, the representative of the State communicating it may be called upon to produce full powers.

Article 68

Revocation of notifications and instruments provided for in articles 65 and 67

A notification or instrument provided for in article 65 or 67 may be revoked at any time before it takes effect.

SECTION 5. CONSEQUENCES OF THE INVALIDITY, TERMINATION OR SUSPENSION OF THE OPERATION OF A TREATY

Article 69

Consequences of the invalidity of a treaty

1. A treaty the invalidity of which is established under the present Convention is void. The provisions of a void treaty have no legal force.

2. If acts have nevertheless been performed in reliance on such a treaty:

(a) each party may require any other party to establish as far as possible in their mutual relations the position that would have existed if the acts had not been performed;

(b) acts performed in good faith before the invalidity was invoked are not rendered unlawful by reason only of the invalidity of the treaty.

3. In cases falling under article 49, 50, 51 or 52, paragraph 2 does not apply with respect to the party to which the fraud, the act of corruption or the coercion is imputable.

4. In the case of the invalidity of a particular State's consent to be bound by a multilateral treaty, the foregoing rules apply in the relations between that State and the parties to the treaty.

Article 70

Consequences of the termination of a treaty

1. Unless the treaty otherwise provides or the parties otherwise agree, the termination of a treaty under its provisions or in accordance with the present Convention:

(a) releases the parties from any obligation further to perform the treaty;

(b) does not affect any right, obligation or legal situation of the parties created through the execution of the treaty prior to its termination.

2. If a State denounces or withdraws from a multilateral treaty, paragraph 1 applies in the relations between that State and each

of the other parties to the treaty from the date when such denunciation or withdrawal takes effect.

Article 71

Consequences of the invalidity of a treaty which conflicts with a peremptory norm of general international law

1. In the case of a treaty which is void under article 53 the parties shall:

(a) eliminate as far as possible the consequences of any act performed in reliance on any provision which conflicts with the peremptory norm of general international law; and

(b) bring their mutual relations into conformity with the peremptory norm of general international law.

2. In the case of a treaty which becomes void and terminates under article 64, the termination of the treaty:

(a) releases the parties from any obligation further to perform the treaty;

(b) does not affect any right, obligation or legal situation of the parties created through the execution of the treaty prior to its termination, provided that those rights, obligations or situations may thereafter be maintained only to the extent that their maintenance is not in itself in conflict with the new peremptory norm of general international law.

Article 72

Consequences of the suspension of the operation of a treaty

1. Unless the treaty otherwise provides or the parties otherwise agree, the suspension of the operation of a treaty under its provisions or in accordance with the present Convention:

(a) releases the parties between which the operation of the treaty is suspended from the obligation to perform the treaty in their mutual relations during the period of the suspension;

(b) does not otherwise affect the legal relations between the parties established by the treaty.

2. During the period of the suspension the parties shall refrain from acts tending to obstruct the resumption of the operation of the treaty.

PART VI.

MISCELLANEOUS PROVISIONS

Article 73

Cases of State succession, State responsibility and outbreak of hostilities

The provisions of the present Convention shall not prejudge any question that may arise in regard to a treaty from a succession of States or from the international responsibility of a State or from the outbreak of hostilities between States.

Article 74

Diplomatic and consular relations and the conclusion of treaties

The severance or absence of diplomatic or consular relations between two or more States does not prevent the conclusion of treaties between those States. The conclusion of a treaty does not in itself affect the situation in regard to diplomatic or consular relations.

Article 75

Case of an aggressor State

The provisions of the present Convention are without prejudice to any obligation in relation to a treaty which may arise for an aggressor State in consequence of measures taken in conformity with the Charter of the United Nations with reference to that State's aggression.

PART 3

ACCOMPANYING TREATIES

Part 3 of this publication looks at other accompanying treaties. These treaties are bilateral and multilateral agreements made between the United States and other sovereign States.

Section 1 contains multiple bilateral treaties—treaties between the United States and a single other sovereign State. In Section 1, only the major spacefaring States or contributors to a major spacefaring State are enumerated below. European States are unique in that 22 of European States are members of the European Space Agency, therefore in absence of a singular European State, this publication includes bilateral treaties with the European Space Agency, hereinafter referred to as the ESA.

Section 2 contains multilateral treaties—treaties signed between the United States and more than one other sovereign State. Only two treaties are included in Section two, one of which focuses on the use of conveying information of a person or object in distress by conveying information from satellites to track their global positioning via beacon activated by the person or object. The second multilateral treaty is an agreement on how to utilize and support the International Space Station. This is of some importance especially as the United States continues to push for greater commercial opportunities on the International Space Station.

SECTION 1

BILATERAL TREATIES—BILATERAL TREATIES WITH THE UNITED STATES

European Space Agency

Memorandum of understanding for a cooperative program concerning design (Phase B) of a permanently manned space station.
Signed at Paris June 3, 1985.
Entered into force June 3, 1985.
TIAS 11351

Memorandum of understanding concerning the Solar Terrestrial Science Program, with related exchange of letters.
Signed at Washington November 30, 1989.
Entered into force November 30, 1989.
TIAS 12216

Memorandum of understanding concerning cooperation on the civil international space station.
Signed at Washington January 29, 1998.
Entered into force November 27, 2007.
TIAS

Agreement concerning network and operations cross-support.
Signed at Washington March 21, 2007.
Entered into force March 21, 2007.
TIAS 07-321

Memorandum of understanding concerning the James Webb space telescope.
Signed at Paris June 18, 2007.
Entered into force June 18, 2007.
TIAS 07-618.1

Agreement concerning cooperation on the robotic exploration of Mars.
Exchange of letters at Paris and Washington June 22 and 28, 2010.
Entered into force June 28, 2010.
TIAS 10-628

Memorandum of understanding concerning the solar orbiter mission.
Signed at Paris and Washington February 23 and March 6, 2012.
Entered into force March 6, 2012.
TIAS 12-306

Memorandum of understanding concerning the 2016 Exomars Mission.
Signed at Paris and Washington April 14 and 29, 2014.
Entered into force April 29, 2014.
TIAS 14-429

China

Memorandum of agreement on liability for satellite launches.

Signed at Washington December 17, 1988.
Entered into force March 16, 1989.
TIAS

Russian Federation

Agreement concerning cooperation in the exploration and use of outer space for peaceful purposes, with annex.
Signed at Washington June 17, 1992.
Entered into force June 17, 1992.
TIAS 12457

Amendments and Extensions:

June 13 and 16, 1997
July 3 and August 9, 2002
December 3 and 26, 2007 and January 25, 2008 (TIAS 07-1227.1)
August 25, 2011 and April 3, 2013 (TIAS 07-1227.1)

Interim agreement for the conduct of activities leading to Russian partnership in the detailed design, development, operation and utilization of the permanently manned civil space station.
Signed at Washington June 23, 1994.
Entered into force June 30, 1995.
TIAS

Agreement concerning the procedure for the customs documentation and duty-free entry of goods transported within the framework of US-Russian cooperation in the exploration and use of space for peaceful purposes.
Signed at Moscow December 16, 1994.
Entered into force August 26, 1996.
TIAS 12457

Extensions:

August 24, 2001 and May 23, 2002 (TIAS 02-523)
December 14 and 26, 2007 and January 25, 2008 (TIAS 02-523)
August 25, 2011 and October 4, 2012 (TIAS 02-523)
August 16, 2016 and March 24, 2017 (TIAS 17-324)

Implementing agreement on the flight of a U.S. stratospheric aerosol and gas experiment (SAGE) III and a total ozone mapping spectrometer (TOMS) aboard Russian meteor 3M spacecraft, with annexes.
Signed at Moscow December 16, 1994.
Entered into force February 22, 1995.
TIAS 12592

Agreement concerning the procedure for customs documentation and duty-free entry of goods transported within the framework of U.S.-Russian cooperation in the exploration and use of space for peaceful purposes.
Signed at Moscow December 16, 1994.
Entered into force August 26, 1996.
TIAS 12588

Extensions:

August 24, 2001 and May 23, 2002 (TIAS 02-523)

August 25, 2011 and October 4, 2012 (TIAS 02-523)
August 16, 2016 and March 24, 2017 (TIAS 17-324)

Implementing agreement on the flight of the Russian High Energy Neutron Detector (HEND) on the United States 2001 Mars Odyssey Orbiter Mission, with annex.
Signed April 6, 2001.
Entered into force April 6, 2001. TIAS 01-406

Amendment and Extension:

September 12 and 18, 2006 (TIAS 01-406)

Protocol regarding the balance of their contributions and obligations to the International Space Station, with appendices.
Signed at Moscow June 11, 1996.
Entered into force June 11. 1996.
TIAS 96-611

Addendum to the protocol of June 11, 1996 regarding the balance of contributions to the International Space Station.

India

Memorandum of understanding on cooperation concerning NASA's moon mineralogy mapper (M3) instrument on ISRO's Chandrayaan 1 Mission.
Signed at Bangalore May 9, 2006.
Entered into force May 9, 2006.
TIAS 06-509.1

Memorandum of understanding on cooperation concerning NASA's miniature synthetic aperture radar instrument on ISRO's Chandrayaan 1 Mission.
Signed at Bangalore May 9, 2006.
Entered into force May 9, 2006.
TIAS 06-509

Japan Agreement relating to the establishment by Japan of a satellite tracking station in Okinawa.
Exchange of notes at Tokyo September 2, 1968.
Entered into force September 2, 1968.
19 UST 6011; TIAS 6558; 702 UNTS 151

Amendment:

September 25, 1969 (20 UST 3017; TIAS 6778; 727 UNTS 429)
Signed at Moscow September 9, 2004.
Entered into force January 26, 2005.
TIAS 96-611

Second addendum to the protocol of June 11, 1996 regarding the balance of contributions to the International Space Station.
Signed at Cape Canaveral July 1, 2006.
Entered into force July 1, 2006.
TIAS 96-611

Agreement for cooperation in the exploration and use of outer space for peaceful purposes.
Signed at Cape Canaveral February 1, 2008.
Entered into force February 1, 2008.

