

117TH CONGRESS
1ST SESSION

H. R. 5982

IN THE SENATE OF THE UNITED STATES

DECEMBER 9, 2021

Received; read twice and referred to the Committee on the Judiciary

AN ACT

To make revisions in title 51, United States Code, as necessary to keep the title current, and to make technical amendments to improve the United States Code.

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

1 **SECTION 1. TABLE OF CONTENTS.**

2 The table of contents for this Act is as follows:

Sec. 1. Table of contents.

Sec. 2. Purposes; restatement does not change meaning or effect of existing law.

Sec. 3. Revision of title 51, United States Code.

Sec. 4. Technical amendments.

Sec. 5. Transitional and savings provisions.

Sec. 6. Repeals.

3 **SEC. 2. PURPOSES; RESTATEMENT DOES NOT CHANGE**
 4 **MEANING OR EFFECT OF EXISTING LAW.**

5 (a) PURPOSES.—The purposes of this Act are—

6 (1) to make revisions in title 51, United States
 7 Code, as necessary to keep the title current; and

8 (2) to make technical amendments to improve
 9 the United States Code.

10 (b) RESTATEMENT DOES NOT CHANGE MEANING OR
 11 EFFECT OF EXISTING LAW.—

12 (1) IN GENERAL.—The restatement of existing
 13 law enacted by this Act does not change the mean-
 14 ing or effect of the existing law. The restatement in-
 15 corporates in title 51, United States Code, various
 16 provisions that were enacted separately over a period
 17 of years, reorganizing them, conforming style and
 18 terminology, modernizing obsolete language, and cor-
 19 recting drafting errors. These changes serve to re-
 20 move ambiguities, contradictions, and other imper-
 21 fections, but they do not change the meaning or ef-
 22 fect of the existing law or impair the precedential

1 value of earlier judicial decisions or other interpreta-
 2 tions.

3 (2) RULE OF CONSTRUCTION.—

4 (A) IN GENERAL.—Notwithstanding the
 5 plain meaning rule or other rules of statutory
 6 construction, a change in wording made in the
 7 restatement of existing law enacted by this Act
 8 serves to clarify the existing law as indicated in
 9 paragraph (1), but not to change the meaning
 10 or effect of the existing law.

11 (B) REVISION NOTES.—Subparagraph (A)
 12 applies whether or not a change in wording is
 13 explained by a revision note appearing in a con-
 14 gressional report accompanying this Act. If
 15 such a revision note does appear, a court shall
 16 consider the revision note in interpreting the
 17 change.

18 **SEC. 3. REVISION OF TITLE 51, UNITED STATES CODE.**

19 (a) REVISION OF TITLE TABLE OF CONTENTS.—The
 20 title table of contents of title 51, United States Code, is
 21 amended—

22 (1) by striking the item relating to chapter 301
 23 and inserting the following:

“301. Funding 30101”;

24 (2) by striking the item relating to chapter 315
 25 and inserting the following:

2 and inserting the following:

“409. Aeronautics and Space Technology	40901
“411 Through 497	Reserved
“499. Miscellaneous	49901”;

4 513 and 515 and inserting the following:

“513. Space Resource Commercial Exploration and Utilization	51301
“515. Office of Spaceports	51501
“517. Development and Use of Commercial Cargo and Crew Transport- tation Capabilities	51701”;

6 and inserting the following:

“701. Use of Space Launch System or Alternatives 70101”;

8 (6) by inserting after the item relating to chap-

9 ter 713 the following:

“715. Human Space Flight and Exploration	71501
“717. Advancing Human Space Exploration	71701”.

10 (b) REVISION OF SECTION 20144.—Section 20144 of
11 title 51, United States Code, is amended—

(1) in subsection (a), by striking “The Adminis-
tration may carry out a program to award prizes
only in conformity with this section.”; and

(2) in subsection (i)(4), by striking “Committee on Science and Technology” and inserting “Committee on Science, Space, and Technology”.

1 (c) REVISION OF SECTION 20145.—Section 20145 of
2 title 51, United States Code, is amended—

3 (1) by redesignating subsections (f) and (g) as
4 subsections (g) and (h), respectively; and

5 (2) by inserting after subsection (e) the fol-
6 lowing:

7 “(f) PROCEEDS.—Proceeds from leases entered into
8 under this section shall be deposited in the Administration
9 construction and environmental compliance and restora-
10 tion appropriations account. The proceeds shall be avail-
11 able for a period of 5 years, to the extent and in amounts
12 provided in appropriations acts.”.

13 (d) REVISION OF SECTION 20303.—Section 20303 of
14 title 51, United States Code, is amended—

15 (1) in subsection (c), by striking “(42 U.S.C.
16 16611(d))” and inserting “(Public Law 109–155,
17 119 Stat. 2900)”;

18 (2) by redesignating subsection (d) as sub-
19 section (e); and

20 (3) by inserting after subsection (c) the fol-
21 lowing:

22 “(d) EVALUATION AND EXPANSION OF INTER-
23 AGENCY CONTRIBUTION.—

24 “(1) IN GENERAL.—The Administrator shall
25 evaluate and, to the extent possible—

1 “(A) expand efforts to maximize the Ad-
 2 ministration’s contribution to interagency ef-
 3 forts to enhance science, technology, engineer-
 4 ing, and mathematics education capabilities;
 5 and

6 “(B) enhance the Nation’s technological
 7 excellence and global competitiveness.

8 “(2) IDENTIFICATION IN REPORT.—The Admin-
 9 istrator shall identify the expanded efforts and en-
 10 hancements made under paragraph (1) in the annual
 11 reports required by subsection (e).”.

12 (e) REVISION OF CHAPTER 301.—

13 (1) CHAPTER HEADING.—The chapter heading
 14 of chapter 301 of title 51, United States Code, is
 15 amended by striking “**APPROPRIATIONS,**
 16 **BUDGETS, AND ACCOUNTING**” and insert-
 17 ing “**FUNDING**”.

18 (2) CHAPTER TABLE OF CONTENTS.—The
 19 chapter table of contents of chapter 301 of title 51,
 20 United States Code, is amended to read as follows:

“SUBCHAPTER I—GENERAL PROVISIONS

“Sec.

“30101. Prior authorization of appropriations required.

“30102. Working capital fund.

“30103. Baselines and cost controls.

“30104. Reports on estimated costs for certain programs.

“30105. Annual report on program cost and control.

“SUBCHAPTER II—BUDGET PROVISIONS

“30121. General budget documentation requirements.

“30122. Consideration of decadal surveys.

“30123. Two-year budget request with 3d-year estimate.”.

1 (3) REDESIGNATION OF EXISTING SECTIONS.—
2 Chapter 301 of title 51, United States Code, is
3 amended as follows:

4 (A) Section 30103 (Budgets) is redesign-
5 nated as section 30121, and transferred to ap-
6 pear after section 30104 (Baselines and cost
7 controls).

8 (B) Section 30104 (Baselines and cost
9 controls) is redesignated as section 30103.

10 (4) DESIGNATION OF SUBCHAPTERS.—

11 (A) Chapter 301 of title 51, United States
12 Code, is amended by inserting a subchapter
13 heading (in typeface styled like other sub-
14 chapter headings in title 51) before section
15 30101 as follows: “SUBCHAPTER I—GEN-
16 ERAL PROVISIONS”.

17 (B) Chapter 301 of title 51, United States
18 Code, is amended by inserting a subchapter
19 heading (in typeface styled like other sub-
20 chapter headings in title 51) before section
21 30121 (as redesignated and transferred by
22 paragraph (3)(A)) as follows: “SUBCHAPTER
23 II—BUDGET PROVISIONS”.

24 (5) REVISION OF SECTION 30103.—Section
25 30103 (Baselines and cost controls) of title 51,

1 United States Code (as redesignated by paragraph
2 (3)(B)), is amended by striking “Committee on
3 Science and Technology” and inserting “Committee
4 on Science, Space, and Technology” in—

5 (A) subsection (b)(2);

6 (B) subsection (c)(1);

7 (C) subsection (d)(3);

8 (D) subsection (e)(1)(A) (matter before
9 clause (i)); and

10 (E) subsection (e)(2).

11 (6) ENACTMENT OF SECTIONS 30104 AND
12 30105.—Chapter 301 of title 51, United States Code,
13 is amended by inserting after section 30103 (Base-
14 lines and cost controls) (as redesignated by para-
15 graph (3)(B) and amended by paragraph (5)) the
16 following:

17 **“§ 30104. Reports on estimated costs for certain pro-**
18 **grams**

19 “For each program under the jurisdiction of the Ad-
20 ministration for which development costs are expected to
21 exceed \$200,000,000, the Administrator shall submit to
22 Congress, at the time of submission of the President’s an-
23 nual budget—

24 “(1) a 5-year budget detailing the estimated de-
25 velopment costs of the program; and

1 “(2) an estimate of the life-cycle costs associ-
2 ated with the program.

3 **“§ 30105. Annual report on program cost and control**

4 “(a) ANNUAL REPORT.—Not later than April 30 of
5 each year, the Administrator shall submit to the Com-
6 mittee on Commerce, Science, and Transportation of the
7 Senate and the Committee on Science, Space, and Tech-
8 nology of the House of Representatives a report on the
9 implementation during the preceding year of the corrective
10 action plan referred to in section 1203(a)(4) of the Na-
11 tional Aeronautics and Space Administration Authoriza-
12 tion Act of 2010 (Public Law 111–267).

13 “(b) CONTENTS.—A report under this section shall
14 contain the following:

15 “(1) DESCRIPTION OF OVER-BUDGET OR DE-
16 LAYED PROGRAMS.—For the year covered by the re-
17 port, a description of each Administration program
18 that has exceeded its cost baseline by 15 percent or
19 more or is more than 2 years behind its projected
20 development schedule.

21 “(2) CORRECTIVE PLANS.—For each program
22 described under paragraph (1), a plan for a decrease
23 in scope or requirements, or other measures, to be
24 undertaken to control cost and schedule, including
25 any cost monitoring or corrective actions undertaken

1 pursuant to the National Aeronautics and Space Ad-
2 ministration Authorization Act of 2005 (Public Law
3 109–155), and the amendments made by that Act.”.

4 (7) REVISION OF SECTION 30121.—Section
5 30121 of title 51, United States Code (as redesign-
6 nated and transferred by paragraph (3)(A)), is
7 amended—

8 (A) in the section heading, by striking
9 **“Budgets”** and inserting **“General budget**
10 **documentation requirements”**; and

11 (B) in subsection (b) (matter before para-
12 graph (1)), by striking “Committee on Science
13 and Technology” and inserting “Committee on
14 Science, Space, and Technology”.

15 (8) ENACTMENT OF SECTIONS 30122 AND
16 30123.—Chapter 301 of title 51, United States Code,
17 is amended by adding at the end the following:

18 **“§ 30122. Consideration of decadal surveys**

19 “The Administration shall take into account the cur-
20 rent decadal surveys from the National Academies’ Space
21 Studies Board when submitting the President’s budget re-
22 quest to Congress.

1 **“§ 30123. Two-year budget request with 3d-year esti-**
 2 **mate**

3 “Each fiscal year, the President shall submit to Con-
 4 gress a budget request for the Administration that in-
 5 cludes—

6 “(1) a budget request for the immediate fiscal
 7 year and the following fiscal year; and

8 “(2) budget estimates for the 3d fiscal year.”.

9 (f) REVISION OF SECTION 30310.—Section 30310 of
 10 title 51, United States Code, is amended by striking “Sec-
 11 tion 526(a) of the Energy Independence and Security Act
 12 of 2007 (42 U.S.C. 17142(a))” and inserting “Section
 13 526 of the Energy Independence and Security Act of 2007
 14 (42 U.S.C. 17142)”.

15 (g) ENACTMENT OF SECTION 30311.—

16 (1) CHAPTER TABLE OF CONTENTS.—The
 17 chapter table of contents of chapter 303 of title 51,
 18 United States Code, is amended by adding at the
 19 end the following:

“30311. Counterfeit parts.”.

20 (2) ENACTMENT OF SECTION.—Chapter 303 of
 21 title 51, United States Code, is amended by adding
 22 at the end the following:

23 **“§ 30311. Counterfeit parts**

24 “(a) IN GENERAL.—The Administrator shall plan,
 25 develop, and implement a program, in coordination with

1 other Federal agencies, to detect, track, catalog, and re-
2 duce the number of counterfeit electronic parts in the Ad-
3 ministration supply chain.

4 “(b) REQUIREMENTS.—In carrying out the program,
5 the Administrator shall establish—

6 “(1) counterfeit part identification training for
7 all employees who procure, process, distribute, and
8 install electronic parts that will—

9 “(A) teach employees how to identify coun-
10 terfeit parts;

11 “(B) educate employees on procedures to
12 follow if they suspect a part is counterfeit;

13 “(C) regularly update employees on new
14 threats, identification techniques, and reporting
15 requirements; and

16 “(D) integrate industry associations, man-
17 ufacturers, suppliers, and other Federal agen-
18 cies, as appropriate;

19 “(2) an internal database to track all suspected
20 and confirmed counterfeit electronic parts that will
21 maintain, at a minimum—

22 “(A) companies and individuals known and
23 suspected of selling counterfeit parts;

1 “(B) parts known and suspected of being
2 counterfeit, including lot and date codes, part
3 numbers, and part images;

4 “(C) countries of origin;

5 “(D) sources of reporting;

6 “(E) United States Customs seizures; and

7 “(F) Government-Industry Data Exchange
8 Program reports and other public- or private-
9 sector database notifications; and

10 “(3) a mechanism—

11 “(A) to report all information on suspected
12 and confirmed counterfeit electronic parts to
13 law enforcement agency databases, industry as-
14 sociation databases, and other databases; and

15 “(B) to issue bulletins to industry on coun-
16 terfeit electronic parts and related counterfeit
17 activity.

18 “(c) REVIEW OF PROCUREMENT AND ACQUISITION
19 POLICY.—

20 “(1) IN GENERAL.—In establishing the pro-
21 gram, the Administrator shall amend acquisition and
22 procurement policy in effect on October 11, 2010, to
23 require the purchase of electronic parts from trusted
24 or approved manufacturers. To determine trusted or
25 approved manufacturers, the Administrator shall es-

1 tabish a list, assessed and adjusted at least annu-
2 ally, and create criteria for manufacturers to meet
3 in order to be placed on the list.

4 “(2) CRITERIA.—The criteria may include—

5 “(A) authentication or encryption codes;

6 “(B) embedded security markings in parts;

7 “(C) unique, hard-to-copy labels and mark-
8 ings;

9 “(D) identification of distinct lot and serial
10 codes on external packaging;

11 “(E) radio frequency identification embed-
12 ded into high-value parts;

13 “(F) physical destruction of all defective,
14 damaged, and sub-standard parts that are by-
15 products of the manufacturing process;

16 “(G) testing certifications;

17 “(H) maintenance of procedures for han-
18 dling any counterfeit parts that slip through;

19 “(I) maintenance of secure facilities to pre-
20 vent unauthorized access to proprietary infor-
21 mation; and

22 “(J) maintenance of product return, buy
23 back, and inventory control practices that limit
24 counterfeiting.”.

25 (h) ENACTMENT OF SECTIONS 30505 AND 30506.—

1 (1) CHAPTER TABLE OF CONTENTS.—The
 2 chapter table of contents of chapter 305 of title 51,
 3 United States Code, is amended by adding at the
 4 end the following:

“30505. Information security.

“30506. Workforce development for minority and underrepresented groups.”.

5 (2) ENACTMENT OF SECTIONS.—Chapter 305
 6 of title 51, United States Code, is amended by add-
 7 ing at the end the following:

8 **“§ 30505. Information security**

9 “(a) DEFINITION OF INFORMATION INFRASTRUC-
 10 TURE.—In this section, the term ‘information infrastruc-
 11 ture’ means the underlying framework that information
 12 systems and assets rely on to process, transmit, receive,
 13 or store information electronically, including program-
 14 mable electronic devices and communications networks
 15 and any associated hardware, software, or data.

16 “(b) MONITORING RISK.—

17 “(1) BIENNIAL UPDATE ON SYSTEM IMPLEMEN-
 18 TATION.—On a biennial basis, the chief information
 19 officer of the Administration, in coordination with
 20 other national security agencies, shall provide to the
 21 Committee on Commerce, Science, and Transpor-
 22 tation of the Senate and the Committee on Science,
 23 Space, and Technology of the House of Representa-
 24 tives—

1 “(A) an update on efforts to implement a
2 system to provide dynamic, comprehensive, real-
3 time information regarding risk of unauthorized
4 remote, proximity, and insider use or access, for
5 all information infrastructure under the respon-
6 sibility of the chief information officer, and mis-
7 sion-related networks, including contractor net-
8 works;

9 “(B) an assessment of whether the system
10 has demonstrably and quantifiably reduced net-
11 work risk compared with alternative methods of
12 measuring security; and

13 “(C) an assessment of the progress that
14 each center and facility has made toward imple-
15 menting the system.