TIAS 08-201

Implementing arrangement for collaboration on Oceansat-2 activities.
Signed at Ahmedabad and Washington March 20 and 26, 2012.
Entered into force March 26, 2012.
TIAS 12-326

Agreement concerning cooperation in space activities for peaceful purposes.
Exchange of notes at Tokyo July 31, 1969.
Entered into force July 31, 1969.
20 UST 2720; TIAS 6735; 720 UNTS 79

Agreement concerning the furnishing of launching and associated services by NASA for Japanese satellites, with memorandum of understanding.
Exchange of notes at Washington May 23, 1975.
Entered into force May 23, 1975.
26 UST 1029; TIAS 8090

Agreement relating to space launch assistance, with exchange of letters.
Exchange of notes at Washington December 3, 1980.
Entered into force December 3, 1980.
32 UST 4197; TIAS 9940; 1266 UNTS 143

Memorandum of understanding for a cooperative program concerning design (Phase B) of a permanently manned space station.
Signed at Tokyo May 9, 1985.
Entered into force May 9, 1985.
TIAS 11327

Agreement concerning cooperation regarding the Geotail Scientific Satellite Program.
Exchange of notes at Tokyo September 25, 1989.
Entered into force September 25, 1989.
TIAS 12203

Agreement concerning cross-waiver of liability for cooperation in the exploration and use of space for peaceful purposes, with annex and exchanges of notes.
Signed at Washington April 24, 1995.
Entered into force July 20, 1995.
TIAS 12638

Amendment:

December 1, 2008 (TIAS 08-1201.1)

Agreement concerning cooperation on the Advanced Spaceborne Thermal Emission and Reflection Radiometer Program, with memorandum of understanding.
Exchange of notes at Washington October 24, 1996.
Entered into force October 24, 1996.
TIAS 12809

Extension:

October 19, 2012 (TIAS 12-1019)

Agreement concerning cooperation on the Tropical Rainfall Measuring Mission Program, with memorandum of understanding of October 20, 1995, and its amendment.
Exchange of notes at Washington May 30, 1997.
Entered into force May 30, 1997.
TIAS 97-530

Extensions:

June 2, 1997 (TIAS 97-530)
May 28, 2002 (TIAS 97-530)
May 22, 2008 (TIAS 97-530)

Agreement concerning cooperation on the Advanced Microwave Scanning Radiometer E (AMSR E) Program.
Exchange of notes at Washington November 30, 1998.
Entered into force November 30, 1998.
TIAS 13004

Extension:

May 22, 2008 (TIAS 08-522)

Agreement for cooperation on the MU Space Engineering Spacecraft-C (MUSES-C) Program, with memorandum of understanding.
Exchange of notes at Washington April 25, 2003.
Entered into force April 25, 2003.
TIAS 03-425

Extension:

April 22, 2011 (TIAS 03-425)

Agreement for the x ray astronomy satellite (ASTRO EII) project, with memorandum of understanding.
Exchange of notes at Washington June 10, 2005.
Entered into force June 10, 2005.
TIAS 05-610

Extension:

June 6, 2012 (TIAS 05-610)

Agreement concerning activities related to the solar physics satellite (Solar B) project, with memorandum of understanding.
Exchange of notes at Washington June 10, 2005.
Entered into force June 10, 2005.
TIAS 05-610.1

Extension:

June 5, 2013 (TIAS 13-605)
June 8, 2018 (TIAS 18-608)

Agreement for cooperation on the development and operations activity of a Global Precipitation Measurement (GPM) mission, with memorandum of understanding.
Exchange of notes at Washington December 19, 2008.
Entered into force December 19, 2008.
TIAS 08-1219 and 08-1219A

Agreement concerning the space situational awareness services and information sharing for the safety of space, with memorandum of understanding.
Exchange of notes at Tokyo May 28, 2013.
Entered into force May 28, 2013.
TIAS 13-528

Agreement for cooperation on the X-ray Astronomy Satellite (Astro-H) Project, with memorandum of understanding.
Exchange of notes at Washington October 8, 2013.
Entered into force October 8, 2013.
TIAS 13-1008

Agreement for cooperation on the Greenhouse Gases Observing Satellite (GOSAT), the Orbiting Carbon Observatory-2 (OCO-2), and the Greenhouse Gases Observing Satellite-2 (GOSAT-2) missions, with memorandum of understanding.
Exchange of notes at Washington November 21, 2014.
Entered into force November 21, 2014.
TIAS 14-1121.1

SECTION 2

MULTILATERAL TREATIES—MISCELLANEOUS INTERNATIONAL TREATIES

THE INTERNATIONAL COSPAS-SARSAT PROGRAMME AGREEMENT

THE INTERNATIONAL COSPAS-SARSAT PROGRAMME AGREEMENT

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THE INTERNATIONAL COSPAS-SARSAT PROGRAMME AGREEMENT

THE STATES PARTIES TO THIS AGREEMENT:

NOTING the successful implementation of the COSPAS-SARSAT Search and Rescue Satellite System established under a Memorandum of Understanding among the Ministry of Merchant Marine of the Union of Soviet Socialist Republics, the National Oceanic and Atmospheric Administration of the United States of America, the Department of National Defence of Canada and the Centre National d'Etudes Spatiales of France which was signed on 5 October 1984 and came into effect on 8 July 1985;

DESIRING to strengthen the close international cooperation in this humanitarian endeavour;

AWARE of the efforts in the International Maritime Organization to establish a Global Maritime Distress and Safety System, building on the International Convention for the Safety of Life at Sea, done at London on 1 November 1974, on the Convention and Operating Agreement of the International Maritime Satellite Organization (INMARSAT), done at London on 3 September 1976, and the International Convention on Maritime Search and Rescue, done at Hamburg on 27 April 1979, as well as the responsibilities of the International Civil Aviation Organization and the International Telecommunication Union in their respective fields;

CONVINCED that a worldwide satellite system to provide alert and location services for maritime, aviation and terrestrial distress and safety is important for the efficient operation of search and rescue;

RECALLING the provisions of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, of 27 January 1967, and other multilateral agreements regarding the use of outer space to which they are Party;

RECOGNIZING that it is therefore desirable to operate the COSPAS-SARSAT system, in accordance with international law, so as to endeavour to provide long term alert and location services in support of search and rescue and access to the System to all States on a nondiscriminatory basis, and free of charge for the end-user in distress,

HAVE AGREED AS FOLLOWS:

ARTICLE 1: DEFINITIONS

—'Party' means a State for which this Agreement has entered into force;

—'Programme' means those activities carried out by the Parties to provide, operate and coordinate the COSPAS-SARSAT System, in accordance with this Agreement;

—'Cooperating Agency' means an organization designated by a Party for the purpose of implementing the Programme;

—'System' means the COSPAS-SARSAT System comprising a Space Segment, a Ground Segment and Radiobeacons, all as described in Article 3;

—'Ground Segment Provider' means any State which establishes and operates Ground Segment equipment under the terms of Article 11.2;

—'User State' means any State that avails itself of the System under the terms of Article 12.2 and Article 12.3.

ARTICLE 2: PURPOSE OF THE AGREEMENT

In fostering international cooperation for search and rescue, the purpose of this Agreement is to:

(a) assure the long term operation of the System;

(b) provide distress alert and location data from the System to the international community in support of search and rescue operations on a non-discriminatory basis;

(c) support, by providing these distress alert and location data, the objectives of the International Maritime Organization and the International Civil Aviation Organization, concerning search and rescue; and

(d) define the means by which the Parties shall coordinate the management of the System and cooperate with other national authorities and relevant international organizations in the operation and coordination of the System.

ARTICLE 3: GENERAL DESCRIPTION OF THE SYSTEM

3.1 The System comprises:

(a) a Space Segment made up, under normal operating conditions, of at least four compatible satellite assemblies each comprising three basic units:

(i) a platform moving in low earth polar orbit as a mounting for the other units,

(ii) a receiver-processor and memory unit designed to receive, process and store signals received on 406 MHz for retransmission, and

(iii) a repeater unit relaying radiobeacon signals on 121.5 MHz;

(b) a Ground Segment comprising:

(i) Local User Terminals established by the Parties and other States to receive signals relayed by the satellites and process them to determine radiobeacon location, and

(ii) Mission Control Centres established by the Parties and other States to accept the output from the Local User Terminals and convey distress alert and location data to appropriate authorities;

(c) radiobeacons, which are designed to be activated in a distress and to transmit a radio signal on frequencies of 406 MHz and/or 121.5 MHz, the characteristics of which comply with appropriate provisions of the International Telecommunication Union and COSPAS-SARSAT specifications.

3.2 The COSPAS-SARSAT Space Segment configuration may be enhanced in accordance with decisions of the Council established pursuant to Articles 7 and 8.