16 “(2) EXISTING ASSESSMENTS.—The assess-
17 ments required of the Inspector General under sec-
18 tion 3555 of title 44 shall evaluate the effectiveness
19 of the system described in this subsection.

20 “(c) INFORMATION SECURITY AWARENESS AND EDU-
21 CATION.—

22 “(1) IN GENERAL.—In consultation with the
23 Department of Education, other national security
24 agencies, and other agency directorates, the chief in-
25 formation officer shall institute an information secu-

1 rity awareness and education program for all opera-
2 tors and users of Administration information infra-
3 structure, with the goal of reducing unauthorized re-
4 mote, proximity, and insider use or access.

5 “(2) PROGRAM REQUIREMENTS.—

6 “(A) BRIEFINGS, EXERCISES, AND EXAMI-
7 NATIONS.—The program shall include, at a
8 minimum, ongoing classified and unclassified
9 threat-based briefings, and automated exercises
10 and examinations that simulate common attack
11 techniques.

12 “(B) PARTICIPATION.—All agency employ-
13 ees and contractors engaged in the operation or
14 use of agency information infrastructure shall
15 participate in the program.

16 “(C) ACCESS.—Access to Administration
17 information infrastructure shall be granted only
18 to operators and users who regularly satisfy the
19 requirements of the program.

20 “(D) REWARDING ACHIEVEMENT.—The
21 chief human capital officer of the Administra-
22 tion, in consultation with the chief information
23 officer, shall create a system to reward opera-
24 tors and users of agency information infrastruc-

1 ture for continuous high achievement in the
2 program.

3 **“§ 30506. Workforce development for minority and**
4 **underrepresented groups**

5 “(a) ADDRESSING IMPEDIMENTS.—To the extent
6 practicable, the Administrator shall take all necessary
7 steps to address any impediments identified in the assess-
8 ment described in subsection (b).

9 “(b) ASSESSMENT.—The assessment referred to in
10 subsection (a) is the independent assessment of impedi-
11 ments to space science and engineering workforce develop-
12 ment for minority and underrepresented groups at the Ad-
13 ministration that was prepared under section 203(a) of
14 the America COMPETES Reauthorization Act of 2010
15 (Public Law 111–358, 124 Stat. 3994).”.

16 (i) REVISION OF SECTION 30704.—Section 30704(2)
17 of title 51, United States Code, is amended by striking
18 “the Buy American Act (41 U.S.C. 10a et seq.)” and in-
19 serting “chapter 83 of title 41”.

20 (j) ENACTMENT OF SECTION 30705.—

21 (1) CHAPTER TABLE OF CONTENTS.—The
22 chapter table of contents of chapter 307 of title 51,
23 United States Code, is amended by adding at the
24 end the following:

“30705. Limitation on international agreements concerning outer space activi-
ties.”.

1 (2) ENACTMENT OF SECTION.—Chapter 307 of
2 title 51, United States Code, is amended by adding
3 at the end the following:

4 **“§ 30705. Limitation on international agreements con-**
5 **cerning outer space activities**

6 “(a) DEFINITIONS.—In this section:

7 “(1) CONGRESSIONAL DEFENSE COMMIT-
8 TEES.—The term ‘congressional defense committees’
9 means—

10 “(A) the Committee on Armed Services
11 and the Committee on Appropriations of the
12 Senate; and

13 “(B) the Committee on Armed Services
14 and the Committee on Appropriations of the
15 House of Representatives.

16 “(2) COVERED CONGRESSIONAL COMMIT-
17 TEES.—The term ‘covered congressional committees’
18 means—

19 “(A) the Committee on Armed Services,
20 the Committee on Foreign Relations, and the
21 Select Committee on Intelligence of the Senate;
22 and

23 “(B) the Committee on Armed Services,
24 the Committee on Foreign Affairs, and the Per-

1 manent Select Committee on Intelligence of the
2 House of Representatives.

3 “(b) CERTIFICATION.—If the United States becomes
4 a signatory to a non-legally binding international agree-
5 ment concerning an International Code of Conduct for
6 Outer Space Activities or any similar agreement, at the
7 same time as the United States becomes a signatory—

8 “(1) the President shall submit to the congres-
9 sional defense committees, the Permanent Select
10 Committee on Intelligence of the House of Rep-
11 resentatives, and the Select Committee on Intel-
12 ligence of the Senate a certification that the agree-
13 ment has no legally binding effect or basis for lim-
14 iting the activities of the United States in outer
15 space; and

16 “(2) the Secretary of Defense, the Chairman of
17 the Joint Chiefs of Staff, and the Director of Na-
18 tional Intelligence shall jointly submit to the con-
19 gressional defense committees a certification that
20 the agreement will be equitable, enhance national se-
21 curity, and have no militarily significant impact on
22 the ability of the United States to conduct military
23 or intelligence activities in space.

24 “(c) BRIEFINGS AND NOTIFICATIONS REQUIRED.—

1 “(1) RESTATEMENT OF POLICY FORMULATION
2 UNDER THE ARMS CONTROL AND DISARMAMENT ACT
3 WITH RESPECT TO OUTER SPACE.—No action shall
4 be taken that would obligate the United States to re-
5 duce or limit the Armed Forces or armaments of the
6 United States in outer space in a militarily signifi-
7 cant manner, except pursuant to the treaty-making
8 power of the President under Article II, Section 2,
9 Clause II of the Constitution or unless authorized by
10 the enactment of further affirmative legislation by
11 Congress.

12 “(2) BRIEFINGS.—

13 “(A) REQUIREMENT.—The Secretary of
14 Defense, the Secretary of State, and the Direc-
15 tor of National Intelligence shall jointly provide
16 to the covered congressional committees reg-
17 ular, detailed updates on the negotiation of a
18 non-legally binding international agreement
19 concerning an International Code of Conduct
20 for Outer Space Activities or any similar agree-
21 ment.

22 “(B) TERMINATION OF REQUIREMENT.—
23 The requirement to provide regular briefings
24 under subparagraph (A) shall terminate on the
25 date on which the United States becomes a sig-

natory 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 would obligate the United States to reduce or limit the Armed Forces, armaments, or activities of the United States in outer space, the head of each Department or agency of the Federal Government that would be affected by the action shall submit to Congress a notice of the action and its effect on the Department or agency.”.

(k) REDESIGNATION OF CHAPTER 315 AS CHAPTER 399.—

(1) RESERVED CHAPTERS.—Title 51, United States Code, is amended by inserting after section 31302 the following:

“CHAPTERS 317 THROUGH 397—RESERVED”.

1 (2) REDESIGNATION OF CHAPTER.—Title 51,
 2 United States Code, is amended by redesignating
 3 chapter 315 as chapter 399.

4 (3) REDESIGNATION OF SECTIONS.—Chapter
 5 399 of title 51, United States Code (as redesignated
 6 by paragraph (2)), is amended—

7 (A) in the chapter table of contents, by re-
 8 designating the items for sections 31501
 9 through 31505 as items for sections 39901
 10 through 39905, respectively; and

11 (B) by redesignating sections 31501
 12 through 31505 as sections 39901 through
 13 39905, respectively.

14 (l) ENACTMENT OF CHAPTER 315.—

15 (1) ENACTMENT OF CHAPTER.—Title 51,
 16 United States Code, as amended by subsection (k),
 17 is amended by inserting after chapter 313 (and be-
 18 fore “CHAPTERS 317 THROUGH 397—RE-
 19 SERVED” as inserted by subsection (k)(1)) the fol-
 20 lowing:

21 **“Chapter 315—FACILITIES AND**
 22 **INFRASTRUCTURE**

“Sec.

“31501. Policy and plan.

“31502. Maintenance and upgrade of center facilities.

1 **“§ 31501. Policy and plan**

2 “(a) POLICY.—It is the policy of the United States
3 that the Administration maintain reliable and efficient fa-
4 cilities and infrastructure and that decisions on whether
5 to dispose of, maintain, or modernize existing facilities or
6 infrastructure be made in the context of meeting future
7 Administration needs.

8 “(b) PLAN.—

9 “(1) IN GENERAL.—The Administrator shall
10 develop a facilities and infrastructure plan.

11 “(2) GOAL.—The goal of the plan is to position
12 the Administration to have the facilities and infra-
13 structure, including laboratories, tools, and ap-
14 proaches, necessary to meet future Administration
15 and other Federal agencies’ laboratory needs.

16 “(3) CONTENTS.—The plan shall identify—

17 “(A) current Administration and other
18 Federal agency laboratory needs;

19 “(B) future Administration research and
20 development and testing needs;

21 “(C) a strategy for identifying facilities
22 and infrastructure that are candidates for dis-
23 posal, that is consistent with the national stra-
24 tegic direction set forth in—

25 “(i) the National Space Policy;

1 “(ii) the National Aeronautics Re-
2 search, Development, Test, and Evaluation
3 Infrastructure Plan;

4 “(iii) the National Aeronautics and
5 Space Administration Authorization Act of
6 2005 (Public Law 109–155, 119 Stat.
7 2895), the National Aeronautics and Space
8 Administration Authorization Act of 2008
9 (Public Law 110–422, 122 Stat. 4779),
10 and the National Aeronautics and Space
11 Administration Authorization Act of 2010
12 (Public Law 111–267, 124 Stat. 2805);
13 and

14 “(iv) the human exploration roadmap
15 under section 71721 of this title;

16 “(D) a strategy for the maintenance, re-
17 pair, upgrading, and modernization of Adminis-
18 tration facilities and infrastructure, including
19 laboratories and equipment;

20 “(E) criteria for—

21 “(i) prioritizing deferred maintenance
22 tasks;

23 “(ii) maintaining, repairing, upgrad-
24 ing, or modernizing Administration facili-
25 ties and infrastructure; and

1 “(iii) implementing processes, plans,
2 and policies for guiding the Administra-
3 tion’s centers on whether to maintain, re-
4 pair, upgrade, or modernize a facility or
5 infrastructure and for determining the type
6 of instrument to be used;

7 “(F) an assessment of modifications need-
8 ed to maximize usage of facilities that offer
9 unique and highly specialized benefits to the
10 aerospace industry and the American public;
11 and

12 “(G) implementation steps, including a
13 timeline, milestones, and an estimate of re-
14 sources required for carrying out the plan.

15 “(c) REQUIREMENT TO ESTABLISH POLICY.—

16 “(1) IN GENERAL.—Not later than 180 days
17 after March 21, 2017, the Administrator shall estab-
18 lish and make publicly available a policy that guides
19 the Administration’s use of existing authorities to
20 out-grant, lease, excess to the General Services Ad-
21 ministration, sell, decommission, demolish, or other-
22 wise transfer property, facilities, or infrastructure.

23 “(2) CRITERIA.—The policy shall include cri-
24 teria for the use of authorities, best practices, stand-
25 ardized procedures, and guidelines for how to appro-

1 priately manage property, facilities, and infrastruc-
2 ture.

3 “(d) SUBMISSION TO CONGRESS.—Not later than 1
4 year after March 21, 2017, the Administrator shall submit
5 to the Committee on Commerce, Science, and Transpor-
6 tation of the Senate and the Committee on Science, Space,
7 and Technology of the House of Representatives the plan
8 developed under subsection (b).”.

9 (2) REDESIGNATION OF SECTION 39902 AS SEC-
10 TION 31502.—

11 (A) REDESIGNATION AND TRANSFER.—
12 Section 39902 of title 51, United States Code,
13 as redesignated by subsection (k)(3)(B), is re-
14 designated as section 31502 of title 51, United
15 States Code, and transferred to appear after
16 section 31501 of title 51, United States Code,
17 as inserted by paragraph (1).

18 (B) AMENDMENT OF SECTION 31502.—Sec-
19 tion 31502 of title 51, United States Code, as
20 redesignated and transferred by subparagraph
21 (A), is amended—

22 (i) in the heading, by striking
23 **“Maintenance of facilities”** and in-
24 serting **“Maintenance and upgrade**
25 **of center facilities”**;

1 (ii) by striking “healthy Centers” and
 2 inserting “healthy centers”; and

3 (iii) by striking “Center facilities” and
 4 inserting “center facilities”.

5 (C) CONFORMING AMENDMENTS TO CHAP-
 6 TER 399.—Chapter 399 of title 51, United
 7 States Code, as redesignated and amended by
 8 subsections (k) and (l)(2)(A), is amended—

9 (i) in the chapter table of contents—

10 (I) by striking the item relating
 11 to section 39902; and

12 (II) by redesignating the items
 13 relating to sections 39903, 39904,
 14 and 39905 as items relating to sec-
 15 tions 39902, 39903, and 39904, re-
 16 spectively; and

17 (ii) by redesignating sections 39903,
 18 39904, and 39905 as sections 39902,
 19 39903, and 39904, respectively.

20 (m) REVISION OF SECTION 39901.—Section 39901
 21 of title 51, United States Code (as redesignated by sub-
 22 section (k)(3)), is amended—

23 (1) by redesignating the existing text as sub-
 24 section (a) and inserting the subsection heading
 25 “TECHNOLOGIES TO DECREASE RISK.—”; and

1 (2) by adding at the end the following:

2 “(b) INTERNATIONAL DISCUSSION.—

3 “(1) IN GENERAL.—The Administrator shall, in
4 consultation with such other departments and agen-
5 cies of the Federal Government as the Administrator
6 considers appropriate, continue and strengthen dis-
7 cussions with the representatives of other space-
8 faring countries, within the Inter-Agency Space De-
9bris Coordination Committee and elsewhere, to deal
10 with orbital debris mitigation.

11 “(2) INTERAGENCY EFFORT.—For purposes of
12 carrying out this subsection, the Director of the Of-
13 fice of Science and Technology Policy, in coordina-
14 tion with the Director of the National Security
15 Council and using the President’s Council of Advi-
16 sors on Science and Technology coordinating mecha-
17 nism, shall develop an overall strategy for review by
18 the President, with recommendations for proposed
19 international collaborative efforts to address the
20 challenge of orbital debris mitigation.”.

21 (n) REVISION OF SECTION 40308.—Section 40308(a)
22 of title 51, United States Code, is amended by striking
23 “(5 App. U.S.C.).” and inserting “(5 U.S.C. App.).”.

24 (o) REDESIGNATION OF CHAPTER 409 AS CHAPTER
25 499.—

1 (1) RESERVED CHAPTERS.—Title 51, United
 2 States Code, is amended by inserting after section
 3 40704 the following:

4 **“CHAPTERS 411 THROUGH 497—RE-**
 5 **SERVED”**.

6 (2) REDESIGNATION OF CHAPTER.—Title 51,
 7 United States Code, is amended by redesignating
 8 chapter 409 as chapter 499.

9 (3) REDESIGNATION OF SECTIONS.—Chapter
 10 499 of title 51, United States Code (as redesignated
 11 by paragraph (2)), is amended—

12 (A) in the chapter table of contents, by re-
 13 designating the items for sections 40901
 14 through 40909 as items for sections 49901
 15 through 49909, respectively; and

16 (B) by redesignating sections 40901
 17 through 40909 as sections 49901 through
 18 49909, respectively.

19 (p) ENACTMENT OF CHAPTER 409.—Title 51, United
 20 States Code, is amended by inserting after chapter 407
 21 (and before “CHAPTERS 411 THROUGH 497—RE-
 22 SERVED” as inserted by subsection (o)(1)) the following:

23 **“Chapter 409—AERONAUTICS**
 24 **AND SPACE TECHNOLOGY**

“Sec.

“40901. Aeronautics research goals.

“40902. Research collaboration.

“40903. Goal for Administration space technology.

“40904. National space technology policy.

“40905. Commercial Reusable Suborbital Research Program.

1 **“§ 40901. Aeronautics research goals**

2 “The Administrator should ensure that the Adminis-
3 tration maintains a strong aeronautics research portfolio
4 ranging from fundamental research through systems re-
5 search with specific research goals, including the following:

6 “(1) AIRSPACE CAPACITY.—The Administra-
7 tion’s Aeronautics Research Mission Directorate
8 shall address research needs of the Next Generation
9 Air Transportation System, including the ability of
10 the National Airspace System to handle up to 3
11 times the current travel demand by 2025.

12 “(2) ENVIRONMENTAL SUSTAINABILITY.—The
13 Directorate shall—

14 “(A) consider and pursue concepts to re-
15 duce noise, emissions, and fuel consumption
16 while maintaining high safety standards; and

17 “(B) pursue research relating to alter-
18 native fuels.

19 “(3) AVIATION SAFETY.—The Directorate shall
20 proactively address safety challenges with new and
21 current air vehicles and with operations in the Na-
22 tion’s current and future air transportation system.

1 **“§ 40902. Research collaboration**

2 “(a) DEPARTMENT OF DEFENSE.—The Adminis-
3 trator shall continue to coordinate with the Secretary of
4 Defense, through the National Partnership for Aero-
5 nautics Testing, to develop and implement joint plans for
6 those elements of the Nation’s research, development, test-
7 ing, and engineering infrastructure that are of common
8 interest and use.

9 “(b) FEDERAL AVIATION ADMINISTRATION.—The
10 Administrator shall continue to coordinate with, and work
11 closely with, the Administrator of the Federal Aviation
12 Administration, under the framework of the Senior Policy
13 Council, in the development of the Next Generation Air
14 Transportation Program. The Administrator shall encour-
15 age the Council to explore areas for greater collaboration,
16 including areas in which the Administration can help to
17 accelerate the development and demonstration of NextGen
18 technologies.

19 **“§ 40903. Goal for Administration space technology**

20 “Building on its Innovative Partnerships Program
21 and other partnering approaches, it is critical that the Ad-
22 ministration maintain an Administration space technology
23 base that helps align mission directorate investments and
24 supports long term needs—

25 “(1) to complement mission-directorate funded
26 research; and

1 “(2) where appropriate, to support multiple
2 users.

3 **“§ 40904. National space technology policy**

4 “(a) IN GENERAL.—The President, in consultation
5 with appropriate Federal agencies, shall develop a national
6 policy to guide the space technology development pro-
7 grams of the United States through 2020. The policy shall
8 include national goals for technology development and
9 shall describe the role and responsibilities of each Federal
10 agency that will carry out the policy. In developing the
11 policy, the President shall utilize external studies that
12 have been conducted on the state of United States tech-
13 nology development and have suggested policies to ensure
14 continued competitiveness.

15 “(b) CONTENT.—At a minimum, the national space
16 technology development policy shall describe for the Ad-
17 ministration—

18 “(1) the priority areas of research for tech-
19 nology investment;

20 “(2) the basis on which and the process by
21 which priorities for ensuing fiscal years will be se-
22 lected;

23 “(3) the facilities and personnel needed to carry
24 out the technology development program; and

1 “(4) the budget assumptions on which the pol-
2 icy is based, which for fiscal years 2011, 2012, and
3 2013 shall be the authorized level for the Adminis-
4 tration’s technology program authorized by the Na-
5 tional Aeronautics and Space Administration Au-
6 thorization Act of 2010 (Public Law 111–267, 124
7 Stat. 2805).

8 “(c) POLICY PREMISE.—The policy shall be based on
9 the premise that the Federal Government has an estab-
10 lished interest in conducting research and development
11 programs that help preserve the role of the United States
12 as a global leader in space technologies and their applica-
13 tion.

14 “(d) CONSIDERATIONS.—In developing the national
15 space technology development policy, the President shall
16 consider the following issues:

17 “(1) LONG TERM AND INCREMENTAL DEVELOP-
18 MENT.—The extent to which the Administration
19 should focus on long term, high-risk research or
20 more incremental technology development, and the
21 expected impact of that decision on the United
22 States economy.

23 “(2) MILITARY AND COMMERCIAL NEEDS.—The
24 extent to which the Administration should address
25 military and commercial needs.

1 “(3) COORDINATION WITH FEDERAL AGEN-
 2 CIES.—How the Administration will coordinate its
 3 technology program with other Federal agencies.

4 “(4) ADMINISTRATION, UNIVERSITY, AND IN-
 5 DUSTRY RESEARCH.—The extent to which the Ad-
 6 ministration will conduct research in-house, fund
 7 university research, and collaborate on industry re-
 8 search and the expected impact of that mix of fund-
 9 ing on the supply of United States workers for in-
 10 dustry.

11 “(e) CONSULTATION.—In the development of the na-
 12 tional space technology development policy, the President
 13 shall consult widely with academic and industry experts
 14 and with Federal agencies. The Administrator may enter
 15 into an arrangement with the National Academy of
 16 Sciences to help develop the policy.

17 **“§ 40905. Commercial Reusable Suborbital Research**
 18 **Program**

19 “(a) FINDING THAT SUBORBITAL SCIENCE MISSIONS
 20 ARE CRITICAL.—The report entitled Revitalizing NASA’s
 21 Suborbital Program: Advancing Science, Driving Innova-
 22 tion, and Developing a Workforce (prepared by the Com-
 23 mittee on NASA’s Suborbital Research Capabilities, Space
 24 Studies Board, Division on Engineering and Physical
 25 Sciences, National Research Council of the National Acad-

1 emies) found that suborbital science missions are abso-
2 lutely critical to building an aerospace workforce capable
3 of meeting the needs of current and future human and
4 robotic space exploration.

5 “(b) ESTABLISHMENT.—The Administrator shall es-
6 tablish a Commercial Reusable Suborbital Research Pro-
7 gram within the Space Technology Program.

8 “(c) MANAGEMENT.—The Administrator shall des-
9 ignate an officer or employee of the Space Technology
10 Program to act as the responsible official for the Commer-
11 cial Reusable Suborbital Research Program. The designee
12 shall be responsible for the development of short- and
13 long-term strategic plans for maintaining, renewing, and
14 extending suborbital facilities and capabilities.

15 “(d) ACTIVITIES.—The Commercial Reusable Sub-
16 orbital Research Program—

17 “(1) shall fund the development of payloads for
18 scientific research, technology development, and edu-
19 cation;

20 “(2) shall provide flight opportunities to micro-
21 gravity environments and suborbital altitudes for the
22 payloads referred to in paragraph (1);

23 “(3) may fund engineering and integration
24 demonstrations, proofs of concept, or educational ex-

1 periments for commercial reusable vehicle flights;
2 and

3 “(4) shall endeavor to work with the Adminis-
4 tration’s mission directorates to help achieve the Ad-
5 ministration’s research, technology, and education
6 goals.

7 “(e) REPORT.—The Administrator shall annually
8 submit to the Committee on Commerce, Science, and
9 Transportation of the Senate and the Committee on
10 Science, Space, and Technology of the House of Rep-
11 resentatives a report describing progress in carrying out
12 the Commercial Reusable Suborbital Research program,
13 including the number and type of suborbital missions
14 planned in each fiscal year.”.

15 (q) ENACTMENT OF SECTIONS 49910 THROUGH
16 49912.—

17 (1) CHAPTER TABLE OF CONTENTS.—The
18 chapter table of contents of chapter 499 of title 51,
19 United States Code (as redesignated and amended
20 by subsection (o)), is amended by adding at the end
21 the following:

“49910. Programs to support STEM education.

“49911. Supporting women’s involvement in the fields of aerospace and space
exploration.

“49912. Internship and fellowship opportunities.”.

22 (2) ENACTMENT OF SECTIONS.—Chapter 499
23 of title 51, United States Code (as redesignated and

1 amended by subsection (o)), is amended by adding
2 at the end the following:

3 **“§ 49910. Programs to support STEM education**

4 “(a) DEFINITION OF STEM.—In this section, the
5 term ‘STEM’ means the academic and professional dis-
6 ciplines of science, technology, engineering, and mathe-
7 matics.

8 “(b) EDUCATIONAL PROGRAM GOALS.—The Admin-
9 istration shall develop and maintain educational programs
10 to—

11 “(1) carry out and support research-based pro-
12 grams and activities designed to increase student in-
13 terest and participation in STEM, including stu-
14 dents from minority and underrepresented groups;

15 “(2) improve public literacy in STEM;

16 “(3) employ proven strategies and methods for
17 improving student learning and teaching in STEM;

18 “(4) provide curriculum support materials and
19 other resources that—

20 “(A) are designed to be integrated with
21 comprehensive STEM education;

22 “(B) are aligned with national science edu-
23 cation standards; and

1 “(C) promote the adoption and implemen-
2 tation of high-quality education practices that
3 build toward college and career-readiness; and

4 “(5) create and support opportunities for en-
5 hanced and ongoing professional development for
6 teachers using best practices that improve the
7 STEM content and knowledge of the teachers, in-
8 cluding through programs linking STEM teachers
9 with STEM educators at the higher education level.

10 “(c) CYBERSECURITY IN STEM PROGRAMS.—In car-
11 rying out any STEM education program of the Adminis-
12 tration, including a program of the Office of STEM En-
13 gagement, the Administrator shall, to the maximum extent
14 practicable, encourage the inclusion of cybersecurity edu-
15 cation opportunities in the program.

16 **“§ 49911. Supporting women’s involvement in the**
17 **fields of aerospace and space exploration**

18 “The Administrator shall encourage women and girls
19 to study science, technology, engineering, and mathe-
20 matics, pursue careers in aerospace, and further advance
21 the Nation’s space science and exploration efforts through
22 support of the following initiatives:

23 “(1) NASA GIRLS and NASA BOYS.

24 “(2) Aspire to Inspire.

1 “(3) Summer Institute in Science, Technology,
2 Engineering, and Research.

3 **“§ 49912. Internship and fellowship opportunities**

4 “Not later than October 1, 2018, the Administrator
5 shall institute a process to encourage the recruitment of
6 qualified candidates who are women or individuals who are
7 underrepresented in the fields of science, technology, engi-
8 neering, and mathematics (STEM) and computer science
9 for internships and fellowships at the Administration with
10 relevance to the aerospace sector and related fields.”.

11 (r) REVISION OF SECTION 50905.—Section 50905 of
12 title 51, United States Code, is amended—

13 (1) in the 2d sentence of subsection (a)(1), by
14 striking “subsection (b)(2)(D)” and inserting “sub-
15 section (b)(2)(E)”;

16 (2) in the 3d sentence of subsection (a)(1), by
17 striking “subsection (b)(2)(D)” and inserting “sub-
18 section (b)(2)(E)”;

19 (3) in the last sentence of subsection (a)(1), by
20 striking “Committee on Science” and inserting
21 “Committee on Science, Space, and Technology”;

22 (4) in subsection (b)(4)(B), by striking “the
23 date of enactment of the Commercial Space Launch
24 Amendments Act of 2004” and inserting “December
25 23, 2004”;

1 (5) in subsection (b)(6)(A), by striking “the
2 date of enactment of the Commercial Space Launch
3 Amendments Act of 2004” and inserting “December
4 23, 2004”; and

5 (6) in subsection (b)(6)(B), by striking “the
6 date of enactment of the Commercial Space Launch
7 Amendments Act of 2004” and inserting “December
8 23, 2004”.

9 (s) REVISION OF SECTION 50922.—Section 50922 of
10 title 51, United States Code, is amended—

11 (1) in subsection (a) (matter before paragraph
12 (1)), by striking “the date of the enactment of this
13 section,” and inserting “October 28, 1998,”;

14 (2) in subsection (b) (matter before paragraph
15 (1)), by striking “the date of the enactment of this
16 section,” and inserting “October 28, 1998,”;

17 (3) in subsection (c)(1)—

18 (A) by striking “the date of enactment of
19 the Commercial Space Launch Amendments
20 Act of 2004,” and inserting “December 23,
21 2004,”;

22 (B) by striking “that Act,” and inserting
23 “the Commercial Space Launch Amendments
24 Act of 2004,”; and

1 (C) by striking “such date of enactment,”
 2 and inserting “December 23, 2004,”;

3 (4) in subsection (c)(2)(A), by striking “the
 4 date of enactment of the Commercial Space Launch
 5 Amendments Act of 2004,” and inserting “Decem-
 6 ber 23, 2004,”;

7 (5) in subsection (d)(2)—

8 (A) by striking “the date of enactment of
 9 the Commercial Space Launch Amendments
 10 Act of 2004,” and inserting “December 23,
 11 2004,”; and

12 (B) by striking “that Act” and inserting
 13 “the Commercial Space Launch Amendments
 14 Act of 2004”; and

15 (6) in subsection (d)(3), by striking “the date
 16 of enactment of the Commercial Space Launch
 17 Amendments Act of 2004” and inserting “December
 18 23, 2004,”.

19 (t) REVISION OF CHAPTER 515.—

20 (1) TABLE OF CONTENTS.—Chapter 515 of
 21 title 51, United States Code, is amended by insert-
 22 ing after the chapter heading the following:

“Sec.

“51501. Establishment of Office of Spaceports.”.

23 (2) REVISION OF SECTION 51501.—Section
 24 51501 of title 51, United States Code, is amended—

1 (A) by redesignating subsections (a), (b),
2 (c), (d), and (e) as subsections (b), (c), (d), (e),
3 and (a), respectively, and transferring sub-
4 section (a), as redesignated, to appear at the
5 beginning of the section;

6 (B) in the heading for subsection (a), as
7 redesignated, by striking “DEFINITION” and in-
8 serting “DEFINITION OF SPACEPORT”;

9 (C) in subsection (a), as redesignated, by
10 inserting a comma after “In this section”;

11 (D) in subsection (b), as redesignated, by
12 striking “the date of enactment of this section,”
13 and inserting “October 5, 2018,”; and

14 (E) in subsection (d), as redesignated—

15 (i) by striking “functions assigned in
16 subsection (b),” and inserting “functions
17 assigned in subsection (c),”; and

18 (ii) by striking “host” from the end of
19 the matter before paragraph (1) and in-
20 serting “host” at the beginning of para-
21 graph (1).

22 (u) ENACTMENT OF CHAPTER 517.—Title 51,
23 United States Code, is amended by inserting after chapter
24 515 the following:

1 **“Chapter 517—DEVELOPMENT**
 2 **AND USE OF COMMERCIAL**
 3 **CARGO AND CREW TRANS-**
 4 **PORTATION CAPABILITIES**

“Sec.

“51701. Commercial development of cargo transportation capabilities.

“51702. Commercial development of crew transportation capabilities.

“51703. Commercial Crew Program.

“51704. Policy regarding fair and open competition for space transportation services.

“51705. Transparency.

5 **“§ 51701. Commercial development of cargo transpor-**
 6 **tation capabilities**

7 “The Administrator shall continue to support the ex-
 8 isting Commercial Resupply Services program, aimed at
 9 enabling the commercial space industry in support of the
 10 Administration to develop reliable means of launching
 11 cargo and supplies to the International Space Station
 12 throughout the duration of the facility’s operation. The
 13 Administrator may apply funds toward the reduction of
 14 risk to the timely start of the services, specifically—

15 “(1) efforts to conduct a flight test;

16 “(2) the acceleration of development; and

17 “(3) the development of the ground infrastruc-
 18 ture needed for commercial cargo capability.

19 **“§ 51702. Commercial development of crew transpor-**
 20 **tation capabilities**

21 “For the duration of the commercial crew develop-
 22 ment program, the Administrator may support follow-on

1 commercially developed crew transportation systems de-
2 pendent on the completion of each of the following:

3 “(1) HUMAN RATING REQUIREMENTS.—The
4 Administrator shall develop and make available to
5 the public detailed human rating processes and re-
6 quirements to guide the design of commercially de-
7 veloped crew transportation capabilities, which re-
8 quirements shall be at least equivalent to proven re-
9 quirements for crew transportation in use as of Oc-
10 tober 11, 2010.

11 “(2) PROCUREMENT SYSTEM REVIEW.—

12 “(A) REVIEW OF CURRENT PRACTICES
13 AND PROCESSES.—The Administrator shall re-
14 view current Government procurement and ac-
15 quisition practices and processes, including
16 agreement authorities under chapter 201 of this
17 title, to determine the most cost-effective means
18 of procuring commercial crew transportation ca-
19 pabilities and related services in a manner that
20 ensures appropriate accountability, trans-
21 parency, and maximum efficiency in the pro-
22 curement of the capabilities and services. The
23 review shall include identification of proposed
24 measures to address—

1 “(i) risk management and means of
2 indemnification of commercial providers of
3 the capabilities and services;

4 “(ii) quality control;

5 “(iii) safety oversight; and

6 “(iv) the application of Federal over-
7 sight processes within the jurisdiction of
8 other Federal agencies.

9 “(B) REVIEW OF PROPOSED PROCURE-
10 MENT.—A description of the proposed procure-
11 ment process and justification of the proposed
12 procurement for its selection shall be included
13 in any proposed initiation of procurement activ-
14 ity for commercially developed crew transpor-
15 tation capabilities and services and shall be sub-
16 ject to review by the Committee on Commerce,
17 Science, and Transportation of the Senate and
18 the Committee on Science, Space, and Tech-
19 nology of the House of Representatives before
20 the initiation of any competitive process to pro-
21 cure the capabilities or services. In support of
22 the review by the committees, the Comptroller
23 General shall undertake an assessment of the
24 proposed procurement process and provide a re-
25 port to the committees not later than 90 days

1 after the date on which the Administrator pro-
2 vides the description and justification to the
3 committees.