ARTICLE 4: COOPERATING AGENCIES

4.1 Each Party shall designate a Cooperating Agency which shall be responsible for the implementation of the Programme.

4.2 Each Party shall inform the other Parties of its designated Cooperating Agency and of any subsequent changes.

ARTICLE 5: RESPONSIBILITIES OF PARTIES

5.1 The Parties shall contribute to the Programme on a long term basis so as to maintain the Space Segment of the System.

5.2 The contribution of a Party shall be at least one of the basic units of the Space Segment of the System.

5.3 Each Party shall determine its contribution to the Space Segment of the System.

5.4 The initial contributions of the original Parties to the Space Segment, under normal operating conditions, are as follows:

Union of Soviet Socialist Republics
- 2 platforms
- 2 receiver-processor and memory units
- 2 repeater units

United States of America
- 2 platforms

Republic of France
- 2 receiver-processor and memory units

Canada
- 2 repeater units

5.5 In the event of a change to the contribution of a Party, that Party shall notify the Depositary of the change.

5.6 A Party providing a satellite platform shall be responsible for its operation. Such operation shall be consistent with any technical requirements and the satisfactory performance of the System pursuant to Article 9(d).

5.7 The Parties shall ensure administrative, operational and technical coordination among themselves and between the Parties and other Ground Segment Providers, and shall endeavour to keep User States fully informed regarding the System.

5.8 The Parties shall endeavour to deliver relevant COSPAS-SARSAT alert and location data to appropriate search and rescue authorities and to coordinate System activities with such authorities.

5.9 Parties shall exchange such information as is necessary to permit the performance of their respective obligations pursuant to this Agreement.

ARTICLE 6: FINANCIAL MATTERS

6.1 Each Party, in conformity with its domestic funding procedures, and subject to the availability of appropriated funds, shall be fully responsible for financing all costs associated with its contribution to the Space Segment as determined pursuant to Article 5, and the common costs arising from the obligations of this Agreement.

6.2 Common costs associated with the organization, administration and coordination of the Programme, as agreed in the Council,

including those incurred in financing the activities of the Council and the Secretariat, shall be shared equally by the Parties.

6.3 The reception and transmission of distress alert data through the COSPAS-SARSAT Space Segment shall be provided free of charge to all States.

6.4 Non-Party States choosing to participate in activities associated with the organization, coordination and administration of the Programme as referred to in Article 6.2 may be invited to contribute to the common costs involved under terms determined by the Council.

ARTICLE 7: STRUCTURE

7.1 The following organs shall be established pursuant to this Agreement:

(a) the Council; and

(b) the Secretariat.

7.2 The Council may establish subsidiary organs as required for the implementation of this Agreement.

ARTICLE 8: THE COUNCIL—COMPOSITION AND PROCEDURES

8.1 The Council shall be composed of one representative of each of the Parties who may be accompanied by deputies and advisers.

8.2 The Council shall adopt its own rules of procedure.

8.3 The Council shall meet as often as may be necessary for the efficient discharge of its functions, but not less than once a year.

8.4 Decisions of the Council shall be taken unanimously.

8.5 The languages of the Council shall be English, French and Russian.

ARTICLE 9: FUNCTIONS OF THE COUNCIL

The Council shall carry out the relevant policies and coordinate the activities of the Parties. The functions of the Council shall include:

(a) overseeing the implementation of this Agreement;

(b) the development of the necessary technical, administrative and operational plans for the implementation of the present Agreement;

(c) the implementation of those provisions of Article 6 requiring Council action;

(d) the preparation, consideration and adoption of technical specifications for the System space and ground facilities and radiobeacons, as well as the adoption of COSPAS-SARSAT technical and operational documentation;

(e) ensuring interaction and cooperation with the International Civil Aviation Organization, the International Telecommunication Union, the International Maritime Organization and other international organizations for the purpose of coordinating technical matters;

(f) the provision of administrative, operational and technical coordination with Ground Segment Providers and User States, including the adoption of procedures for type approval or commissioning of Ground Segment equipment and radiobeacons;

(g) the assessment of the need for technical and operational enhancements of the System, including those relating to contributions of the Parties and those which would entail contributions by States non-Parties to this Agreement;

(h) the establishment of mechanisms for exchange of appropriate technical and operational information;

(i) taking decisions upon matters of joint relations with States non-Parties to this Agreement, as well as international organizations;

(j) the direction of Secretariat activities;

(k) the organization and coordination of exercises, trials and studies that are necessary to assess the performance of the System; and

(l) other matters regarding operation of the System's Space and Ground Segments and radiobeacons that the Council agrees shall fall within its purview.

ARTICLE 10: THE SECRETARIAT

10.1 The Secretariat shall be the permanent administrative organ for the Programme and shall assist the Council in the implementation of its functions.

10.2 The Secretariat shall be managed by a Head of Secretariat, appointed pursuant to procedures approved by the Council.

10.3 The Secretariat shall take direction from the Council in the performance of its functions, which include:

(a) conference services for the meetings of the Council and of its subsidiary organs;

(b) administrative services concerning general correspondence, system documentation and promotional materials;

(c) technical services including the preparation of reports as instructed by the Council;

(d) liaison with Ground Segment Providers, User States and international organizations; and

(e) such other services as may be required by the Council for the implementation of this Agreement.

ARTICLE 11: GROUND SEGMENT PROVIDERS

11.1 Any State planning to establish and operate Ground Segment equipment shall advise the Council of its intention to do so and shall:

(a) adhere to the technical specifications and operating procedures set by the Council for the purpose of ensuring adequate system performance;

(b) endeavour to deliver, in accordance with procedures agreed with the Council, distress alert and location information received through the COSPAS-SARSAT Space Segment to appropriate search and rescue authorities;

(c) provide, as agreed with the Council, appropriate performance data in order to confirm compatibility of its Ground Segment equipment with the System;

(d) designate an organization to carry out its responsibilities pursuant to this Article;

(e) participate in appropriate meetings of the Programme, convened by the Council, on terms and conditions determined by the Council, with a view to resolving relevant administrative, operational and technical issues;

(f) confirm that it will not make any claims or bring actions against the Parties for injury, damages or financial losses arising out of activities, or lack thereof, pursuant to this Agreement;

(g) adhere to the provisions of Article 12 in relation to its use of the System; and

(h) fulfill any other requirement as may be agreed with the Council.

11.2 Any such State wishing to become a Ground Segment Provider shall notify formal acceptance of its obligations pursuant to Article 11.1 to the Depositary which shall inform the Parties. Such notification shall be in the form of a standard letter and shall include the conditions of participation in the System previously agreed with the Council pursuant to Article 11.1.

ARTICLE 12: USER STATES

12.1 Any State may utilize the System both through the reception of COSPAS-SARSAT alert and location data and through the deployment of radiobeacons.

12.2 Any such State wishing to become a User State shall assume certain responsibilities including:

(a) to advise the Council or the competent international organization of its point or points of contact for distress alert purposes;

(b) to make use of radiobeacons for operation in the System, the characteristics of which comply with appropriate provisions of the International Telecommunication Union and COSPAS-SARSAT specifications;

(c) to maintain, as applicable, a radiobeacon register;

(d) to exchange COSPAS-SARSAT data in a timely and non-discriminatory manner, in accordance with procedures agreed with the Council;

(e) to confirm that it will not make any claims or bring actions against the Parties for injury, damages or financial losses arising out of activities, or lack thereof, pursuant to this Agreement;

(f) to participate as necessary in appropriate meetings of the Programme, convened by the Council, on terms and conditions determined by the Council, with a view to resolving relevant administrative, operational and technical issues; and

(g) to fulfill any other requirement as may be agreed with the Council.

12.3 User States shall notify formal acceptance of their obligations under Article 12.2 to the Depositary which shall inform the Parties. Such notification shall be in the form of a standard letter and shall include the conditions of participation in the System previously agreed with the Council pursuant to Article 12.2.

ARTICLE 13: RELATIONSHIP WITH INTERNATIONAL ORGANIZATIONS

13.1 To promote implementation of this Agreement, the Parties, acting through the Council, shall cooperate with the International

Civil Aviation Organization, the International Telecommunication Union and the International Maritime Organization, as well as with other international organizations, on matters of common interest. The Parties shall take into account the relevant resolutions, standards and recommendations of these international organizations.

13.2 This cooperation may be formalized between these Organizations and the Parties.

ARTICLE 14: LIABILITY

14.1 The Parties shall not make any claims or bring actions against each other for injury, damages or financial losses arising out of activities, or lack thereof, pursuant to this Agreement.

14.2 The Parties accept no liability towards users of the System or any third party, particularly as regards any claims for injury, damages or financial losses that may arise from the use of the System. Parties will cooperate with a view to protecting themselves from any such potential claims.

ARTICLE 15: SETTLEMENT OF DISPUTES

15.1 Any dispute concerning the interpretation or implementation of this Agreement should be settled by negotiations between or among the Parties concerned.

15.2 If a settlement cannot be reached by such negotiations, the dispute may, if the affected Parties so agree, be referred to arbitration.

ARTICLE 16: ACCESSION

16.1 This Agreement shall be open for accession by any State that agrees to contribute a minimum of one basic unit to the Space Segment, and is prepared to assume the responsibilities of a Party pursuant to this Agreement.

16.2 Where a State is to accede to this Agreement and assume responsibility for the contribution of a basic unit of the existing Space Segment, either as described in Article 3.1 or as enhanced pursuant to Article 3.2, it shall do so in agreement with the Party currently providing that basic unit and in consultation with the other Parties.