4 “(3) USE OF GOVERNMENT-SUPPLIED CAPA-
5 BILITIES AND INFRASTRUCTURE.—In evaluating any
6 proposed development activity for commercially de-
7 veloped crew or cargo launch capabilities, the Ad-
8 ministrator shall identify the anticipated contribu-
9 tion of Government personnel, expertise, tech-
10 nologies, and infrastructure to be utilized in support
11 of design, development, or operations of the capabili-
12 ties. This assessment shall include a clear delineation
13 of the full requirements for the commercial crew
14 service (including the contingency for crew rescue).
15 The Administrator shall include details and associ-
16 ated costs of such support as part of any proposed
17 development initiative for the procurement of com-
18 mercially developed crew or cargo launch capabilities
19 or services.

20 “(4) FLIGHT DEMONSTRATION AND READINESS
21 REQUIREMENTS.—The Administrator shall establish
22 appropriate milestones and minimum performance
23 objectives to be achieved before authority is granted
24 to proceed to the procurement of commercially devel-
25 oped crew transportation capabilities or services.

1 The guidelines shall include a procedure to provide
2 independent assurance of flight safety and flight
3 readiness before the authorization of United States
4 government personnel to participate as crew onboard
5 any commercial launch vehicle developed pursuant to
6 this section.

7 “(5) COMMERCIAL CREW RESCUE CAPABILI-
8 TIES.—The provision of a commercial capability to
9 provide International Space Station crew services
10 shall include crew rescue requirements, and shall be
11 undertaken through the procurement process initi-
12 ated in conformance with this section. In the event
13 such development is initiated, the Administrator
14 shall make available any relevant government-owned
15 intellectual property deriving from the development
16 of a multipurpose crew vehicle authorized by this
17 section and sections 71522 and 71523 of this title
18 to commercial entities involved with such crew res-
19 cue capability development which shall be relevant to
20 the design of a crew rescue capability. In addition,
21 the Administrator shall seek to ensure that contracts
22 for development of the multipurpose crew vehicle
23 contain provisions for the licensing of relevant intel-
24 lectual property to participating commercial pro-
25 viders of any crew rescue capability development un-

1 dertaken pursuant to this section. If 1 or more con-
2 tractors involved with development of the multipur-
3 pose crew vehicle seek to compete in development of
4 a commercial crew service with crew rescue capa-
5 bility, separate legislative authority must be enacted
6 to enable the Administrator to provide funding for
7 any modifications of the multipurpose crew vehicle
8 necessary to fulfill the International Space Station
9 crew rescue function.

10 **“§ 51703. Commercial Crew Program**

11 “(a) OBJECTIVE.—The objective of the Commercial
12 Crew Program shall be to assist in the development and
13 certification of commercially provided transportation
14 that—

15 “(1) can carry United States government astro-
16 nauts (meaning a government astronaut as defined
17 in section 50902 of this title) safely, reliably, and
18 affordably to and from the International Space Sta-
19 tion;

20 “(2) can serve as a crew rescue vehicle; and

21 “(3) can accomplish the goals stated in para-
22 graphs (1) and (2) as soon as practicable.

23 “(b) PRIMARY CONSIDERATION.—The objective de-
24 scribed in subsection (a) shall be the primary consider-

1 ation in the acquisition strategy for the Commercial Crew
2 Program.

3 “(c) SAFETY.—

4 “(1) IN GENERAL.—The Administrator shall
5 protect the safety of government astronauts (as de-
6 fined in section 50902 of this title) by ensuring that
7 each commercially provided transportation system
8 under this section meets all applicable human rating
9 requirements in accordance with section 51702(1) of
10 this title.

11 “(2) LESSONS LEARNED.—Consistent with the
12 findings and recommendations of the Columbia Acci-
13 dent Investigation Board, the Administration shall
14 ensure that safety and the minimization of the prob-
15 ability of loss of crew are the critical priorities of the
16 Commercial Crew Program.

17 “(d) COST MINIMIZATION.—The Administrator shall
18 strive through the competitive selection process to mini-
19 mize the life cycle cost to the Administration through the
20 planned period of commercially provided crew transpor-
21 tation services.

22 **“§ 51704. Policy regarding fair and open competition**
23 **for space transportation services**

24 “It is the policy of the United States that, to foster
25 the competitive development, operation, improvement, and

1 commercial availability of space transportation services,
 2 and to minimize the life cycle cost to the Administration,
 3 the Administrator shall procure services for Federal Gov-
 4 ernment access to and return from the International
 5 Space Station, whenever practicable, via fair and open
 6 competition for well-defined, milestone-based, Federal Ac-
 7 quisition Regulation-based contracts under section
 8 71511(a) of this title.

9 **“§ 51705. Transparency**

10 “The Administrator shall, to the greatest extent prac-
 11 ticable and in a manner that does not add costs or sched-
 12 ule delays to the program, ensure all Commercial Crew
 13 Program and Commercial Resupply Services Program pro-
 14 viders provide evidence-based support for their costs and
 15 schedules.”.

16 (v) REVISION OF SECTION 60304.—

17 (1) REVISION OF SECTION.—Section 60304 of
 18 title 51, United States Code, is amended—

19 (A) in the section heading, by striking
 20 **“Program evaluation”** and inserting **“Ad-**
 21 **visory committee”**;

22 (B) in subsection (a)—

23 (i) by striking the subsection designa-
 24 tion “(a)” and the subsection heading
 25 **“ADVISORY COMMITTEE.—”**; and

1 (ii) by striking “(5 App. U.S.C.),”
 2 and inserting “(5 U.S.C. App.),”; and
 3 (C) by striking subsection (b).

4 (2) CONFORMING AMENDMENT.—The chapter
 5 table of contents of chapter 603 of title 51, United
 6 States Code, is amended by striking the item relat-
 7 ing to section 60304 and inserting the following:

“60304. Advisory committee.”.

8 (w) ENACTMENT OF SECTIONS 60507 THROUGH
 9 60510.—

10 (1) CHAPTER TABLE OF CONTENTS.—The
 11 chapter table of contents of chapter 605 of title 51,
 12 United States Code, is amended by adding at the
 13 end the following:

“60507. Interagency collaboration implementation approach.

“60508. Transitioning experimental research to operations.

“60509. Decadal Survey missions implementation for Earth observation.

“60510. Instrument testbeds and venture class missions.”.

14 (2) ENACTMENT OF SECTIONS.—Chapter 605
 15 of title 51, United States Code, is amended by add-
 16 ing at the end the following:

17 **“§ 60507. Interagency collaboration implementation**
 18 **approach**

19 “The Director of the Office of Science and Tech-
 20 nology Policy shall establish a mechanism to ensure great-
 21 er coordination of the research, operations, and activities
 22 relating to civilian Earth observation of Federal agencies,

1 including the Administration, that have active programs
2 that contribute either directly or indirectly to those areas.
3 The mechanism should include the development of a stra-
4 tegic implementation plan that is updated at least every
5 3 years with a process for external independent advisory
6 input. The strategic implementation plan should include—

7 “(1) a description of the responsibilities of the
8 various Federal agency roles in Earth observations;

9 “(2) recommended cost-sharing and procure-
10 ment arrangements between Federal agencies and
11 other entities, including international arrangements;
12 and

13 “(3) a plan for ensuring the provision of sus-
14 tained, long-term space-based climate observations.

15 **“§ 60508. Transitioning experimental research to op-**
16 **erations**

17 “Based on the implementation plan provided to Con-
18 gress in March 2011, the Administrator shall coordinate
19 with the Administrator of the National Oceanic and At-
20 mospheric Administration and the Director of the United
21 States Geological Survey to establish a formal mechanism
22 that plans, coordinates, and supports the transitioning of
23 the research findings, assets, and capabilities of the Ad-
24 ministration to the operations of the National Oceanic and
25 Atmospheric Administration and the United States Geo-

1 logical Survey. In defining the mechanism, the Adminis-
 2 tration should consider the establishment of a formal or
 3 informal interagency transition office.

4 **“§ 60509. Decadal Survey missions implementation**
 5 **for Earth observation**

6 “The Administrator shall undertake to implement, as
 7 appropriate, missions identified in the National Research
 8 Council’s Earth Science Decadal Survey within the scope
 9 of the funds authorized for the Earth Science Mission Di-
 10 rectorate.

11 **“§ 60510. Instrument testbeds and venture class mis-**
 12 **sions**

13 “The Administrator shall pursue innovative ways to
 14 fly instrument-level payloads for early demonstration or
 15 as co-manifested payloads. Congress encourages the use
 16 of the International Space Station as an accessible plat-
 17 form for the conduct of such activities. Additionally, in
 18 order to address the cost and schedule challenges associ-
 19 ated with large flight systems, the Administrator should
 20 pursue smaller systems to the extent practicable and war-
 21 ranted.”.

22 (x) REVISION OF CHAPTER 709.—

23 (1) CHAPTER TABLE OF CONTENTS.—The
 24 chapter table of contents of chapter 709 of title 51,

1 United States Code, is amended by adding at the
 2 end the following:

“70908. Continuation of the International Space Station.

“70909. Maximum utilization of the International Space Station.

“70910. Operation, maintenance, and maximum utilization of United States segment.

“70911. Management of national laboratory.

“70912. Primary objectives of International Space Station program.”.

3 (2) TECHNICAL AMENDMENT TO SECTION
 4 70902.—Section 70902 of title 51, United States
 5 Code, is amended by striking “section 40904” and
 6 inserting “section 49904”.

7 (3) TECHNICAL AMENDMENT TO SECTION
 8 70903.—Section 70903(1) of title 51, United States
 9 Code, is amended by striking “section 40904” and
 10 inserting “section 49904”.

11 (4) TECHNICAL AMENDMENTS TO SECTION
 12 70904.—Section 70904 of title 51, United States
 13 Code, is amended—

14 (A) in subsection (b)(2), by striking “sec-
 15 tion 40904” and inserting “section 49904”;

16 (B) in subsection (b)(3), by striking “Com-
 17 mittee on Science and Technology” and insert-
 18 ing “Committee on Science, Space, and Tech-
 19 nology”; and

20 (C) in subsection (c)(2), by striking “Com-
 21 mittee on Science and Technology” and insert-

1 ing “Committee on Science, Space, and Tech-
2 nology”.

3 (5) ENACTMENT OF SECTIONS 70908 THROUGH
4 70912.—Chapter 709 of title 51, United States Code,
5 is amended by adding at the end the following:

6 **“§ 70908. Continuation of the International Space**
7 **Station**

8 “(a) POLICY.—It shall be the policy of the United
9 States, in consultation with its international partners in
10 the International Space Station program, to support full
11 and complete utilization of the International Space Station
12 through at least 2024.

13 “(b) ACTIONS.—In furtherance of the policy set forth
14 in subsection (a), the Administration shall—

15 “(1) pursue international, commercial, and
16 intragovernmental means to maximize International
17 Space Station logistics supply, maintenance, and
18 operational capabilities, reduce risks to International
19 Space Station systems sustainability, and offset and
20 minimize United States operations costs relating to
21 the International Space Station;

22 “(2) utilize, to the extent practicable, the Inter-
23 national Space Station for the development of capa-
24 bilities and technologies needed for the future of

1 human space exploration beyond low-Earth orbit;
2 and

3 “(3) utilize, if practical and cost effective, the
4 International Space Station for Science Mission Di-
5 rectorate missions in low-Earth orbit.

6 **“§ 70909. Maximum utilization of the International**
7 **Space Station**

8 “(a) IN GENERAL.—With assembly of the Inter-
9 national Space Station complete, the Administration shall
10 take steps to maximize the productivity and use of the
11 International Space Station with respect to scientific and
12 technological research and development, advancement of
13 space exploration, and international collaboration.

14 “(b) ACTIONS.—In carrying out subsection (a), the
15 Administration shall, at a minimum, undertake the fol-
16 lowing:

17 “(1) INNOVATIVE USE OF U.S. SEGMENT.—The
18 United States segment of the International Space
19 Station, which has been designated as a national
20 laboratory, shall be developed, managed, and utilized
21 in a manner that enables the effective and innovative
22 use of the facility, as provided in section 70911 of
23 this title.

24 “(2) INTERNATIONAL COOPERATION.—

1 “(A) DEFINITION OF NEAR-EARTH
2 SPACE.—In this paragraph, the term ‘near-
3 Earth space’ means the region of space that in-
4 cludes low-Earth orbit and extends out to and
5 includes geo-synchronous orbit.

6 “(B) USE OF INTERNATIONAL SPACE STA-
7 TION.—The International Space Station shall
8 continue to be utilized as a key component of
9 international efforts to build missions and capa-
10 bilities that further the development of a
11 human presence beyond near-Earth space and
12 advance United States security and economic
13 goals. The Administrator shall actively seek
14 ways to encourage and enable the use of Inter-
15 national Space Station capabilities to support
16 those efforts.

17 “(3) DOMESTIC COLLABORATION.—The oper-
18 ations, management, and utilization of the Inter-
19 national Space Station shall be conducted in a man-
20 ner that provides opportunities for collaboration with
21 other research programs and objectives of the
22 United States Government in cooperation with com-
23 mercial suppliers, users, and developers.

1 **“§ 70910. Operation, maintenance, and maximum uti-**
2 **lization of United States segment**

3 “(a) IN GENERAL.—The Administrator shall take all
4 actions necessary to ensure the safe and effective oper-
5 ation, maintenance, and maximum utilization of the
6 United States segment of the International Space Station
7 through at least September 30, 2024.

8 “(b) PLANNING, MANAGEMENT, AND SUPPORT.—
9 Utilization of research facilities and capabilities aboard
10 the International Space Station (other than exploration-
11 related research and technology development facilities and
12 capabilities, and associated ground support and logistics)
13 shall be planned, managed, and supported as provided in
14 section 70911 of this title. Exploration-related research
15 and technology development facilities, capabilities, and as-
16 sociated ground support and logistics shall be planned,
17 managed, and supported by the appropriate Administra-
18 tion organizations and officials in a manner that does not
19 interfere with other activities under section 70911 of this
20 title.

21 **“§ 70911. Management of national laboratory**

22 “(a) COOPERATIVE AGREEMENT WITH NOT-FOR-
23 PROFIT ORGANIZATION FOR MANAGEMENT OF NATIONAL
24 LABORATORY.—

25 “(1) IN GENERAL.—The Administrator shall
26 provide initial financial assistance and enter into a

1 cooperative agreement with an appropriate organiza-
2 tion that is exempt from taxation under section
3 501(c)(3) of the Internal Revenue Code of 1986 (26
4 U.S.C. 501(c)(3)) to manage the activities of the
5 International Space Station national laboratory in
6 accordance with this section.

7 “(2) QUALIFICATIONS.—The organization with
8 which the Administrator enters into the cooperative
9 agreement shall develop the capabilities to imple-
10 ment research and development projects utilizing the
11 International Space Station national laboratory and
12 to otherwise manage the activities of the Inter-
13 national Space Station national laboratory.

14 “(3) PROHIBITION ON OTHER ACTIVITIES.—
15 The cooperative agreement shall require the organi-
16 zation entering into the agreement to engage exclu-
17 sively in activities relating to the management of the
18 International Space Station national laboratory and
19 activities that promote its long-term research and
20 development mission as required by this section,
21 without any other organizational objectives or re-
22 sponsibilities on behalf of the organization or any
23 parent organization or other entity.

24 “(b) ADMINISTRATION LIAISON.—

1 “(1) DESIGNATION.—The Administrator shall
2 designate an official or employee of the Space Oper-
3 ations Mission Directorate of the Administration to
4 act as liaison between the Administration and the
5 organization with which the Administrator enters
6 into a cooperative agreement under subsection (a)
7 with regard to the management of the International
8 Space Station national laboratory.

9 “(2) CONSULTATION WITH LIAISON.—The coop-
10 erative agreement shall require the organization en-
11 tering into the agreement to carry out its respon-
12 sibilities under the agreement in cooperation and
13 consultation with the official or employee designated
14 under paragraph (1).

15 “(c) PLANNING AND COORDINATION OF NATIONAL
16 LABORATORY RESEARCH ACTIVITIES.—The Adminis-
17 trator shall provide initial financial assistance to the orga-
18 nization with which the Administrator enters into a coop-
19 erative agreement under subsection (a), in order for the
20 organization to initiate the following:

21 “(1) Planning and coordination of the Inter-
22 national Space Station national laboratory research
23 activities.

24 “(2) Development and implementation of guide-
25 lines, selection criteria, and flight support require-

1 ments for non-Administration scientific utilization of
2 International Space Station research capabilities and
3 facilities available in United States-owned modules
4 of the International Space Station or in partner-
5 owned facilities of the International Space Station
6 allocated to United States utilization by inter-
7 national agreement.

8 “(3) Interaction with and integration of the
9 International Space Station National Laboratory
10 Advisory Committee established under section 70906
11 of this title with the governance of the organization,
12 and review of recommendations provided by that
13 Committee regarding agreements with non-Adminis-
14 tration departments and agencies of the United
15 States Government, academic institutions and con-
16 sortia, and commercial entities leading to the utiliza-
17 tion of the International Space Station national lab-
18 oratory facilities.

19 “(4) Coordination of transportation require-
20 ments in support of the International Space Station
21 national laboratory research and development objec-
22 tives, including provision for delivery of instruments,
23 logistics support, and related experiment materials,
24 and provision for return to Earth of collected sam-

1 ples, materials, and scientific instruments in need of
2 replacement or upgrade.

3 “(5) Cooperation with the Administration, other
4 departments and agencies of the United States Gov-
5 ernment, the States, and commercial entities in en-
6 suring the enhancement and sustained operations of
7 non-exploration-related research payload ground
8 support facilities for the International Space Sta-
9 tion, including the Space Life Sciences Laboratory,
10 the Space Station Processing Facility, and the Pay-
11 load Operations Integration Center.

12 “(6) Development and implementation of sci-
13 entific outreach and education activities designed to
14 ensure effective utilization of International Space
15 Station research capabilities, including the conduct
16 of scientific assemblies, conferences, and other fora
17 for the presentation of research findings, methods,
18 and mechanisms for the dissemination of non-re-
19 stricted research findings and the development of
20 educational programs, course supplements, and
21 interaction with educational programs at all grade
22 levels, including student-focused research opportuni-
23 ties for conduct of research in the International
24 Space Station national laboratory facilities.

1 “(7) Other matters relating to the utilization of
2 the International Space Station national laboratory
3 facilities for research and development as the Ad-
4 ministrator considers appropriate.

5 “(d) RESEARCH CAPACITY ALLOCATION AND INTE-
6 GRATION OF RESEARCH PAYLOADS.—

7 “(1) ALLOCATION OF INTERNATIONAL SPACE
8 STATION RESEARCH CAPACITY.—International Space
9 Station national laboratory managed experiments
10 shall be guaranteed access to, and utilization of, not
11 less than 50 percent of the United States research
12 capacity allocation, including power, cold stowage,
13 and requisite crew time onboard the International
14 Space Station through at least September 30, 2024.
15 Access to the International Space Station research
16 capacity includes provision for the adequate upmass
17 and downmass capabilities to utilize the Inter-
18 national Space Station research capacity, as avail-
19 able. The Administrator may allocate additional ca-
20 pacity to the International Space Station national
21 laboratory should such capacity be in excess of Ad-
22 ministration research requirements.

23 “(2) ADDITIONAL RESEARCH CAPABILITIES.—If
24 any Administration research plan is determined to
25 require research capacity onboard the International

1 Space Station beyond the percentage allocated under
2 paragraph (1), the research plan shall be prepared
3 in the form of a requested research opportunity to
4 be submitted to the process established under this
5 section for the consideration of proposed research
6 within the capacity allocated to the International
7 Space Station national laboratory. A proposal for
8 such a research plan may include the establishment
9 of partnerships with non-Administration institutions
10 eligible to propose research to be conducted within
11 the International Space Station national laboratory
12 capacity. Until at least September 30, 2024, the of-
13 ficial or employee designated under subsection (b)
14 may grant an exception to this requirement in the
15 case of a proposed experiment considered essential
16 for purposes of preparing for exploration beyond
17 low-Earth orbit, as determined by joint agreement
18 between the organization with which the Adminis-
19 trator enters into a cooperative agreement under
20 subsection (a) and the official or employee des-
21 ignated under subsection (b).

22 “(3) RESEARCH PRIORITIES AND ENHANCED
23 CAPACITY.—The organization with which the Admin-
24 istrator enters into the cooperative agreement shall
25 consider recommendations of the National Acad-

emies 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 International Space Station national laboratory.

“(4) RESPONSIBILITY FOR RESEARCH PAYLOAD.—The Administration shall retain its roles and responsibilities in providing research payload physical, analytical, and operations integration during pre-flight, 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).

“§ 70912. Primary objectives of International Space Station program

“The primary objectives of the International Space Station program shall be—

“(1) to achieve the long term goal and objectives under section 71512 of this title; and

“(2) to pursue a research program that advances knowledge and provides other benefits to the Nation.”.

1 (y) REVISION OF SECTION 71102.—Section 71102(1)
 2 of title 51, United States Code, is amended by striking
 3 “attaching a tracking device,” and inserting “attaching a
 4 tracking device to,”.

5 (z) ENACTMENT OF CHAPTER 715.—Title 51, United
 6 States Code, is amended by adding after chapter 713 the
 7 following:

8 **“Chapter 715—HUMAN SPACE**
 9 **FLIGHT AND EXPLORATION**

“SUBCHAPTER I—GENERAL PROVISIONS

“Sec.

“71501. Definitions.

“SUBCHAPTER II—POLICY, GOALS, AND OBJECTIVES

“71511. Human space flight policy.

“71512. Goals and objectives.

**“SUBCHAPTER III—EXPANSION OF HUMAN SPACE
 FLIGHT BEYOND THE INTERNATIONAL SPACE STA-
 TION AND LOW-EARTH ORBIT**

“71521. Space Launch System as follow-on launch vehicle to the space shuttle.

“71522. Multipurpose crew vehicle.

“71523. Utilization of existing workforce and assets in development of Space
 Launch System and multipurpose crew vehicle.

“71524. Launch support and infrastructure modernization program.

“71525. Development of technologies and in-space capabilities for beyond near-
 Earth space missions.

“SUBCHAPTER IV—SPACE SCIENCE

“71541. Technology development.

“71542. Suborbital research activities.

“71543. In-space servicing.

“71544. Ongoing restoration of radioisotope thermoelectric generator material
 production.

“71545. Coordinated approach for robotic missions.

“71546. Near-Earth object survey and policy with respect to threats posed.

10 **“Subchapter I—GENERAL**
 11 **PROVISIONS**

12 **“§ 71501. Definitions**

13 “In this chapter:

1 “(1) CIS-LUNAR SPACE.—The term ‘cis-lunar
2 space’ means the region of space from the Earth out
3 to and including the region around the surface of
4 the Moon.

5 “(2) DEEP SPACE.—The term ‘deep space’
6 means the region of space beyond cis-lunar space.

7 “(3) NEAR-EARTH SPACE.—The term ‘near-
8 Earth space’ means the region of space that includes
9 low-Earth orbit and extends out to and includes geo-
10 synchronous orbit.

11 “(4) SPACE LAUNCH SYSTEM.—The term
12 ‘Space Launch System’ means the follow-on Govern-
13 ment-owned civil launch system developed, managed,
14 and operated by the Administration to serve as a
15 key component to expand human presence beyond
16 low-Earth orbit.

17 **“Subchapter II—POLICY, GOALS,** 18 **AND OBJECTIVES**

19 **“§ 71511. Human space flight policy**

20 “(a) USE OF NON-UNITED STATES HUMAN SPACE
21 FLIGHT TRANSPORTATION SERVICES.—

22 “(1) DEFINITIONS.—In this subsection:

23 “(A) COMMERCIAL PROVIDER.—The term
24 ‘commercial provider’ means any person pro-
25 viding human space flight transportation serv-

1 ices, primary control of which is held by persons
2 other than the Federal Government, a State or
3 local government, or a foreign government.

4 “(B) QUALIFIED FOREIGN ENTITY.—The
5 term ‘qualified foreign entity’ means a foreign
6 entity that is in compliance with all applicable
7 safety standards and is not prohibited from
8 providing space transportation services under
9 other law.

10 “(C) UNITED STATES COMMERCIAL PRO-
11 VIDER.—The term ‘United States commercial
12 provider’ means a commercial provider, orga-
13 nized under the laws of the United States or of
14 a State, that is more than 50 percent owned by
15 United States nationals.

16 “(2) IN GENERAL.—The Federal Government
17 may not acquire human space flight transportation
18 services from a foreign entity unless—

19 “(A) no United States Government-oper-
20 ated human space flight capability is available;

21 “(B) no United States commercial provider
22 is available; and

23 “(C) it is a qualified foreign entity.

24 “(3) ARRANGEMENTS WITH FOREIGN ENTI-
25 TIES.—Nothing in this subsection shall prevent the

1 Administrator from negotiating or entering into
2 human space flight transportation arrangements
3 with foreign entities to ensure safety of flight and
4 continued International Space Station operations.

5 “(b) UNITED STATES HUMAN SPACE FLIGHT CAPA-
6 BILITIES.—Congress reaffirms the policy stated in section
7 70501(a) of this title that the United States shall main-
8 tain an uninterrupted capability for human space flight
9 and operations in low-Earth orbit, and beyond, as an es-
10 sential instrument of national security and of the capacity
11 to ensure continued United States participation and lead-
12 ership in the exploration and utilization of space.

13 **“§ 71512. Goals and objectives**

14 “(a) LONG-TERM GOALS.—The long-term goals of
15 the human space flight and exploration efforts of the Ad-
16 ministration shall be—

17 “(1) to expand permanent human presence be-
18 yond low-Earth orbit and to do so, where practical,
19 in a manner involving international, academic, and
20 industry partners;

21 “(2) crewed missions and progress toward
22 achieving the goal in paragraph (1) to enable the po-
23 tential for subsequent human exploration and the ex-
24 tension of human presence throughout the solar sys-
25 tem; and

1 “(3) to enable a capability to extend human
2 presence, including potential human habitation on
3 another celestial body and a thriving space economy
4 in the 21st century.

5 “(b) KEY OBJECTIVES.—The key objectives of the
6 United States for human expansion into space shall be—

7 “(1) to sustain the capability for long-duration
8 presence in low-Earth orbit, initially through con-
9 tinuation of the International Space Station and full
10 utilization of the United States segment of the
11 International Space Station as a national laboratory,
12 and through assisting and enabling an expanded
13 commercial presence in, and access to, low-Earth
14 orbit, as elements of a low-Earth orbit infrastruc-
15 ture;

16 “(2) to determine whether humans can live for
17 extended periods in space with decreasing reliance
18 on Earth, starting with utilization of low-Earth orbit
19 infrastructure, to—

20 “(A) identify potential roles that space re-
21 sources such as energy and materials can play;

22 “(B) meet national and global needs and
23 challenges such as potential cataclysmic threats;
24 and

1 “(C) explore the viability of and lay the
2 foundation for sustainable economic activities in
3 space;

4 “(3) to maximize the role that human explo-
5 ration of space can play in—

6 “(A) advancing overall knowledge of the
7 universe;

8 “(B) supporting United States national
9 and economic security and the United States
10 global competitive posture; and

11 “(C) inspiring young people in their edu-
12 cational pursuits;

13 “(4) to build on the cooperative and mutually
14 beneficial framework established by the International
15 Space Station partnership agreements and experi-
16 ence in developing and undertaking programs and
17 meeting objectives designed to realize the goal of
18 human space flight set forth in subsection (a); and

19 “(5) to achieve human exploration of Mars and
20 beyond through the prioritization of those tech-
21 nologies and capabilities best suited for such a mis-
22 sion in accordance with the stepping stone approach
23 to exploration under section 70504 of this title.

1 **“Subchapter III—EXPANSION OF**
 2 **HUMAN SPACE FLIGHT BE-**
 3 **YOND THE INTERNATIONAL**
 4 **SPACE STATION AND LOW-**
 5 **EARTH ORBIT**

6 **“§ 71521. Space Launch System as follow-on launch**
 7 **vehicle to the space shuttle**

8 “(a) POLICY.—It is the policy of the United States
 9 that the Administration develop a Space Launch System
 10 as a follow-on to the space shuttle that can access cis-
 11 lunar space and the regions of space beyond low-Earth
 12 orbit in order to enable the United States to participate
 13 in global efforts to access and develop that increasingly
 14 strategic region.

15 “(b) INITIATION OF DEVELOPMENT.—

16 “(1) IN GENERAL.—As soon as practicable
 17 after October 11, 2010, the Administrator shall ini-
 18 tiate development of a Space Launch System meet-
 19 ing the minimum capability requirements specified
 20 in subsection (c).

21 “(2) MODIFICATION OF CURRENT CON-
 22 TRACTS.—In order to limit the Administration’s ter-
 23 mination liability costs and support critical capabili-
 24 ties, the Administrator shall, to the extent prac-
 25 ticable, extend or modify existing (as of October 11,

2010) vehicle development and associated contracts necessary to meet the requirement 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 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 International Space Station cargo delivery requirements or crew delivery requirements not other-

1 wise met by available commercial or partner-
2 supplied vehicles.

3 “(E) The capacity for efficient and timely
4 evolution, including the incorporation of new
5 technologies, competition of sub-elements, and
6 commercial operations.

7 “(2) FLEXIBILITY.—The Space Launch System
8 shall be designed from inception as a fully integrated
9 vehicle capable of carrying a total payload of 130
10 tons or more into low-Earth orbit in preparation for
11 transit for missions beyond low-Earth orbit. The
12 Space Launch System shall, to the extent prac-
13 ticable, incorporate capabilities for evolutionary
14 growth to carry heavier payloads. Developmental
15 work and testing of the core elements and the upper
16 stage should proceed in parallel subject to appropria-
17 tions. Priority should be placed on the core elements
18 with the goal for operational capability for the core
19 elements not later than December 31, 2016.

20 “(3) TRANSITION NEEDS.—The Administrator
21 shall ensure that critical skills and capabilities are
22 retained, modified, and developed, as appropriate, in
23 areas relating to solid and liquid engines, large di-
24 ameter fuel tanks, rocket propulsion, and other

1 ground test capabilities for an effective transition to
2 the follow-on Space Launch System.

3 **“§ 71522. Multipurpose crew vehicle**

4 “(a) INITIATION OF DEVELOPMENT.—

5 “(1) IN GENERAL.—The Administrator shall
6 continue the development of a multipurpose crew ve-
7 hicle to be available as soon as practicable, and no
8 later than for use with the Space Launch System.
9 The vehicle shall continue to advance development of
10 the human safety features, designs, and systems in
11 the Orion project.

12 “(2) GOAL FOR OPERATIONAL CAPABILITY.—It
13 shall be the goal to achieve full operational capa-
14 bility for the transportation vehicle developed pursu-
15 ant to this subsection by not later than December
16 31, 2016. For purposes of meeting such goal, the
17 Administrator may undertake a test of the transpor-
18 tation vehicle at the International Space Station be-
19 fore that date.

20 “(b) MINIMUM CAPABILITY REQUIREMENTS.—The
21 multipurpose crew vehicle developed pursuant to sub-
22 section (a) shall be designed to have, at a minimum, the
23 following:

24 “(1) The capability to serve as the primary
25 crew vehicle for missions beyond low-Earth orbit.

1 “(2) The capability to conduct regular in-space
2 operations, such as rendezvous, docking, and extra-
3 vehicular activities, in conjunction with payloads de-
4 livered by the Space Launch System developed pur-
5 suant to section 71521 of this title, or other vehicles,
6 in preparation for missions beyond low-Earth orbit
7 or servicing of assets described in section 71543 of
8 this title, or other assets in cis-lunar space.

9 “(3) The capability to provide an alternative
10 means of delivery of crew and cargo to the Inter-
11 national Space Station, in the event other vehicles,
12 whether commercial vehicles or partner-supplied ve-
13 hicles, are unable to perform that function.

14 “(4) The capacity for efficient and timely evo-
15 lution, including the incorporation of new tech-
16 nologies, competition of sub-elements, and commer-
17 cial operations.

18 **“§ 71523. Utilization of existing workforce and assets**
19 **in development of Space Launch System**
20 **and multipurpose crew vehicle**

21 “(a) IN GENERAL.—In developing the Space Launch
22 System pursuant to section 71521 of this title and the
23 multipurpose crew vehicle pursuant to section 71522 of
24 this title, the Administrator shall, to the extent prac-
25 ticable, utilize—

1 “(1) existing (as of October 11, 2010) con-
2 tracts, investments, workforce, industrial base, and
3 capabilities from the space shuttle and Orion and
4 Ares 1 projects, including—

5 “(A) spacesuit development activities for
6 application to, and coordinated development of,
7 a multipurpose crew vehicle suit and associated
8 life-support requirements with potential devel-
9 opment of standard Administration-certified
10 suit and life support systems for use in alter-
11 native commercially developed crew transpor-
12 tation systems; and

13 “(B) space shuttle-derived components and
14 Ares 1 components that use existing (as of Oc-
15 tober 11, 2010) United States propulsion sys-
16 tems, including liquid fuel engines, external
17 tank or tank-related capability, and solid rocket
18 motor engines; and

19 “(2) associated testing facilities in existence or
20 under construction as of October 11, 2010.