16.3 Where a State is to accede to this Agreement and assume responsibility for the contribution of an additional basic unit which itself constitutes an enhancement of the Space Segment, it shall do so with the agreement of all Parties following a decision of the Council pursuant to Article 3.2 that such enhancement is required.

16.4 Where the requirements of Article 16.2 or 16.3, as appropriate, have been satisfied and the State so notified, such State may accede by depositing its instrument of accession with the Depositary.

16.5 This Agreement shall enter into force for the acceding State on the date of deposit of the instrument of accession with the Depositary.

ARTICLE 17: WITHDRAWAL

17.1 A Party may withdraw from this Agreement.

17.2 A Party intending to withdraw shall notify the Depositary to that effect. Such withdrawal shall take effect one year after the date of receipt of notification by the Depositary, or at a later date to be agreed by the Parties.

17.3 A Party intending to withdraw from this Agreement shall endeavour to ensure continuity of its existing contribution to the Space Segment and, in that respect, shall consult with the other Parties to determine adjustments in their respective responsibilities.

ARTICLE 18: AMENDMENTS

18.1 Amendments to this Agreement may be proposed by any Party.

18.2 Ninety days notice is required before consideration of a proposed amendment by the Council at its next meeting. The Council shall consider the proposed amendment at that meeting and make recommendation to the Parties concerning such proposed amendment.

18.3 The amendment shall enter into force sixty days after the Depositary has received notification of acceptance from all the Parties.

18.4 The Depositary shall promptly notify all the Parties of the receipt of notifications of acceptance of amendments and of the entry into force of amendments.

ARTICLE 19: DEPOSITARY

19.1 The Depositaries of this Agreement shall be the Secretary-General of the International Civil Aviation Organization and the Secretary-General of the International Maritime Organization.

19.2 The Depositary shall promptly inform all the Parties to this Agreement of the date of each signature, of the date of deposit of each instrument of ratification, acceptance, approval or accession, of the date of entry into force of this Agreement, and of the receipt of other notifications.

19.3 This Agreement shall be registered with the United Nations Secretariat in accordance with Article 102 of the Charter of the United Nations.

ARTICLE 20: ENTRY INTO FORCE AND DURATION

20.1 This Agreement shall be open for signature by Canada, the Republic of France, the United States of America and the Union of Soviet Socialist Republics. Signature may be made not subject to ratification, acceptance or approval, or may be accompanied by a declaration that it is subject to ratification, acceptance or approval.

20.2 This Agreement shall enter into force for Canada, the Republic of France, the United States of America and the Union of Soviet Socialist Republics on the sixtieth day following the date on which these four States have either signed the Agreement not subject to ratification, acceptance or approval, or have deposited in-

struments of ratification, acceptance or approval with the Depositary.

20.3 Upon entry into force of this Agreement, the Parties shall take the necessary measures in order to ensure that the Memorandum of Understanding, which was signed 5 October 1984 and came into effect 8 July 1985, among the Ministry of Merchant Marine of the Union of Soviet Socialist Republics, the National Oceanic and Atmospheric Administration of the United States of America, the Department of National Defence of Canada and the Centre National d'Etudes Spatiales of France concerning Cooperation in the COSPASSARSAT Search and Rescue Satellite System, ceases to be in effect.

20.4 This Agreement shall remain in force for a period of fifteen years from the date on which it enters into force and shall be extended automatically for successive periods of five years.

IN WITNESS WHEREOF, the undersigned have signed this Agreement.

DONE AT PARIS this first day of July one thousand nine hundred and eighty-eight, in the English, French and Russian languages, all texts being equally authentic, in two originals deposited with the Secretary-General of the International Civil Aviation Organization and the Secretary-General of the International Maritime Organization respectively. Certified copies of the Agreement shall be transmitted by the Depositary to the Parties.

AGREEMENT AMONG THE GOVERNMENT OF CANADA, GOVERNMENT OF THE EUROPEAN SPACE AGENCY, THE GOVERNMENT OF JAPAN, THE GOVERNMENT OF THE RUSSIAN FEDERATION, AND THE GOVERNMENT OF THE UNITED STATES OF AMERICA CONCERNING COOPERATION ON THE CIVIL INTERNATIONAL SPACE STATION

(Signed on January 29, 1998, Recognized by the Diet on April 24, 1998, and Deposited Instruments of Accession with the US on November 17, 1998)

The Government of Canada (hereinafter also "Canada")

The Governments of the Kingdom of Belgium, the Kingdom of Denmark, the French Republic, the Federal Republic of Germany, the Italian Republic, the Kingdom of the Netherlands, the Kingdom of Norway, the Kingdom of Spain, the Kingdom of Sweden, the Swiss Confederation, and the United Kingdom of Great Britain and Northern Ireland, being Governments of Member States of the European Space Agency (hereinafter collectively "the European Governments" or "the European Partner")

The Government of Japan (hereinafter also "Japan")

The Government of Russian Federation (hereinafter also "Russia"), and The Government of the United States of America (hereinafter "the Government of the United States" or "the United States")

Recalling that in January 1984 the President of the United States directed the National Aeronautics and Space Administration (NASA) to develop and place into orbit a permanently manned Space Station and invited friends and allies of the United States to participate in its development and use and to share in the benefits thereof,

Recalling the acceptance of the aforementioned invitation by the Prime Minister of Canada at the March 1985 Quebec Summit meeting with the President of the United States and the mutual confirmation of interest on cooperation at the March 1986 Washington, D.C. Summit meeting,

Recalling the terms of the relevant Resolutions adopted on 31 January 1985 and 20 October 1995 by the European Space Agency (ESA) Council meeting at the ministerial level, and that, within the framework of ESA, and in accordance with its purpose as defined in Article II of the Convention establishing it, the Columbus programme and the European participation in the international Space Station development programme have been undertaken to develop and will develop elements of the civil international Space Station,

Recalling Japan's interest in the Space Station program manifested during the NASA Administrator's visits to Japan in 1984 and 1985 and Japan's participation in the U.S. space program through the First Materials Processing Test,

Recalling ESA's and Canada's participation in the U.S. Space Transportation System through the European development of the first manned space laboratory, Spacelab, and the Canadian development of the Remote Manipulator System,

Recalling the partnership created by the Agreement Among the Government of the United States of America, Governments of Member Status of the European Space Agency, the Government of Japan, and the Government of Canada on Cooperation in the De-

tailed Design, Development, Operation, and Utilization of the Permanently Manned Civil Space Station (hereinafter "the 1988 Agreement"), done at Washington on 29 September 1988 and related Memoranda of Understanding between NASA and ESA, and NASA and the Government of Japan,

Recalling that the 1988 Agreement entered into force on 30 January 1992 between the United States and Japan,

Recalling that NASA, ESA, the Government of Japan and MOSST have been implementing cooperative activities to realize the partnership in the Space Station program in accordance with the 1988 Agreement and the related Memoranda of Understanding, and recognizing that upon its establishment on 1 March 1989, the Canadian Space Agency (CSA) assumed responsibility for the execution of the Canadian Space Station Program from MOSST,

Convinced that, in view of the Russian Federation's unique experience and accomplishments in the area of human space flight and long-duration missions, including the successful long term operation of the Russian Mir Space Station, its participation in the partnership will considerably enhance the capabilities of the Space Station to the benefit of all the Partners,

Recalling the invitation extended on 6 December 1993 by the Government of Canada, the European Governments, the Government of Japan, and the Government of the United States to the Government of the Russian Federation to become a Partner in the detailed design, development, operation and utilization of the Space Station within the framework established by the Space Station Agreements, and the positive response of the Government of the Russian Federation on 17 December 1993 to that invitation,

Recalling the arrangements between the Chairman of the Government of the Russian Federation and Vice President of the United States to promote cooperation on important human spaceflight activities, including the Russian-U.S. Mir-shuttle program, to prepare for building the International Space Station,

Recalling the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (hereinafter "the Outer Space Treaty"), which entered into force on 10 October 1967,

Recalling the Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space (hereinafter "the Rescue Agreement"), which entered into force on 3 December 1968,

Recalling the Convention on International Liability for Damage Caused by Space Objects (hereinafter "the Liability Convention"), which entered into force on 1 September 1972,

Recalling the Convention on Registration of Objects Launched into Outer Space (hereinafter "the Registration Convention"), which entered into force on 15 September 1976,

Convinced that working together on the civil international Space Station will further expand cooperation through the establishment of a long-term and mutually beneficial relationship, and will further promote cooperation in the exploration and peaceful use of outer space,

Recognizing that NASA and CSA, NASA and ESA, NASA and the Government of Japan, and NASA and the Russian Space Agen-

cy (RSA) have prepared Memoranda of Understanding (hereinafter "the MOUs") in conjunction with their Government' negotiation of this Agreement, and that the MOUs provide detailed provisions in implementation of this Agreement,

Recognizing, in light of the foregoing, that it is desirable to establish, among the Government of Canada, the European Governments, the Government of Japan, the Government of the Russian Federation, and the Government of the United States a framework for the design, development, operation, and utilization of the Space Station,

Have agreed as follows:

Article 1: Object and Scope

1. The object of this Agreement is to establish a long-term international cooperative framework among the Partners, on the basis of genuine partnership, for the detailed design, development, operation, and utilization of a permanently inhabited civil international Space Station for peaceful purposes, in accordance with international law. This civil international Space Station will enhance the scientific, technological, and commercial use of outer space. This Agreement specifically defines the civil international Space Station program and the nature of this partnership, including the respective rights and obligations of the Partners in this cooperation. This Agreement further provides for mechanisms and arrangements designed to ensure that its object is fulfilled.

2. The Partners will join their efforts, under the lead role of the United States for overall management and coordination, to create an integrated international Space Station. The United States and Russia, drawing on their extensive experience in human space flight, will produce elements which serve as the foundation for the international Space Station. The European Partner and Japan will produce elements that will significantly enhance the Space Station's capabilities. Canada's contribution will be an essential part of the Space Station. This Agreement lists in the Annex the elements to be provided by the Partners to from the international Space Station.

3. The permanently inhabited civil international Space Station (hereinafter "the Space Station") will be a multi-use facility in low-earth orbit, with flight elements and Space Station-unique ground elements provided by all the partners. By providing Space Station flight elements, each Partner acquires certain rights to use the Space Station and participates in its management in accordance with this Agreement, the MOUs, and implementing arrangements.

4. The Space Station shall is conceived as having an evolutionary character. The Partner States' right and obligations regarding evolution shall be subject to specific provisions in accordance with Article 14.

Article 2: International Rights and Obligations

1. The Space Station shall be developed, operated, and utilized in accordance with international law, including the Outer Space Treaty, the Rescue Agreement, the Liability Conversion, and the Registration Conversion.

2. Nothing in this Agreement shall be interpreted as:

(a) modifying the rights and obligations of the Partner States found in the treaties listed in paragraph 1 above, either toward each other or toward other States, except as otherwise provided in Article 16;

(b) affecting the rights and obligations of the Partner States when exploring or using outer space, whether individually or in cooperation with other States, in activities unrelated to the Space Station; or

(c) constituting a basis for asserting a claim to national appropriation over outer space or over any portion of outer space.

Article 3: Definitions

For the purposes of this Agreement, the following definitions shall apply:

(a) "this Agreement":

the present Agreement, including the Annex;

(b) "the Partners" (or, where appropriate, "each Partner"):

the Government of Canada; the European Governments listed in the Preamble which become parties to this Agreement, as well as any other European Government that may accede to this Agreement in accordance with Article 25 (3), acting collectively as one Partner; the Government of Japan; the Government of the Russian Federation; and the Government of the United States;

(c) "Partner State":

each Contracting Party for which this Agreement has entered into force, in accordance with Article 25.

Article 4: Cooperating Agencies

1. The Partners agree that the Canadian Space Agency (hereinafter "CSA") for the Government of Canada, the European Space Agency (hereinafter "ESA") for the European Governments, the Russian Space Agency (hereinafter "RSA") for Russia, and the National Aeronautics and Space Administration (hereinafter "NASA") for the United States and shall be the Cooperating Agencies responsible for implementing Space Station cooperation. The Government of Japan's Cooperating Agency designation for implementing Space Station cooperation shall be made in the Memorandum of Understanding between NASA and Government of Japan referred to in paragraph 2 below.

2. The Cooperating Agencies shall implement Space Station cooperation in accordance with the relevant provisions of this Agreement, the respective Memoranda of Understanding (MOUs) between NASA and CSA, NASA and ESA, NASA and the Government of Japan, and NASA and RSA concerning cooperation on the civil international Space Station, and arrangements between or among NASA and the other Cooperating Agencies implementing the MOUs (implementing arrangements). The MOUs shall be subject to this Agreement, and the implementing arrangements shall be subject to this Agreement, and the implementing arrangements shall be consistent with and subject to the MOUs.

3. Where a provision of an MOU sets forth rights or obligations accepted by a Cooperating Agency (or, in the case of Japan, the Government of Japan) not a party to that MOU, such provision

may not be amended without the written consent of that Cooperating Agency (or, in the case of Japan, the Government of Japan).

Article 5: Registration; Jurisdiction and Control

1. In accordance with Article II of the Registration Convention, each Partner shall register as space objects the flight elements listed in the Annex which it provides, the European Partner having delegated this responsibility to ESA, acting in its name and on its behalf.

2. Pursuant to Article VIII of the Outer Space Treaty and Article II of the registration Convention, each Partner shall retain jurisdiction and control over the elements it registers in accordance with paragraph 1 above and over personnel in or on the Space Station who are its nationals. The exercise of such jurisdiction and control shall be subject to any implementing arrangements, including relevant procedural mechanisms established therein.

Article 6: Ownership of Elements and Equipment

1. Canada, the European Partner, Russia, and the United States, through their respective Cooperating Agencies, and an entity designated by Japan at the time of the deposit of its instrument under Article 25 (2), shall own the elements listed in the Annex that they respectively provide, except as otherwise provided for in this Agreement. The Partners, acting through their Cooperating Agencies, shall notify each other regarding the ownership of any equipment in or on the Space Station.

2. The European Partner shall entrust ESA, acting in its name and on its behalf, with ownership over the elements it provides, as well ass over any other equipment developed and funded under an ESA programme as a contribution to the Space Station, its operation or utilization.

3. The transfer of ownership of the elements listed in the Annex or of equipment in or on the Space Station shall not affect the rights and obligations of the Partners under this Agreement, the MOUs, or implementing arrangements.

4. Equipment in or on the Space Station shall not be owned by, and ownership of elements listed in the Annex shall not be transferred to, any non-Partner or private entity under the jurisdiction of a non-Partner without the prior concurrence of the other Partners. Any transfer of ownership of any element listed in the Annex shall require prior notification of the other Partners.

5. The ownership of equipment or material provided by a user shall not be affected by the mere presence of such equipment or material in or on the Space Station.

6. The exercise of ownership of elements and equipment shall be subject to any relevant provisions of this Agreement, the MOUs, and implementing arrangements, including relevant procedural mechanisms established therein.

Article 7: Management

1. Management of the Space Station will be established on a multilateral basis and the Partners, acting through their Cooperating Agencies, will participate and discharge responsibilities in management bodies established in accordance with the MOUs and

implementing arrangements as provided below. These management bodies shall plan and coordinate activities affecting the design and development of the Space Station and its safe, efficient, and effective operation and utilization, as provided in this Agreement and the MOUs. In these management bodies, decision-making by consensus shall be the goal. Mechanisms for decision-making within these management bodies where it is not possible for the Cooperating Agencies to reach consensus are specified in the MOUs. Decision-making responsibilities which the partners and their Cooperating Agencies have with respect to the elements they provide are specified in this Agreement and the MOUs.

2. The United States, acting through NASA, and in accordance with the MOUs and implementing arrangements, shall be responsible for management of its own program, including its utilization activities. The United States, acting through NASA, and in accordance with the MOUs and implementing arrangements, shall also be responsible for: overall program management and coordination of the Space Station, except as otherwise provided in this Article and in the MOUs; overall system engineering and integration; establishment of overall safety requirements and plans; and overall planning for and coordination of the execution of the overall integrated operation of the Space Station.

3. Canada, the European Partner, Japan an Russia, acting through their Cooperating Agencies, and in accordance with the MOUs and implementing arrangements, shall each be responsible for: management of their own programs, including their utilization activities; system engineering and integration of the elements they provide; development and implementation of detailed safety requirements and plans for the elements they provide; and, consistent with paragraph 2 above, supporting the United States in the performance of its overall responsibilities, including participating in planning for and coordination of the execution of the integrated operation of the Space Station.

4. To the extent that a design and development matter concerns only a Space Station element provided by Canada, the European Partner, Japan, or Russia and is not covered in the agreed program documentation provided for in the MOUs, that partner, acting through its Cooperating Agency, may make decisions related to that element.

Article 8: Detailed Design and Development

In accordance with Article 7 and other relevant provisions of this Agreement, and in accordance with the MOUs and implementing arrangements, each Partner, acting through its Cooperating Agency, shall design and develop the elements which it provides, including Space Station-unique ground elements adequate to support the continuing operation and full international utilization of the flight elements, and shall interact with the other Partners, through their Cooperating Agencies, to reach solutions on design and development of their respective elements.

Article 9: Utilization

1. Utilization rights are derived from Partner provision of user elements, infrastructure elements, or both. Any Partner that pro-

vides Space Station user elements shall retain use of those elements, except as otherwise provided in this paragraph. Partners which provide resources to operate an use the Space Station, which are derived from their Space Station infrastructure elements, shall receive in exchange a fixed share of the use of certain user elements. Partners' specific allocations of Space Station user elements and of resources derived from Space Station infrastructure are set forth in the MOUs and implementing arrangements.

2. The Partners shall have the right to barter of sell any portion of their respective allocations. The teams and conditions of any barter or sale shall be determined on a case-by-case basis by the parties to the transaction.

3. Each partner may use and select users for its allocations for any purpose consistent with the object of this Agreement and provisions set forth in the MOUs and implementing arrangements, expect that: (a) any proposed use of a user element by a non-Partner or private entity under the jurisdiction of a non-Partner shall require the prior notification to and timely consensus among all Partners through their Cooperating Agencies; and (b) the Partner providing an element shall determine whether a contemplated use of that element is for peaceful purposes, except that this subparagraph shall not be invoked to prevent any Partner from using resources derived from the Space Station infrastructure.

4. In its use of the Space Station, each Partner, through its Cooperating Agency, shall seek through the mechanisms established in the MOUs to avoid causing serious adverse effects on the use of the Space Station by the other Partners.