21 “(b) DISCHARGE OF REQUIREMENTS.—In meeting
22 the requirements of subsection (a), the Administrator—

23 “(1) shall, to the extent practicable, utilize
24 ground-based manufacturing capability, ground test-

1 ing activities, launch and operations infrastructure,
2 and workforce expertise;

3 “(2) shall, to the extent practicable, minimize
4 the modification and development of ground infra-
5 structure and maximize the utilization of existing (as
6 of October 11, 2010) software, vehicle, and mission
7 operations processes;

8 “(3) shall complete construction and activation
9 of the A-3 test stand with a completion goal of Sep-
10 tember 30, 2013;

11 “(4) may procure, develop, and flight test appli-
12 cable components; and

13 “(5) shall take appropriate actions to ensure
14 timely and cost-effective development of the Space
15 Launch System and the multipurpose crew vehicle,
16 including the use of a procurement approach that in-
17 corporates adequate and effective oversight, the fa-
18 cilitation of contractor efficiencies, and the stream-
19 lining of contract and procurement requirements.

20 “(c) CONTINUATION OF CONTRACTOR SUPPORT.—

21 The Administrator may not terminate any contract that
22 provides the system transitions necessary for shuttle-de-
23 rived hardware to be used on the Space Launch System
24 described in section 71521 of this title or the multipurpose
25 crew vehicle described in section 71522 of this title.

1 **“§ 71524. Launch support and infrastructure mod-**
2 **ernization program**

3 “(a) IN GENERAL.—The Administrator shall carry
4 out a program the primary purpose of which is to prepare
5 infrastructure at the Kennedy Space Center that is needed
6 to enable processing and launch of the Space Launch Sys-
7 tem. Vehicle interfaces and other ground processing and
8 payload integration areas should be simplified to minimize
9 overall costs, enhance safety, and complement the purpose
10 of this section.

11 “(b) ELEMENTS.—The program required by this sec-
12 tion shall include—

13 “(1) investments to improve civil and national
14 security operations at the Kennedy Space Center, to
15 enhance the overall capabilities of the Center, and to
16 reduce the long-term cost of operations and mainte-
17 nance;

18 “(2) measures to provide multi-vehicle support,
19 improvements in payload processing, and partnering
20 at the Kennedy Space Center; and

21 “(3) other measures that the Administrator
22 considers appropriate, including investments to im-
23 prove launch infrastructure at Administration flight
24 facilities scheduled to launch cargo to the Inter-
25 national Space Station under the program to develop
26 commercial cargo transportation capabilities.

1 **“§ 71525. Development of technologies and in-space**
2 **capabilities for beyond near-Earth space**
3 **missions**

4 “(a) DEVELOPMENT AUTHORIZED.—The Adminis-
5 trator may initiate activities to develop the following:

6 “(1) Technologies identified as necessary ele-
7 ments of missions beyond low-Earth orbit.

8 “(2) In-space capabilities such as refueling and
9 storage technology, orbital transfer stages, innova-
10 tive in-space propulsion technology, communications,
11 and data management that facilitate a broad range
12 of users (including military and commercial).

13 “(3) Applications defining the architecture and
14 design of missions beyond low-Earth orbit.

15 “(4) Spacesuit development and associated life
16 support technology.

17 “(5) Flagship missions.

18 “(b) INVESTMENTS.—In developing technologies and
19 capabilities under subsection (a), the Administrator may
20 make investments in—

21 “(1) space technologies such as advanced pro-
22 pulsion, propellant depots, in situ resource utiliza-
23 tion, and robotic payloads or capabilities that enable
24 human missions beyond low-Earth orbit ultimately
25 leading to Mars;

1 “(2) a space-based transfer vehicle including
2 technologies described in paragraph (1) with an abil-
3 ity to conduct space-based operations that provide
4 capabilities—

5 “(A) to integrate with the Space Launch
6 System and other space-based systems;

7 “(B) to provide opportunities for in-space
8 servicing of and delivery to multiple space-based
9 platforms; and

10 “(C) to facilitate international efforts to
11 expand human presence to deep space destina-
12 tions;

13 “(3) advanced life support technologies and ca-
14 pabilities;

15 “(4) technologies and capabilities relating to in-
16 space power, propulsion, and energy systems;

17 “(5) technologies and capabilities relating to in-
18 space propellant transfer and storage;

19 “(6) technologies and capabilities relating to in
20 situ resource utilization; and

21 “(7) expanded research to understand the
22 greatest biological impediments to human deep space
23 missions, especially the radiation challenge.

24 “(c) UTILIZATION OF INTERNATIONAL SPACE STA-
25 TION AS TESTBED.—The Administrator may utilize the

1 International Space Station as a testbed for any tech-
2 nology or capability developed under subsection (a) in a
3 manner consistent with sections 70908 through 70911 of
4 this title.

5 “(d) COORDINATION.—The Administrator shall co-
6 ordinate development of technologies and capabilities
7 under this section through an overall Administration tech-
8 nology approach consistent with the plan required by sec-
9 tion 905 of the National Aeronautics and Space Adminis-
10 tration Authorization Act of 2010 (Public Law 111–267,
11 124 Stat. 2836), which outlines how the Administration’s
12 space technology program will meet the goal described in
13 section 40903 of this title, including an explanation of how
14 the plan will link to other mission-directorate technology
15 efforts.

16 **“Subchapter IV—SPACE SCIENCE**

17 **“§ 71541. Technology development**

18 “The Administrator shall ensure that the Science
19 Mission Directorate maintains a long-term technology de-
20 velopment program for space and Earth science. That ef-
21 fort should be coordinated with an overall Administration
22 technology investment approach consistent with the plan
23 required by section 905 of the National Aeronautics and
24 Space Administration Authorization Act of 2010 (Public
25 Law 111–267, 124 Stat. 2836), which outlines how the

1 Administration's space technology program will meet the
2 goal described in section 40903 of this title, including an
3 explanation of how the plan will link to other mission-di-
4 rectorate technology efforts.

5 **“§ 71542. Suborbital research activities**

6 “(a) MANAGEMENT.—The Administrator shall des-
7 ignate an officer or employee of the Science Mission Direc-
8 torate to act as the responsible official for all Suborbital
9 Research in the Science Mission Directorate. The designee
10 shall be responsible for—

11 “(1) the development of short- and long-term
12 strategic plans for maintaining, renewing, and ex-
13 tending suborbital facilities and capabilities;

14 “(2) monitoring progress toward goals in the
15 plans; and

16 “(3) integration of suborbital activities and
17 workforce development within the Administration,
18 thereby ensuring the long-term recognition of their
19 combined value to the Directorate, to the Adminis-
20 tration, and to the Nation.

21 “(b) ESTABLISHMENT OF SUBORBITAL RESEARCH
22 PROGRAM.—The Administrator shall establish a Sub-
23 orbital Research Program within the Science Mission Di-
24 rectorate that shall include the use of sounding rockets,
25 aircraft, high altitude balloons, suborbital reusable launch

1 vehicles, and commercial launch vehicles to advance
2 science and train the next generation of scientists and en-
3 gineers in systems engineering and systems integration,
4 which are vital to maintaining critical skills in the aero-
5 space workforce. The program shall integrate existing (as
6 of October 11, 2010) suborbital research programs with
7 orbital missions at the discretion of the designated officer
8 or employee and shall emphasize the participation of un-
9 dergraduate and graduate students and post-doctoral re-
10 searchers when formulating announcements of oppor-
11 tunity.

12 “(c) ANNUAL REPORT.—The Administrator shall re-
13 port annually to the Committee on Commerce, Science,
14 and Transportation of the Senate and the Committee on
15 Science, Space, and Technology of the House of Rep-
16 resentatives on the number and type of suborbital missions
17 conducted in each fiscal year and the number of under-
18 graduate and graduate students that participated in the
19 missions.

20 **“§ 71543. In-space servicing**

21 “The Administrator shall continue to take all nec-
22 essary steps to ensure that provisions are made for robotic
23 or human in-space servicing and repair of all future ob-
24 servatory-class scientific spacecraft intended to be de-
25 ployed in Earth-orbit or at a Lagrangian point to the ex-

1 tent practicable and appropriate. The Administrator
2 should ensure that Administration investments and future
3 capabilities for space technology, robotics, and human
4 space flight take the ability to service and repair observ-
5 atory-class scientific spacecraft into account, as appro-
6 priate, and incorporate those capabilities into design and
7 operational plans.

8 **“§ 71544. Ongoing restoration of radioisotope thermo-**
9 **electric generator material production**

10 “The Administrator shall, in coordination with the
11 Secretary of Energy, pursue a joint approach beginning
12 in fiscal year 2011 toward restarting and sustaining the
13 domestic production of radioisotope thermoelectric gener-
14 ator material for deep space and other science and explo-
15 ration missions. Funds authorized by the National Aero-
16 nautics and Space Administration Authorization Act of
17 2010 for the Administration shall be made available under
18 a reimbursable agreement with the Department of Energy
19 for the purpose of reestablishing facilities to produce fuel
20 required for radioisotope thermoelectric generators to en-
21 able future missions.

22 **“§ 71545. Coordinated approach for robotic missions**

23 “The Administrator shall ensure that the Exploration
24 Systems Mission Directorate and the Space Operations
25 Mission Directorate coordinate with the Science Mission

1 Directorate on an overall approach and plan for inter-
2 agency and international collaboration on robotic missions
3 that are developed by the Administration or internation-
4 ally developed, including lunar, Lagrangian, near-Earth
5 orbit, and Mars spacecraft, such as the International
6 Lunar Network.

7 **“§ 71546. Near-Earth object survey and policy with**
8 **respect to threats posed**

9 “(a) POLICY REAFFIRMATION.—Congress reaffirms
10 the policy set forth in section 20102(g) of this title relat-
11 ing to surveying near-Earth asteroids and comets.

12 “(b) IMPLEMENTATION.—Consistent with section
13 71103 of this title, the Director of the Office of Science
14 and Technology Policy shall implement, before September
15 30, 2012, a policy for notifying Federal agencies and rel-
16 evant emergency response institutions of an impending
17 near-Earth object threat if near-term public safety is at
18 risk, and assign a Federal agency or agencies to be respon-
19 sible for protecting the United States and working with
20 the international community on such threats.”.

21 (aa) ENACTMENT OF CHAPTER 717.—Title 51,
22 United States Code, as amended by subsection (z), is
23 amended by adding after chapter 715 the following:

1 **“Chapter 717—ADVANCING** 2 **HUMAN SPACE EXPLORATION**

“SUBCHAPTER I—GENERAL PROVISIONS

“Sec.

“71701. Definitions.

“SUBCHAPTER II—ADVANCING HUMAN DEEP SPACE EXPLORATION

“PART A—ASSURING CORE CAPABILITIES FOR EXPLORATION

“71711. Space launch system, Orion, and exploration ground systems.

“PART B—JOURNEY TO MARS

“71721. Human exploration roadmap.

“SUBCHAPTER III—ADVANCING SPACE SCIENCE

“71731. Policy on maintaining balanced space science portfolio.

“71732. Mission priorities for planetary science.

“71733. Extrasolar planet exploration strategy.

“71734. Astrobiology strategy.

“71735. Collaboration.

“SUBCHAPTER IV—SPACE TECHNOLOGY

“71741. Space technology infusion.

“71742. Space technology program.

“SUBCHAPTER V—MAXIMIZING EFFICIENCY

“PART A—ADMINISTRATION INFORMATION TECHNOLOGY AND CYBERSECURITY

“71751. Information technology governance.

“71752. Information technology strategic plan.

“71753. Information security plan for cybersecurity.

“PART B—COLLABORATION AMONG MISSION DIRECTORATES AND OTHER MATTERS

“71761. Collaboration among mission directorates.

“71762. Administration launch capabilities collaboration.

“71763. Education and outreach.

“71764. Leveraging commercial satellite servicing capabilities across mission di-
rectorates.

“71765. Flight opportunities.

“71766. Space Act Agreements.

3 **“Subchapter I—GENERAL** 4 **PROVISIONS**

5 **“§ 71701. Definitions**

6 “In this chapter:

1 “(1) APPROPRIATE COMMITTEES OF CON-
2 GRESS.—The term ‘appropriate committees of Con-
3 gress’ means—

4 “(A) the Committee on Commerce,
5 Science, and Transportation of the Senate; and

6 “(B) the Committee on Science, Space,
7 and Technology of the House of Representa-
8 tives.

9 “(2) CIS-LUNAR SPACE.—The term ‘cis-lunar
10 space’ means the region of space from the Earth out
11 to and including the region around the surface of
12 the Moon.

13 “(3) DEEP SPACE.—The term ‘deep space’
14 means the region of space beyond low-Earth orbit,
15 to include cis-lunar space.

16 “(4) ORION.—The term ‘Orion’ means the mul-
17 tipurpose crew vehicle described under section 71522
18 of this title.

19 “(5) SPACE LAUNCH SYSTEM.—The term
20 ‘Space Launch System’ has the meaning given the
21 term in section 71501 of this title.

1 **“Subchapter II—ADVANCING**
 2 **HUMAN DEEP SPACE EXPLO-**
 3 **RATION**

4 **“Part A—ASSURING CORE CAPA-**
 5 **BILITIES FOR EXPLORATION**

6 **“§ 71711. Space launch system, Orion, and explo-**
 7 **ration ground systems**

8 “(a) REAFFIRMATION.—Congress reaffirms the pol-
 9 icy and minimum capability requirements for the Space
 10 Launch System under section 71521 of this title.

11 “(b) CONTINUED DEVELOPMENT OF FULLY INTE-
 12 GRATED SPACE LAUNCH SYSTEM.—The Administrator
 13 shall continue the development of the fully integrated
 14 Space Launch System, including an upper stage needed
 15 to go beyond low-Earth orbit, in order to safely enable
 16 human space exploration of the Moon, Mars, and beyond
 17 over the course of the next century as required in section
 18 71521(c) of this title.

19 “(c) EXPLORATION MISSIONS.—The Administrator
 20 shall continue development of—

21 “(1) an uncrewed exploration mission to dem-
 22 onstrate the capability of both the Space Launch
 23 System and Orion as an integrated system by 2018;

24 “(2) subject to applicable human rating proc-
 25 esses and requirements, a crewed exploration mis-

1 sion to demonstrate the Space Launch System, in-
2 cluding the Core Stage and Exploration Upper
3 Stages, by 2021;

4 “(3) subsequent missions beginning with EM-
5 3 at operational flight rate sufficient to maintain
6 safety and operational readiness using the Space
7 Launch System and Orion to extend into cis-lunar
8 space and eventually to Mars; and

9 “(4) a deep space habitat as a key element in
10 a deep space exploration architecture along with the
11 Space Launch System and Orion.

12 “(d) OTHER USES.—The Administrator shall assess
13 the utility of the Space Launch System for use by the
14 science community and for other Federal Government
15 launch needs, including consideration of overall cost and
16 schedule savings from reduced transit times and increased
17 science returns enabled by the unique capabilities of the
18 Space Launch System.

19 **“Part B—JOURNEY TO MARS**

20 **“§ 71721. Human exploration roadmap**

21 “(a) IN GENERAL.—The Administrator shall develop
22 a human exploration roadmap, including a critical decision
23 plan, to expand human presence beyond low-Earth orbit
24 to the surface of Mars and beyond, considering potential

1 interim destinations such as cis-lunar space and the moons
2 of Mars.

3 “(b) SCOPE.—The human exploration roadmap shall
4 include—

5 “(1) an integrated set of exploration, science,
6 and other goals and objectives of a United States
7 human space exploration program to achieve the
8 long-term goal of human missions near or on the
9 surface of Mars in the 2030s;

10 “(2) opportunities for international, academic,
11 and industry partnerships for exploration-related
12 systems, services, research, and technology if those
13 opportunities provide cost-savings, accelerate pro-
14 gram schedules, or otherwise benefit the goals and
15 objectives developed under paragraph (1);

16 “(3) sets and sequences of precursor missions
17 in cis-lunar space and other missions or activities
18 necessary—

19 “(A) to demonstrate the proficiency of the
20 capabilities and technologies identified under
21 paragraph (4); and

22 “(B) to meet the goals and objectives de-
23 veloped under paragraph (1), including antici-
24 pated timelines and missions for the Space
25 Launch System and Orion;

1 “(4) an identification of the specific capabilities
2 and technologies, including the Space Launch Sys-
3 tem, Orion, a deep space habitat, and other capabili-
4 ties, that facilitate the goals and objectives developed
5 under paragraph (1);

6 “(5) a description of how cis-lunar elements,
7 objectives, and activities advance the human explo-
8 ration of Mars;

9 “(6) an assessment of potential human health
10 and other risks, including radiation exposure;

11 “(7) mitigation plans, whenever possible, to ad-
12 dress the risks identified in paragraph (6);

13 “(8) a description of those technologies already
14 under development across the Federal Government
15 or by other entities that facilitate the goals and ob-
16 jectives developed under paragraph (1);

17 “(9) a specific process for the evolution of the
18 capabilities of the fully integrated Orion with the
19 Space Launch System and a description of how
20 these systems facilitate the goals and objectives de-
21 veloped under paragraph (1) and demonstrate the
22 capabilities and technologies described in paragraph
23 (4);

24 “(10) a description of the capabilities and tech-
25 nologies that need to be demonstrated or research

1 data that could be gained through the utilization of
2 the International Space Station and the status of
3 the development of such capabilities and tech-
4 nologies;

5 “(11) a framework for international cooperation
6 in the development of all capabilities and tech-
7 nologies identified under this section, including an
8 assessment of the risks posed by relying on inter-
9 national partners for capabilities and technologies on
10 the critical path of development;

11 “(12) a process for partnering with nongovern-
12 mental entities using Space Act Agreements or other
13 acquisition instruments for future human space ex-
14 ploration; and

15 “(13) information on the phasing of planned in-
16 termediate destinations, Mars mission risk areas and
17 potential risk mitigation approaches, technology re-
18 quirements and phasing of required technology de-
19 velopment activities, the management strategy to be
20 followed, related International Space Station activi-
21 ties, planned international collaborative activities,
22 potential commercial contributions, and other activi-
23 ties relevant to the achievement of the goal estab-
24 lished in this section.