5. Each Partner shall assure access to and use of its Space Station elements to the other Partners in accordance with their respective allocations.

6. For purposed of this Article, an ESA Member State shall not be considered a "non-partner".

Article 10: Operation

The Partners, acting through their Cooperating Agencies, shall have responsibilities in the operation of the elements they respectively provide, in accordance with Article 7 and other relevant provisions of this Agreement, and in accordance with the MOUs and implementing arrangements. The Partners, acting through their Cooperating Agencies, shall develop and implement procedures for operating the Space Station in a manner that is safe, efficient, and effective for Space Station users and operators, in accordance with the MOUs and implementing arrangements. Further, each Partner, acting through its Cooperating Agency, shall be responsible for sustaining the functional performance of the elements it provides.

Article 11: Crew

1. Each partner has the right to provide qualified personnel to serve on an equitable basis as Space Station crew members. Selections and decisions regarding the flight assignments of a Partner's crew members shall be made in accordance with procedures provided in the MOUs and implementing arrangements.

2. The Code of Conduct for the Space Station crew will be developed and approved by all the Partners in accordance with the indi-

vidual Partner's internal procedures, and in accordance with the MOUs. A Partner must have approved the Code of Conduct before it provides Space Station crew. Each Partner, in exercising its right to provide crew, shall ensure that its crew members observe the Code of Conduct.

Article 12: Transportation

1. Each of the Partners shall have the right of access to the Space Station using its respective government and private sector space transportation systems, if they are compatible with the Space Station. The United States, Russia, the European Partner, and Japan, through their respective Cooperating Agencies, shall make available launch and return transportation services for the Space Station (using such space transportation systems as the U.S. Space Shuttle, the Russian Proton and Soyuz, the European Ariane-5, and the Japanese H-II). Initially, the U.S. and Russian space transportation systems will be used to provide launch and return transportation services for the Space Station and, in addition, the other space transportation systems will be used as those systems become available. Access and launch and return transportation services shall be in accordance with the provisions of the relevant MOUs and implementing arrangements.

2. Those Partners providing launch and return transportation services to other Partners and their respective users on a reimbursable or other basis shall provide such services consistent with conditions specified in the relevant MOUs and implementing arrangements. Those Partners providing launch and return transportation services on a reimbursable basis shall provide such services to any other partner or the users of such other Partner. Partners shall use their best efforts to accommodate proposed requirements and flight schedules of the other partners.

3. The United States, through NASA, working with the other Partners' Cooperating Agencies in management bodies, shall plan and coordinate launch and return transportation services for the Space Station in accordance with the integrated traffic planning process, as provided in the MOUs and implementing arrangements.

4. Each Partner shall respect the proprietary rights in and the confidentiality of appropriately marked data and goods to be transported on its space transportation system.

Article 13: Communications

1. The United States and Russia, through their Cooperating Agencies, shall provide the two primary data relay satellite system space and ground communications networks for command, control, and operations of Space Station elements and payloads, and other Space Station communication purposes. Other Partners may provide data relay satellite system space and ground communication networks, if they are compatible with the Space Station and with Space Station use of the two primary networks. The provision of Space Station communications shall be in accordance with provisions in the relevant MOUs and implementing arrangements.

2. On a reimbursable basis, Cooperating Agencies shall use their best efforts to accommodate, with their respective communication systems, specific Space Station-related requirements of one an-

other, consistent with conditions specified in the relevant MOUs and implementing arrangements.

3. The United States, through NASA, working with the other Partners' Cooperating Agencies in management bodies, shall plan and coordinate space and ground communications services for the Space Station in accordance with relevant program documentation, as provided in the MOUs and implementing arrangements.

4. Measures to ensure the confidentiality of utilization data passing through the Space Station Information System and other communication systems being used in connection with the Space Station may be implemented, as provided in the MOUs. Each Partner shall respect the proprietary rights in, and the confidentiality of, the utilization data passing through its communication systems, including its ground network and the communication systems of its contractors, when providing communication services to another Partner.

Article 14: Evolution

1. The Partners intend that the Space Station shall evolve through the addition of capability and shall strive to maximize the likelihood that such evolution will be effected through contributions from all the Partners. To this end, it shall be the object of each Partner to provide, where appropriate, the opportunity to the other partners to cooperate in its proposals for additions of evolutionary capability. The Space Station together with its additions of evolutionary capability shall remain a civil station, and its operation and utilization shall be for peaceful purposes, in accordance with international law.

2. This Agreement sets forth rights and obligations concerning only the elements listed in the Annex, expect that this Article and Article 16 shall apply to any additions of evolutionary capability. This Agreement does not commit any Partner State to participate in, or otherwise grant any Partner rights in, the addition of evolutionary capability.

3. Procedures for the coordination of the Partners' respective evolution studies and for the review of specific proposals for the addition of evolutionary capability are provided in the MOUs.

4. Cooperation between or among Partners regarding the sharing of addition (s) of evolutionary capability shall require, following the coordination and review provided for in paragraph 3 above, either the amendment of this Agreement, or a separate agreement to which the United States, to ensure that any addition is consistent with the overall program, and any other Partner providing a Space Station element or space transportation system on which there is an operational or technical impact, shall be parties.

5. Following the coordination and review provided for in paragraph 3 above, the addition of evolutionary capability by one Partner shall require prior notification of the other Partners, and an agreement with the United States to ensure that any addition is consistent with the overall program, and with any other Partner providing a Space Station element or space transportation system on which there is an operational or technical impact.

6. A Partner which may be affected by the addition of evolutionary capability under paragraph 4 or 5 above may request consultations with the other Partners in accordance with Article 23.

7. The addition of evolutionary capability shall in no event modify the rights and obligations of any Partner State under this Agreement and the MOUs concerning the elements listed in the Annex, unless the affected partner States otherwise agrees.

Article 15: Funding

1. Each partner shall bear the costs of fulfilling its respective responsibilities under this Agreement, including sharing on an equitable basis the agreed common system operations costs or activities attributed to the operation of the Space Station as a whole, as provided in the MOUs and implementing arrangements.

2. Financial obligations of each Partner pursuant to this Agreement are subject to its funding procedures and the availability of appropriated funds. Recognizing the importance of Space Station cooperation, each partner undertakes to make its best efforts to obtain approval for funds to meet those obligations, consistent with its respective funding procedures.

3. In the event that funding problems arise that may affect a Partner's ability to fulfill its responsibilities in Space Station cooperation, that Partner, acting through its Cooperating Agency, shall notify and consult with the other Cooperating Agencies. If necessary, the Partners may also consult.

4. The Partners shall seek to minimize operations costs for the Space Station. In particular, the Partners, through their Cooperating Agencies, in accordance with the provisions of the MOUs, shall develop procedures intended to contain the common system operations costs and activities within approved estimated levels.

5. The Partners shall also seek to minimize the exchange of funds in the implementation of Space Station cooperation, including through the performance of specific operations activities as provided in the MOUs and implementing arrangements or, if the concerned Partners agree, through the use of barter.

Article 16: Cross-Waiver of Liability

1. The objective of this Article is to establish a cross-waiver of liability by the Partner States and related entities in the interest of encouraging participation in the exploration, exploitation, and use of outer space through the Space Station. This cross-waiver of liability shall be broadly construed to achieve this objective.

2. For the purposes of this Article:

(a) A "Partner State" includes its Cooperating Agency. It also includes any entity specifies in the MOU between NASA and the Government of Japan to assist the Government of Japan's Cooperating Agency in the implementation of that MOU.

(b) The term "related entity" means:

(1) a contractor or subcontractor of a Partner State at any tier;

(2) a user or customer of a Partner State at any tier; or

(3) a contractor or subcontractor of a user or customer of a Partner State at any tier.

This subparagraph may also apply to a State, or an agency or institution of a State, having the same relationship to a partner

State as described in subparagraphs 2(b)(1) through (b)(3) above or otherwise engaged in the implementation of Protected Space Operations as defined in subparagraph 2(f) below. "Contractors" and "subcontractors" include supplies of any kind.

(c) The term "damage" means:

(1) bodily injury to, or other impairment of health of, or death of, any person;

(2) damage to, loss of, or loss of use of any property;

(3) loss of revenue or profits; or

(4) other direct, indirect or consequential damage.

(d) The term "launch vehicle" means an object (or any part thereof) intended for launch, launched from Earth, or returning to Earth which carries payloads or persons, or both.

(e) The team "payload" means all property to be flown or used on or in a launch vehicle or the Space Station.

(f) The term "Protected Space Operations" means all launch vehicle activities, Space Station activities, and payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of this Agreement, the MOUs, and implementing arrangements. It includes, but is not limited to:

(1) research, design, development, test, manufacture, assembly, integration, operation, or use of launch or transfer vehicles, the Space Station, or a payload, as well ass related support equipment and facilities and services; and

(2) all activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services.

"Protected Space Operations" also includes all activities related to evolution of the Space Station, as provided for in Article 14. "protected Space Operations" excludes activities on Earth which are conducted on return from the Space Station to develop further a payload's product or process for use other than for Space Station related activities in implementation of this Agreement.

3. (a) Each Partner State agrees to a cross-waiver of liability pursuant to which each partner State waives all claims against any of the entities or persons listed in subparagraphs 3(a)(1) through 3 (a)(3) below based on damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for damage, whatever the legal basis for such claims against:

(1) another partner State;

(2) a related entity of another partner State;

(3) the employees of any of the entities identified in subparagraphs 3(a)(1) and 3(a)(2) above.

(b) In addition, each Partner State shall, by contract or otherwise, extend the cross-waiver of liability as set forth in subparagraph 3 (a) above to its related entities by requiring them to:

(1) waive all claims against the entities or persons identified in subparagraphs 3(a)(1) through 3 (a)

(3) above; and

(2) require that their related entities waive all claims against the entities or persons identified in subparagraphs 3(a)(1) through 3(a)(3) above.

(c) For avoidance of doubt, this cross-waiver of liability includes a cross-waiver of liability arising from the Liability Convention where the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

(d) Notwithstanding the other provisions of this Article, this cross-waiver of liability shall not be applicable to:

(1) claims between a Partner State and its related entity or between its own related entities;

(2) claims made by a natural person, his/her estate, survivors or subrogees (expect when a subrogee is a partner State) for bodily injury to, or other impairment of health of, or death of such natural person;

(3) claims for damage caused by willful misconduct;

(4) intellectual property claims;

(5) claims for damage resulting from a failure of a Partner State to extend the cross-waiver of liability to its related entities, pursuant to subparagraph 3 (b) above.

(e) With respect to subparagraph 3(d)(2) above, in the event that a subrogated claim of the Government of Japan is not based upon government employee accident compensation law, the Government of Japan shall fulfill its obligation to waive such subrogated claim by ensuring that any assisting entity specified pursuant to subparagraph 2(a) above indemnifies, in a manner consistent with Article 15(2) and in accordance with applicable laws and regulations of Japan, any entity or person identified in subparagraph 3(a)(1) through 3(a)(3) above against liability arising from such subrogated claim by the Government of Japan. Nothing in this Article shall preclude the Government of Japan from waiving the foregoing subrogated claims.

(f) Nothing in this Article shall be construed to create the basis for a claim or suit where none would otherwise exist.

Article 17: Liability Convention

1. Expect as otherwise provided in Article 16, the Partner States, as well as ESA, shall remain liable in accordance with the Liability Convention.

2. In the event of a claim arising out of the Liability Convention, the Partners (and ESA, if appropriate) shall consult promptly on any potential liability, on any apportionment of such liability, and on the defense of such claim.

3. Regarding the provision of launch and return services provided for in Article 12(2), the Partners concerned (and ESA, if appropriate) may conclude separate agreements regarding the apportionment of any potential joint and several liability arising out of the Liability Convention.

Article 18: Customs and Immigration

1. Each partner State shall facilitate the movement of persons and goods necessary to implement this Agreement into and out of its territory, subject to its laws and regulations.

2. Subject to its laws and regulations, each partner State shall facilitate provision of the appropriate entry and residence documentation for nationals and families of nationals of another Partner State who enter or exit or reside within the territory of the first Partner State in order to carry out functions necessary for the implementation of this Agreement.

3. Each partner State shall grant permission for duty-free importation and exportation to and from its territory of goods and software which are necessary for implementation of this Agreement and shall ensure their exemption from any other taxes and duties collected by the customs authorities. This paragraph shall be implemented without regard to the country of origin of such necessary goods and software.

Article 19: Exchange of Data and Goods

1. Expect as otherwise provided in this paragraph, each Partner, acting through its Cooperating Agency shall transfer all technical data and goods considered to be necessary (by both parties to any transfer) to fulfill the responsibilities of that Partner's Cooperating Agency under the relevant MOUs and implementing arrangement. Each Partner undertakes to handle expeditiously any request for technical data or goods presented by the Cooperating Agency of another Partner for the purposes of Space Station cooperation. This Article shall not require a partner State to transfer any technical data and goods in contravention of its national laws or regulations.

2. The partners shall make their best efforts to handle expeditiously requests for authorization of transfers of technical data and goods by persons or entities other than the partners or their Cooperating Agencies (for example, company- to-company exchanges which are likely to develop), and they shall encourage and facilitate such transfers in connection with the Space Station cooperation under this Agreement. Otherwise, such transfers are not covered by the terms and conditions of this Article. National laws and regulations shall apply to such transfers.

3. The Partners agree that transfers of technical data and goods under this Agreement shall be subject to the restrictions set forth in this paragraph. The transfer of technical data for the purposes of discharging the Partner's responsibilities with regard to interface, integration and safety shall normally be made without the restrictions set forth in this paragraph. If detailed design, manufacturing, and processing data and associated software is necessary for interface, integration or safety purposes, the transfer shall be made in accordance with paragraph 1 above, but the data and associated software may be appropriately marked as set out below. Technical data and goods not covered by the restrictions set forth in this paragraph shall be transferred without restriction, expect as otherwise restricted by national laws or regulations.

(a) The furnishing Cooperating Agency shall mark with a notice, or otherwise specifically identify, the technical data and goods that

are to be protected for export control purposes. Such a notice or identification shall indicate any specific conditions regarding how such technical data or goods may be used by the receiving Cooperating Agency and its contractors and subcontractors, including (1) that such technical data or goods shall be used only for the purposes of fulfilling the receiving Cooperating Agency's responsibilities under this Agreement and the relevant MOUs, and (2) that such technical data or goods shall not be used by persons or entities other than the receiving Cooperating Agency, its contractors or subcontractors, or for any other purposes, without the prior written permission of the furnishing Partner State, acting through its Cooperating Agency.

(b) The furnishing Cooperating Agency shall mark with a notice the technical data that are to be protected for proprietary rights purposes. Such notice shall indicate any specific conditions regarding how such technical data may be used by the receiving Cooperating Agency and its contractors and subcontractors, including (1) that such technical data shall be used, duplicated, or disclosed only for the purposes of fulfilling the receiving Cooperating Agency's responsibilities under this Agreement and the relevant MOUs, and (2) that such technical data shall not be used by persons or entities other than the receiving Cooperating Agency, its contractors or subcontractors, or for any other purposes, without the prior written permission of the furnishing Partner State, acting through its Cooperating Agency.

(c) In the event that any technical data or goods transferred under this Agreement are classified, the furnishing Cooperating Agency shall mark with a notice, or otherwise specifically identify, such technical data or goods. The requested Partner State may require that any such transfer shall be pursuant to a security of information agreement or arrangement which sets forth the conditions for transferring and protecting such technical data or goods. A transfer need not be conducted if the receiving Partner State does not provide for the protection of the secrecy of patent applications containing information that is classified or otherwise held in secrecy for national security purposes. No classified technical data or goods shall be transferred under this Agreement unless both parties agree to the transfer.

4. Each Partner State shall take all necessary steps to ensure that technical data or goods received by it under subparagraphs 3(a), 3(b), 3(c) above shall be treated by the receiving Partner State, its Cooperating Agency, and other persons and entities (including contractors and subcontractors) to which the technical data or goods are subsequently transferred in accordance with the terms of the notice or identification. Each Partner State and Cooperating Agency shall take all reasonably necessary steps, including ensuring appropriate contractual conditions in their contracts and subcontracts, to prevent unauthorized use, disclosure, or retransfer of, or unauthorized access to, such technical data or goods. In the case of technical data or goods received under subparagraph 3(c) above, the receiving partner State or Cooperating Agency shall accord such technical data or gods a level of protection at least equivalent to the level of protection accorded by the furnishing Partner State or Cooperating Agency.

5. It is not the intent of the Partners to grant, through this Agreement or the relevant MOUs, any rights to a recipient beyond the right to use, disclose, or retransfer received technical data or goods consistent with conditions imposed under this Article.

6. Withdrawal from this Agreement by a Partner State shall not affect rights or obligations regarding the protection of technical data and goods transferred under this Agreement prior to such withdrawal, unless otherwise agreed in a withdrawal agreement pursuant to Article 28.

Article 20: Treatment of Data and Goods in Transit

Recognizing the importance of the continuing operation and full international utilization of the Space Station, each Partner State shall, to the extent its applicable laws and regulations permit, allow the expeditious transit of data and goods of the other Partners, their Cooperating Agencies, and their users. This Article shall only apply to data and goods transiting to and from the Space Station, including but not limited to transit between its national border and a launch or landing site and the Space Station.

Article 21: Intellectual Property

1. For the purposes of this Agreement, "intellectual property" is understood to have the meaning of Article 2 of the Convention Establishing the world Intellectual Property Organization, done at Stockholm on 14 July 1967.

2. Subject to the provisions of this Article, for purposes of intellectual property law, an activity occurring in or on a Space Station flight element shall be deemed to have occurred only in the territory of the Partner State of that element's registry, expect that for ESA-registered elements any European Partner State may deem the activity to have occurred within its territory. For avoidance of doubt, participation by a partner State, its Cooperating Agency, or its related entities in an activity occurring in or on any other Partner's Space Station flight element shall not in and of itself alter or affect the jurisdiction over such activity provided for in the previous sentence.

3. In respect of an invention made in or on any Space Station flight element by a person who is not its national or resident, a Partner State shall not apply its laws concerning secrecy of inventions so as to prevent the filing of a patent application (for example, by imposing a delay or requiring prior authorization) in any other partner State that provides for the protection of the secrecy of patent applications containing information that is classified or otherwise protected for national security purposes. This provision does not prejudice (a) the right of any Partner State in which a patent application or restrict its further filing; or (b) the right of any other Partner State in which an application is subsequently filed to restrict, pursuant to any international obligation, the dissemination of an application.