1 “(c) CONSIDERATIONS.—In developing the human ex-
2 ploration roadmap, the Administrator shall consider—

3 “(1) using key exploration capabilities, namely
4 the Space Launch System and Orion;

5 “(2) using existing commercially available tech-
6 nologies and capabilities or those technologies and
7 capabilities being developed by industry for commer-
8 cial purposes;

9 “(3) establishing an organizational approach to
10 ensure collaboration and coordination among the Ad-
11 ministration’s mission directorates under section
12 71761 of this title, when appropriate, including to
13 collect and return to Earth a sample from the Mar-
14 tian surface;

15 “(4) building upon the initial uncrewed mission,
16 EM–1, and first crewed mission, EM–2, of the
17 Space Launch System and Orion to establish a sus-
18 tainable cadence of missions extending human explo-
19 ration missions into cis-lunar space, including antici-
20 pated timelines and milestones;

21 “(5) developing the robotic and precursor mis-
22 sions and activities that will demonstrate, test, and
23 develop key technologies and capabilities essential
24 for achieving human missions to Mars, including
25 long-duration human operations beyond low-Earth

1 orbit, space suits, solar electric propulsion, deep
2 space habitats, environmental control life support
3 systems, Mars lander and ascent vehicle, entry, de-
4 scent, landing, ascent, Mars surface systems, and in-
5 situ resource utilization;

6 “(6) demonstrating and testing 1 or more habi-
7 tat modules in cis-lunar space to prepare for Mars
8 missions;

9 “(7) using public-private, firm fixed-price part-
10 nerships, where practicable;

11 “(8) collaborating with international, academic,
12 and industry partners, when appropriate;

13 “(9) any risks to human health and sensitive
14 onboard technologies, including radiation exposure;

15 “(10) any risks identified through research out-
16 comes under the Administration Human Research
17 Program’s Behavioral Health Element; and

18 “(11) the recommendations and ideas of several
19 independently developed reports or concepts that de-
20 scribe potential Mars architectures or concepts and
21 identify Mars as the long-term goal for human space
22 exploration, including the reports described under
23 section 431 of the National Aeronautics and Space
24 Administration Transition Authorization Act of
25 2017 (Public Law 115–10, 131 Stat. 38).

1 “(d) CRITICAL DECISION PLAN ON HUMAN SPACE
2 EXPLORATION.—As part of the human exploration road-
3 map, the Administrator shall include a critical decision
4 plan—

5 “(1) identifying and defining key decisions
6 guiding human space exploration priorities and plans
7 that need to be made before June 30, 2020, includ-
8 ing decisions that may guide human space explo-
9 ration capability development, precursor missions,
10 long-term missions, and activities;

11 “(2) defining decisions needed to maximize effi-
12 ciencies and resources for reaching the near-, inter-
13 mediate-, and long-term goals and objectives of
14 human space exploration; and

15 “(3) identifying and defining timelines and
16 milestones for a sustainable cadence of missions be-
17 ginning with EM-3 for the Space Launch System
18 and Orion to extend human exploration from cis-
19 lunar space to the surface of Mars.

20 “(e) REPORTS.—

21 “(1) INITIAL HUMAN EXPLORATION ROAD-
22 MAP.—The Administrator shall submit to the appro-
23 priate committees of Congress—

1 “(A) an initial human exploration road-
2 map, including a critical decision plan, before
3 December 1, 2017; and

4 “(B) an updated human exploration road-
5 map periodically as the Administrator considers
6 necessary but not less than biennially.

7 “(2) CONTENTS.—Each human exploration
8 roadmap under this subsection shall include a de-
9 scription of—

10 “(A) the achievements and goals accom-
11 plished in the process of developing capabilities
12 and technologies described in this section dur-
13 ing the 2-year period prior to the submission of
14 the human exploration roadmap; and

15 “(B) the expected goals and achievements
16 in the following 2-year period.

17 “(3) SUBMISSION WITH BUDGET.—Each human
18 exploration roadmap under this section shall be in-
19 cluded in the budget for that fiscal year transmitted
20 to Congress under section 1105(a) of title 31.

1 **“Subchapter III—ADVANCING**
2 **SPACE SCIENCE**

3 **“§ 71731. Policy on maintaining balanced space**
4 **science portfolio**

5 “It is the policy of the United States to ensure, to
6 the extent practicable, a steady cadence of large, medium,
7 and small science missions.

8 **“§ 71732. Mission priorities for planetary science**

9 “(a) IN GENERAL.—In accordance with the priorities
10 established in the most recent Planetary Science Decadal
11 Survey, the Administrator shall ensure, to the greatest ex-
12 tent practicable, the completion of a balanced set of Dis-
13 covery, New Frontiers, and Flagship missions at the ca-
14 dence recommended by the most recent Planetary Science
15 Decadal Survey.

16 “(b) MISSION PRIORITY ADJUSTMENTS.—Consistent
17 with the set of missions described in subsection (a), and
18 while maintaining the continuity of scientific data and
19 steady development of capabilities and technologies, the
20 Administrator may seek, if necessary, adjustments to mis-
21 sion priorities, schedule, and scope in light of changing
22 budget projections.

23 **“§ 71733. Extrasolar planet exploration strategy**

24 “(a) STRATEGY.—

1 “(1) IN GENERAL.—The Administrator shall
2 enter into an arrangement with the National Acad-
3 emies to develop a science strategy for the study and
4 exploration of extrasolar planets, including the use
5 of the Transiting Exoplanet Survey Satellite, the
6 James Webb Space Telescope, a potential Wide-
7 Field Infrared Survey Telescope mission, or any
8 other telescope, spacecraft, or instrument, as appro-
9 priate.

10 “(2) REQUIREMENTS.—The strategy shall—

11 “(A) outline key scientific questions;

12 “(B) identify the most promising research
13 in the field;

14 “(C) indicate the extent to which the mis-
15 sion priorities in existing decadal surveys ad-
16 dress the key extrasolar planet research and ex-
17 ploration goals;

18 “(D) identify opportunities for coordina-
19 tion with international partners, commercial
20 partners, and not-for-profit partners; and

21 “(E) make recommendations regarding the
22 activities under subparagraphs (A) through
23 (D), as appropriate.

24 “(b) USE OF STRATEGY.—The Administrator shall
25 use the strategy—

1 “(1) to inform roadmaps, strategic plans, and
2 other activities of the Administration as they relate
3 to extrasolar planet research and exploration; and

4 “(2) to provide a foundation for future activi-
5 ties and initiatives related to extrasolar planet re-
6 search and exploration.

7 “(c) REPORT TO CONGRESS.—Not later than 18
8 months after March 21, 2017, the National Academies
9 shall submit to the Administrator and to the appropriate
10 committees of Congress a report containing the strategy
11 developed under subsection (a).

12 **“§ 71734. Astrobiology strategy**

13 “(a) STRATEGY.—

14 “(1) IN GENERAL.—The Administrator shall
15 enter into an arrangement with the National Acad-
16 emies to develop a science strategy for astrobiology
17 that would outline key scientific questions, identify
18 the most promising research in the field, and indi-
19 cate the extent to which the mission priorities in ex-
20 isting decadal surveys address the search for life’s
21 origin, evolution, distribution, and future in the uni-
22 verse.

23 “(2) RECOMMENDATIONS.—The strategy shall
24 include recommendations for coordination with inter-
25 national partners.

1 “(b) USE OF STRATEGY.—The Administrator shall
2 use the strategy developed under subsection (a) in plan-
3 ning and funding research and other activities and initia-
4 tives in the field of astrobiology.

5 “(c) REPORT TO CONGRESS.—Not later than 18
6 months after March 21, 2017, the National Academies
7 shall submit to the Administrator and to the appropriate
8 committees of Congress a report containing the strategy
9 developed under subsection (a).

10 **“§ 71735. Collaboration**

11 “The Administration shall continue to develop first-
12 of-a-kind instruments that, once proved, can be
13 transitioned to other agencies for operations. Whenever re-
14 sponsibilities for the development of sensors or for meas-
15 urements are transferred to the Administration from an-
16 other agency, the Administration shall seek, to the extent
17 possible, to be reimbursed for the assumption of such re-
18 sponsibilities.

19 **“Subchapter IV—SPACE** 20 **TECHNOLOGY**

21 **“§ 71741. Space technology infusion**

22 “(a) POLICY.—It is the policy of the United States
23 that the Administrator shall develop technologies to sup-
24 port the Administration’s core missions, as described in
25 section 2(3) of the National Aeronautics and Space Ad-

1 ministration Authorization Act of 2010 (Public Law 111–
2 267, 124 Stat. 2807), and support sustained investments
3 in early stage innovation, fundamental research, and tech-
4 nologies to expand the boundaries of the national aero-
5 space enterprise.

6 “(b) PROPULSION TECHNOLOGIES.—A goal of pro-
7 pulsion technologies developed under subsection (a) shall
8 be to significantly reduce human travel time to Mars.

9 **“§ 71742. Space technology program**

10 “(a) SPACE TECHNOLOGY PROGRAM AUTHORIZED.—
11 The Administrator shall conduct a space technology pro-
12 gram (referred to in this section as the ‘Program’) to re-
13 search and develop advanced space technologies that could
14 deliver innovative solutions across the Administration’s
15 space exploration and science missions.

16 “(b) CONSIDERATIONS.—In conducting the Program,
17 the Administrator shall consider—

18 “(1) the recommendations of the National
19 Academies’ review of the Administration’s Space
20 Technology roadmaps and priorities; and

21 “(2) the applicable enabling aspects of the step-
22 ping stone approach to exploration under section
23 70504 of this title.

24 “(c) REQUIREMENTS.—In conducting the Program,
25 the Administrator shall—

1 “(1) to the extent practicable, use a competitive
2 process to select research and development projects;

3 “(2) to the extent practicable and appropriate,
4 use small satellites and the Administration’s sub-
5 orbital and ground-based platforms to demonstrate
6 space technology concepts and developments; and

7 “(3) as appropriate, partner with other Federal
8 agencies, universities, private industry, and foreign
9 countries.

10 “(d) SMALL BUSINESS PROGRAMS.—The Adminis-
11 trator shall organize and manage the Administration’s
12 Small Business Innovation Research Program and Small
13 Business Technology Transfer Program within the Pro-
14 gram.

15 “(e) NONDUPLICATION CERTIFICATION.—The Ad-
16 ministrator shall submit a budget for each fiscal year, as
17 transmitted to Congress under section 1105(a) of title 31,
18 that avoids duplication of projects, programs, or missions
19 conducted by the Program with other projects, programs,
20 or missions conducted by another office or directorate of
21 the Administration.

22 “(f) COLLABORATION, COORDINATION, AND ALIGN-
23 MENT.—The Administrator shall—

24 “(1) ensure that the Administration’s projects,
25 programs, and activities in support of technology re-

1 search and development of advanced space tech-
2 nologies are fully coordinated and aligned;

3 “(2) ensure that the results of the projects, pro-
4 grams, and activities under paragraph (1) are
5 shared and leveraged within the Administration; and

6 “(3) ensure that the organizational responsi-
7 bility for research and development activities in sup-
8 port of human space exploration not initiated as of
9 March 21, 2017, is established on the basis of a
10 sound rationale.

11 “(g) ANNUAL REPORT.—The Administrator shall in-
12 clude in the Administration’s annual budget request for
13 each fiscal year the rationale for assigning organizational
14 responsibility for, in the year prior to the budget fiscal
15 year, each initiated project, program, and mission focused
16 on research and development of advanced technologies for
17 human space exploration.

1 **“Subchapter V—MAXIMIZING**
2 **EFFICIENCY**
3 **“Part A—ADMINISTRATION IN-**
4 **FORMATION TECHNOLOGY**
5 **AND CYBERSECURITY**

6 **“§ 71751. Information technology governance**

7 “The Administrator shall, in a manner that reflects
8 the unique nature of the Administration’s mission and ex-
9 pertise—

10 “(1) ensure the Administration Chief Informa-
11 tion Officer, mission directorates, and centers have
12 appropriate roles in the management, governance,
13 and oversight processes related to information tech-
14 nology operations and investments and information
15 security programs for the protection of Administra-
16 tion systems;

17 “(2) ensure the Administration Chief Informa-
18 tion Officer has the appropriate resources and in-
19 sight to oversee Administration information tech-
20 nology and information security operations and in-
21 vestments;

22 “(3) provide an information technology program
23 management framework to increase the efficiency
24 and effectiveness of information technology invest-

1 ments, including relying on metrics for identifying
2 and reducing potential duplication, waste, and cost;

3 “(4) improve the operational linkage between
4 the Administration Chief Information Officer and
5 each Administration mission directorate, center, and
6 mission support office to ensure both Administration
7 and mission needs are considered in Administration-
8 wide information technology and information secu-
9 rity management and oversight;

10 “(5) review the portfolio of information tech-
11 nology investments and spending, including informa-
12 tion technology-related investments included as part
13 of activities within Administration mission direc-
14 torates that may not be considered information tech-
15 nology, to ensure investments are recognized and re-
16 ported appropriately based on guidance from the Of-
17 fice of Management and Budget;

18 “(6) consider appropriate revisions to the char-
19 ters of information technology boards and councils
20 that inform information technology investment and
21 operation decisions; and

22 “(7) consider whether the Administration Chief
23 Information Officer should have a seat on any
24 boards or councils described in paragraph (6).

1 **“§ 71752. Information technology strategic plan**

2 “(a) IN GENERAL.—Subject to subsection (b), the
3 Administrator shall develop an information technology
4 strategic plan to guide Administration information tech-
5 nology management and strategic objectives.

6 “(b) REQUIREMENTS.—In developing the strategic
7 plan, the Administrator shall ensure that the strategic
8 plan addresses—

9 “(1) the deadline under section 306(a) of title
10 5; and

11 “(2) the requirements under section 3506 of
12 title 44.

13 “(c) CONTENTS.—The strategic plan shall address,
14 in a manner that reflects the unique nature of the Admin-
15 istration’s mission and expertise—

16 “(1) near- and long-term goals and objectives
17 for leveraging information technology;

18 “(2) a plan for how the Administration will
19 submit to Congress a list of information technology
20 projects, including completion dates and risk levels
21 in accordance with guidance from the Office of Man-
22 agement and Budget;

23 “(3) an implementation overview for an Admin-
24 istration-wide approach to information technology
25 investments and operations, including reducing bar-
26 riers to cross-center collaboration;

1 “(4) coordination by the Administration Chief
2 Information Officer with centers and mission direc-
3 torates to ensure that information technology poli-
4 cies are effectively and efficiently implemented
5 across the Administration;

6 “(5) a plan to increase the efficiency and effec-
7 tiveness of information technology investments, in-
8 cluding a description of how unnecessarily duplica-
9 tive, wasteful, legacy, or outdated information tech-
10 nology across the Administration will be identified
11 and eliminated, and a schedule for the identification
12 and elimination of such information technology;

13 “(6) a plan for improving the information secu-
14 rity of Administration information and Administra-
15 tion information systems, including improving secu-
16 rity control assessments and role-based security
17 training of employees; and

18 “(7) submission by the Administration to Con-
19 gress of information regarding high risk projects and
20 cybersecurity risks.

21 “(d) CONGRESSIONAL OVERSIGHT.—The Adminis-
22 trator shall submit to the appropriate committees of Con-
23 gress the strategic plan under subsection (a) and any up-
24 dates to the strategic plan.