4. Where a person or entity owns intellectual property which is protected in more than one European Partner State, that person or entity may not recover in more than one such State for the same act of infringement of the same rights in such intellectual property which occurs in or on an ESA-registered element gives rise to ac-

tions by different intellectual property owners by virtue of more than one European Partner State's deeming the activity to have occurred in its territory, a court may grant a temporary stay of proceeding in a later-filed action pending the outcome of an earlier-filed action. Where more than one action is brought, satisfaction of a judgment rendered for damages in any of the actions shall bar further recovery of damages in any pending or future action for infringement based upon the same act of infringement.

5. With respect to an activity occurring in or on an ESA-registered element, no European Partner State shall refuse to recognize a license for the exercise of any intellectual property right if that license is enforceable under the laws of any European Partner State, and compliance with the provisions of such license shall also bar recovery for infringement in any European Partner State.

6. The temporary presence in the territory of a Partner State of any articles, including the components of a flight element, in transit between any place on Earth and any flight element of the Space Station registered by another Partner State or ESA shall not in itself form the basis for any proceedings in the first Partner State for patent infringement.

Article 22: Criminal Jurisdiction

In view of the unique and unprecedented nature of this particular international cooperation in space:

1. Canada, the European Partner State, Japan, Russia, and the United States may exercise criminal jurisdiction over personnel in or on any flight element who are their respective nationals.

2. In a case involving misconduct on orbit that: (a) affects the life or safety of a national of another Partner State or (b) occurs in or on or causes damage to the flight element of another Partner State, the Partner State whose national is the alleged perpetrator shall, at the request of any affected Partner State, consult with such State concerning their respective prosecutorial interests. An affected Partner State may, following such consultation, exercise criminal jurisdiction over the alleged perpetrator provided that, within 90 days of the date of such consultation or within such other period as may be mutually agreed, the Partner State whose national is the alleged perpetrator either:

(1) concurs in such exercise of criminal jurisdiction, or

(2) fails to provide assurances that it will submit the case to its competent authorities for the purpose of prosecution.

3. If a partner State which makes extradition conditional on the existence of a treaty receives a request for extradition from another Partner State with which it has no extradition treaty, it mat at its option consider this Agreement as the legal basis for extradition in respect of the alleged misconduct on orbit. Extradition shall be subject to the procedural provisions and the other conditions of the law of the requested Partner State.

4. Each Partner State shall, subject to its national laws and regulations, afford the other Partners assistance in connection with alleged misconduct on orbit.

5. This Article is not intended to limit the authorities and procedures for the maintenance of order and the conduct of crew activities in or on the Space Station which shall be established in the

Code of Conduct pursuant to Article 11, and the Code of Conduct is not intended to limit the application of this Article.

Article 23: Consultations

1. The partners, acting through their Cooperating Agencies, may consult with each other on any matter arising out of Space Station cooperation. The Partners shall exert their best efforts to settle such matters through consultation between or among their Cooperating Agencies in accordance with procedures provided in the MOUs.

2. Any Partner may request that government-level consultations be held with another Partner in any matter arising out of Space Station cooperation. The requested partner shall accede to such request promptly. If the requesting Partner notifies the United States that the subject of such consultations is appropriate for consideration by all the Partners, the United States shall convene multilateral consultations at the earliest practicable time, to which it shall invite all the Partners.

3. Any Partner which intended to proceed with significant flight element design changes which may have an impact on the other Partners shall notify the other partners accordingly at the earliest opportunity. A partner so notified may request that the matter be submitted to consultations in accordance with paragraphs 1 and 2 above.

4. If an issue not resolved through consultations still needs to be resolved, the concerned Partners may submit that issue to an agreed form of dispute resolution such as conciliation, mediation, or arbitration.

Article 24: Space Station Cooperation Review

In view of the long-term, complex, and evolving character of their cooperation under this Agreement, the partners shall keep each other informed of developments which might affect this cooperation. Beginning in 1999, and every three involved in their cooperation and to review and promote Space Station cooperation.

Article 25: Entry into Force

1. This Agreement shall remain open for signature by the States listed in the Preamble of this Agreement.

2. This Agreement is subject to ratification, acceptance, approval, or accession. Ratification, acceptance, approval, or accession shall be effected by each State in accordance with its constitutional processes. Instruments of ratification, acceptance, approval, or accession shall be deposited with the Government of the United States, hereby designated as the Depositary.

3. (a) This Agreement shall enter into force on the date on which the last instrument of ratification, acceptance, or accession shall be effected by each State in accordance with its constitutional processes. Instruments of ratification, acceptance, approval, or accession shall be deposited with the Government of the United States, hereby designated as the Depositary.

(b) This Agreement shall not enter into force for a European Partner State before it enters into force for the European partner. It shall enter into force for the European partner after the deposi-

tary receives instruments of ratification, acceptance, approval, or accession from at least four European signatory or acceding States, and, in addition, a formal notification by the Chairman of the ESA Council.

(c) Following entry into force of this Agreement for the European partner, it shall enter into force for any European State listed in the Preamble that has not deposited its instrument of ratification, acceptance or approval upon deposit of such instrument. Any ESA Member State not listed in the Preamble may accede to this Agreement by depositing its instrument of accession with the Depositary.

4. Upon entry into force of this Agreement, the 1988 Agreement shall cease to be in force.

5. If this Agreement has not entered into force for a partner within a period of two years after its signature, the United States may convene a conference of the signatories to this Agreement to consider what steps, including any modifications to this Agreement, are necessary to take account of that circumstance.

Article 26: Operative Effect as Between Certain Parties

Notwithstanding Article 25 (3)(a) above, this Agreement shall become operative as between the United States and Russia on the date they have expressed their consent to be bound by depositing their instruments of ratification, acceptance or approval. The Depositary shall notify all signatory States if this Agreement becomes operative between the United States and Russia pursuant to this Article.

Article 27: Amendments

This Agreement, including its Annex, may be amended by written agreement of the Government of the Partner States for which this Agreement has entered into force. Amendments to this Agreement, except for those made exclusively to the Annex, shall be subject to ratification, acceptance, approval, or accession by those States in accordance with their respective constitutional processes. Amendments made exclusively to the Annex shall require only a written agreement of the Governments of the Partner States for which this Agreement has entered into force.

Article 28: Withdrawal

1. Any Partner State may withdraw from this Agreement at any time by giving to the Depositary at least one year's prior written notice. Withdrawal by a European Partner State shall not affect the rights and obligations of the European Partner under this Agreement.

2. If a Partner gives notice of withdrawal from this Agreement, with a view toward ensuring the continuation of the overall program, the Partners shall endeavor to reach agreement concerning the terms and conditions of that partner's withdrawal before the effective date of withdrawal.

3. (a) Because Canada's contribution is an essential part of the Space Station, upon its withdrawal, Canada shall ensure the effective use and operation by the United States of the Canadian elements listed in the Annex. To this end, Canada shall expeditiously provide hardware, drawing, documentation, software, spares, tool-

ing, special test equipment, and/or any other necessary items requested by the United States. (b) Upon Canada's notice of withdrawal for any reason, the United States and Canada shall expeditiously negotiate a withdrawal agreement. Assuming that such agreement provides for the transfer to the United States of those elements required for the continuation of the overall program, it shall also provide for the United States to give Canada adequate compensation for such transfer.

4. If a Partner gives notice of withdrawal from this Agreement, its Cooperating Agency shall be deemed to have withdrawn from its corresponding MOU with NASA, effective from the same date as its withdrawal from this Agreement.

5. Withdrawal by any Partner State shall not affect that partner State's continuing rights and obligations under Articles 16, 17, and 19, unless otherwise agreed in a withdrawal agreement pursuant to paragraph 2 or 3 above.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto by their respective Government, have signed this Agreement.

DONE at, this day of, 1998. The texts of this Agreement in the English, French, German, Italian, Japanese, and Russian languages shall be equally authentic. A single original text in each language shall be deposited in the archives of the Government of the United States. The Depositary shall transmit certified copies to all signatory States. Upon entry into force of this Agreement, the Depositary shall register it pursuant to Article 102 of the Charter of the United Nations.

ANNEX Space Station Elements to be Provided by the Partners

1. The Government of Canada, through CSA, shall provide:
   —as a Space Station infrastructure element, the Mobile Servicing Center (MSC);
   —as an additional flight element, the Special Purpose Dexterous Manipulator; and
   —in addition to the flight elements above, Space Station-unique ground elements.
2. The European Government, through ESA, shall provide:
   —as a user element, the European pressurized laboratory (including basic functional outfitting);
   —other flight elements to supply and to reboost the Space Station; and
   —in addition to the flight elements above, Space Station-unique ground elements.
3. The Government of Japan shall provide:
   —as a user element, the Japanese Experiment Module (including basic functional outfitting, as well as the Exposed Facility and the Experiment Logistics Modules);
   —other flight elements to supply the Space Station; and
   —in addition to the flight elements above, Space Station-unique ground elements.
4. The Government of Russia, through RSA, shall provide:

—Space Station infrastructure elements, including service and other modules;

—as user elements, research modules (including basic functional outfitting) and attached payload accommodation equipment;

—other flight elements to supply and to reboost the Space Station; and

—in addition to the flight elements above, Space Station-unique ground elements.

5. The Government of the United States, through NASA, shall provide:

—Space Station infrastructure elements, including a habitation module;

—as user elements, laboratory modules (including basic functional outfitting), and attached payload accommodation equipment;

—other flight elements to supply the Space Station; and

—in addition to the flight elements above, Space Station-unique ground elements.