1 **“§ 71753. Information security plan for cybersecurity**

2 “(a) IN GENERAL.—Not later than 1 year after
3 March 21, 2017, the Administrator shall implement the
4 information security plan developed under subsection (b)
5 and take such further actions as the Administrator con-
6 siderers necessary to improve the information security sys-
7 tem in accordance with this section.

8 “(b) INFORMATION SECURITY PLAN.—Subject to
9 subsections (c) and (d), the Administrator shall develop
10 an Administration-wide information security plan to en-
11 hance information security for Administration information
12 and information infrastructure.

13 “(c) REQUIREMENTS.—In developing the plan under
14 subsection (b), the Administrator shall ensure that the
15 plan—

16 “(1) reflects the unique nature of the Adminis-
17 tration’s mission and expertise;

18 “(2) is informed by policies, standards, guide-
19 lines, and directives on information security required
20 for Federal agencies;

21 “(3) is consistent with the standards and guide-
22 lines under section 11331 of title 40; and

23 “(4) meets applicable National Institute of
24 Standards and Technology information security
25 standards and guidelines.

26 “(d) CONTENTS.—The plan shall address—

1 “(1) an overview of the requirements of the in-
2 formation security system;

3 “(2) an Administration-wide risk management
4 framework for information security;

5 “(3) a description of the information security
6 system management controls and common controls
7 that are necessary to ensure compliance with infor-
8 mation security-related requirements;

9 “(4) an identification and assignment of roles,
10 responsibilities, and management commitment for
11 information security at the Administration;

12 “(5) coordination among organizational entities,
13 including between each center, facility, mission di-
14 rectorate, and mission support office, and among
15 Administration entities responsible for different as-
16 pects of information security;

17 “(6) the need to protect the information secu-
18 rity of mission-critical systems and activities and
19 high-impact and moderate-impact information sys-
20 tems; and

21 “(7) a schedule of frequent reviews and up-
22 dates, as necessary, of the plan.

1 **“Part** **B—COLLABORATION**
2 **AMONG MISSION DIREC-**
3 **TORATES AND OTHER MAT-**
4 **TERS**

5 **“§ 71761. Collaboration among mission directorates**

6 “The Administrator shall encourage an interdiscipli-
7 nary approach among all Administration mission direc-
8 torates and divisions, whenever appropriate, for projects
9 or missions—

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

12 “(2) to determine areas of overlap or alignment;

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

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

17 **“§ 71762. Administration launch capabilities collabo-**
18 **ration**

19 “The Administrator shall pursue a strategy for acqui-
20 sition of crewed transportation services and non-crewed
21 launch services that continues to enhance communication,
22 collaboration, and coordination between the Launch Serv-
23 ices Program and the Commercial Crew Program.

1 **“§ 71763. Education and outreach**

2 “The Administrator shall continue engagement with
3 the public and education opportunities for students via all
4 the Administration’s mission directorates to the maximum
5 extent practicable.

6 **“§ 71764. Leveraging commercial satellite servicing**
7 **capabilities across mission directorates**

8 “The Administrator shall—

9 “(1) identify orbital assets in both the Science
10 Mission Directorate and the Human Exploration
11 and Operations Mission Directorate that could ben-
12 efit from satellite servicing-related technologies; and

13 “(2) work across all Administration mission di-
14 rectorates to evaluate opportunities for the private
15 sector to perform such services or advance technical
16 capabilities by leveraging the technologies and tech-
17 niques developed by Administration programs and
18 other industry programs.

19 **“§ 71765. Flight opportunities**

20 “(a) DEVELOPMENT OF PAYLOADS.—

21 “(1) IN GENERAL.—In order to conduct nec-
22 essary research, the Administrator shall continue
23 and, as the Administrator considers appropriate, ex-
24 pand the development of technology payloads for—

25 “(A) scientific research; and

1 “(B) investigating new or improved capa-
2 bilities.

3 “(2) FUNDS.—For the purpose of carrying out
4 paragraph (1), the Administrator shall make funds
5 available for—

6 “(A) flight testing;

7 “(B) payload development; and

8 “(C) hardware related to subparagraphs
9 (A) and (B).

10 “(b) REAFFIRMATION OF POLICY.—Congress reaf-
11 firms that the Administrator should provide flight oppor-
12 tunities for payloads to microgravity environments and
13 suborbital altitudes as authorized by section 40905 of this
14 title.

15 **“§ 71766. Space Act Agreements**

16 “(a) FUNDED SPACE ACT AGREEMENTS.—To the ex-
17 tent appropriate, the Administrator shall seek to maximize
18 the value of contributions provided by other parties under
19 a funded Space Act Agreement in order to advance the
20 Administration’s mission.

21 “(b) NON-EXCLUSIVITY.—

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

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

3 “(B) in a manner that ensures all non-gov-
4 ernment parties have equal access to Adminis-
5 tration resources; and

6 “(C) exercising reasonable care not to re-
7 veal unique or proprietary information.

8 “(2) EXCLUSIVITY.—If the Administrator de-
9 termines an exclusive arrangement is necessary, the
10 Administrator shall, to the greatest extent prac-
11 ticable, issue the Space Act Agreement—

12 “(A) utilizing a competitive selection proc-
13 ess when exclusive arrangements are necessary;
14 and

15 “(B) pursuant to public announcements
16 when exclusive arrangements are necessary.

17 “(c) TRANSPARENCY.—The Administrator shall pub-
18 licly disclose on the Administration’s website and make
19 available in a searchable format each Space Act Agree-
20 ment, including an estimate of committed Administration
21 resources and the expected benefits to Administration ob-
22 jectives for each agreement, with appropriate redactions
23 for proprietary, sensitive, or classified information, not
24 later than 60 days after such agreement is signed by the
25 parties.

1 “(d) ANNUAL REPORTS.—

2 “(1) REQUIREMENT.—Not later than 90 days
3 after the end of each fiscal year, the Administrator
4 shall submit to the appropriate committees of Con-
5 gress a report on the use of Space Act Agreement
6 authority by the Administration during the previous
7 fiscal year.

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

11 “(A) an indication of whether the agree-
12 ment is a reimbursable, non-reimbursable, or
13 funded Space Act Agreement;

14 “(B) a description of—

15 “(i) the subject and terms;

16 “(ii) the parties;

17 “(iii) the responsible—

18 “(I) mission directorate;

19 “(II) center; or

20 “(III) headquarters element;

21 “(iv) the value;

22 “(v) the extent of the cost sharing
23 among Federal Government and non-Fed-
24 eral sources;

25 “(vi) the time period or schedule; and

1 “(vii) all milestones; and

2 “(C) an indication of whether the agree-
3 ment was renewed during the previous fiscal
4 year.

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

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

12 “(A) the technology areas in which re-
13 search projects were conducted under that
14 agreement;

15 “(B) the extent to which the use of that
16 agreement—

17 “(i) has contributed to a broadening
18 of the technology and industrial base avail-
19 able for meeting Administration needs; and

20 “(ii) has fostered within the tech-
21 nology and industrial base new relation-
22 ships and practices that support the
23 United States; and

1 “(C) the total amount of value received by
2 the Federal Government during the fiscal year
3 under that agreement.”.

4 (bb) COMMITTEE NAME CHANGE.—

5 (1) Section 20117(1) of title 51, United States
6 Code, is amended by striking “Committee on Science
7 and Technology” and inserting “Committee on
8 Science, Space, and Technology”.

9 (2) Section 311 of the National Aeronautics
10 and Space Administration Authorization Act of 2000
11 (Public Law 106–391, 51 U.S.C. 20143 note) is
12 amended—

13 (A) in subsection (a), by striking “Com-
14 mittee on Science” and inserting “Committee
15 on Science, Space, and Technology”; and

16 (B) in subsection (b), by striking “Com-
17 mittees on Science and Appropriations” and in-
18 serting “Committee on Science, Space, and
19 Technology and the Committee on Appropria-
20 tions”.

21 (3) Section 30303(b) of title 51, United States
22 Code, is amended by striking “Committee on Science
23 and Technology” and inserting “Committee on
24 Science, Space, and Technology”.

1 (4) Section 30305(c) (matter before paragraph
2 (1)) of title 51, United States Code, is amended by
3 striking “Committee on Science and Technology”
4 and inserting “Committee on Science, Space, and
5 Technology”.

6 (5) Section 203(b) of the America COMPETES
7 Reauthorization Act of 2010 (Public Law 111–358,
8 51 U.S.C. note prec. 30501) is amended by striking
9 “Committee on Science and Technology” and insert-
10 ing “Committee on Science, Space, and Tech-
11 nology”.

12 (6) Section 30501(a) of title 51, United States
13 Code, is amended by striking “Committee on Science
14 and Technology” and inserting “Committee on
15 Science, Space, and Technology”.

16 (7) Section 30502 of title 51, United States
17 Code, is amended—

18 (A) in subsection (a), by striking “Com-
19 mittee on Science and Technology” and insert-
20 ing “Committee on Science, Space, and Tech-
21 nology”; and

22 (B) in subsection (d) (matter before para-
23 graph (1)), by striking “Committee on Science
24 and Technology” and inserting “Committee on
25 Science, Space, and Technology”.

1 (8) Section 30503(c) (matter before paragraph
2 (1)) of title 51, United States Code, is amended by
3 striking “Committee on Science and Technology”
4 and inserting “Committee on Science, Space, and
5 Technology”.

6 (9) Section 102 of the National Aeronautics
7 and Space Administration Authorization Act of 2005
8 (Public Law 109–155, 51 U.S.C. note prec. 49901
9 (formerly 40901)) is amended by striking “Com-
10 mittee on Science” and inserting “Committee on
11 Science, Space, and Technology” in the following
12 provisions:

13 (A) Subsection (a)(2)(A).

14 (B) Subsection (a)(2)(B).

15 (C) Subsection (b) (matter before para-
16 graph (1)).

17 (D) Subsection (c)(3).

18 (E) Subsection (d).

19 (F) Subsection (e)(2) (matter before sub-
20 paragraph (A)).

21 (10) Section 49906(b) (matter before para-
22 graph (1)) of title 51, United States Code (as reded-
23 icated by subsection (o)(3)), is amended by striking
24 “Committee on Science and Technology” and insert-

1 ing “Committee on Science, Space, and Tech-
2 nology”.

3 (11) Section 50134(b)(1) (matter before sub-
4 paragraph (A)) of title 51, United States Code, is
5 amended by striking “Committee on Science and
6 Technology” and inserting “Committee on Science,
7 Space, and Technology”.

8 (12) Section 50505(a) of title 51, United States
9 Code, is amended by striking “Committee on Science
10 and Technology” and inserting “Committee on
11 Science, Space, and Technology”.

12 (13) Section 50703 of title 51, United States
13 Code, is amended by striking “Committee on Science
14 and Technology” and inserting “Committee on
15 Science, Space, and Technology”.

16 (14) Section 621(b) (matter before paragraph
17 (1)) of the National Aeronautics and Space Adminis-
18 tration Authorization Act of 2008 (Public Law 110–
19 422, 51 U.S.C. 50903 note) is amended by striking
20 “Committee on Science and Technology” and insert-
21 ing “Committee on Science, Space, and Tech-
22 nology”.

23 (15) Section 50906(a) of title 51, United States
24 Code, is amended by striking “Committee on

1 Science” and inserting “Committee on Science,
2 Space, and Technology”.

3 (16) Section 50914(d)(1) of title 51, United
4 States Code, is amended by striking “Committee on
5 Science” and inserting “Committee on Science,
6 Space, and Technology”.

7 (17) Section 60505(b) of title 51, United States
8 Code, is amended by striking “Committee on Science
9 and Technology” and inserting “Committee on
10 Science, Space, and Technology”.

11 (18) Section 502 of the National Aeronautics
12 and Space Administration Authorization Act of 2005
13 (Public Law 109–155, 51 U.S.C. 70501 note) is
14 amended—

15 (A) in subsection (b) (matter before para-
16 graph (1)), by striking “Committee on Science”
17 and inserting “Committee on Science, Space,
18 and Technology”; and

19 (B) in subsection (c), by striking “Com-
20 mittee on Science” and inserting “Committee
21 on Science, Space, and Technology”.

22 (19) Section 313(c) of the National Aeronautics
23 and Space Administration Authorization Act of 2000
24 (Public Law 106–391, 51 U.S.C. 70506 note) is
25 amended by striking “Committee on Science” and

1 inserting “Committee on Science, Space, and Tech-
2 nology”.

3 (20) Section 203(b) of the National Aeronautics
4 and Space Administration Authorization Act of 2000
5 (Public Law 106–391, 51 U.S.C. 70901 note) is
6 amended by striking “Committee on Science” and
7 inserting “Committee on Science, Space, and Tech-
8 nology”.

9 (21) Section 205(b) (matter before paragraph
10 (1)) of the National Aeronautics and Space Adminis-
11 tration Authorization Act of 2000 (Public Law 106–
12 391, 51 U.S.C. 70901 note) is amended by striking
13 “Committee on Science” and inserting “Committee
14 on Science, Space, and Technology”.

15 **SEC. 4. TECHNICAL AMENDMENTS.**

16 (a) TITLE 5, UNITED STATES CODE.—Section 914
17 of the Ronald W. Reagan National Defense Authorization
18 Act for Fiscal Year 2005 (Public Law 108–375, 5 U.S.C.
19 552 note) is amended—

20 (1) in subsection (b)(1)(B), by striking “the
21 Land Remote Sensing Policy Act of 1992 (15 U.S.C.
22 5601 et seq.);” and inserting “chapter 601 of title
23 51, United States Code;”; and

24 (2) in subsection (e), by striking “section 3 of
25 the Land Remote Sensing Policy Act of 1992 (15

1 U.S.C. 5602).” and inserting “section 60101 of title
2 51, United States Code.”.

3 (b) TITLE 28, UNITED STATES CODE.—

4 (1) The chapter table of contents of chapter
5 123 of title 28, United States Code, is amended in
6 the item for section 1932 (relating to revocation of
7 earned release credit) by striking “1932” and insert-
8 ing “1933”.

9 (2) Section 1932 of title 28, United States
10 Code (relating to revocation of earned release cred-
11 it), is redesignated as section 1933 of that title.

12 (c) TITLE 31, UNITED STATES CODE.—Section 1(4)
13 of Public Law 107–74 (31 U.S.C. 1113 note), is amended
14 by striking “Section 206 of the National Aeronautics and
15 Space Act of 1958 (42 U.S.C. 2476).” and inserting “Sec-
16 tion 20116 of title 51, United States Code.”.

17 (d) TITLE 36, UNITED STATES CODE.—The title
18 table of contents of title 36, United States Code, is amend-
19 ed—

20 (1) in the item for chapter 23, by striking
21 “Council” and inserting “Museum”; and

22 (2) in the item for chapter 307, by striking
23 “For” and inserting “for”.

24 (e) TITLE 42, UNITED STATES CODE.—

1 (1) Section 602(b)(1) of the National Aero-
2 nautics and Space Administration Authorization Act
3 of 2010 (42 U.S.C. 18362(b)(1)) is amended by
4 striking “section 302 of this Act.” and inserting
5 “section 71521 of title 51, United States Code.”.

6 (2) Section 603 of the National Aeronautics
7 and Space Administration Authorization Act of 2010
8 (42 U.S.C. 18363) is amended—

9 (A) in subsection (a), by striking “(42
10 U.S.C. 17761(a)),” and inserting “(51 U.S.C.
11 70501 note),”; and

12 (B) in subsection (b), by striking “(42
13 U.S.C. 17761(a)).” and inserting “(51 U.S.C.
14 70501 note).”.

15 (f) TITLE 51, UNITED STATES CODE.—

16 (1) Section 2 of the National Aeronautics and
17 Space Administration Transition Authorization Act
18 of 2017 (Public Law 115–10, 51 U.S.C. 10101
19 note) is amended—

20 (A) in paragraph (8), by striking “section
21 504(a) of the National Aeronautics and Space
22 Administration Authorization Act of 2010 (42
23 U.S.C. 18354(a)).” and inserting “section
24 70911(a) of title 51, United States Code.”;

1 (B) in paragraph (10), by striking “section
2 303 of the National Aeronautics and Space Ad-
3 ministration Authorization Act of 2010 (42
4 U.S.C. 18323).” and inserting “section 71522
5 of title 51, United States Code.”; and

6 (C) in paragraph (11), by striking “section
7 3 of the National Aeronautics and Space Ad-
8 ministration Authorization Act of 2010 (42
9 U.S.C. 18302).” and inserting “section 71501
10 of title 51, United States Code.”.

11 (2) Section 20302(c) of title 51, United States
12 Code, is amended—

13 (A) in paragraph (1), by striking “section
14 303 of the National Aeronautics and Space Ad-
15 ministration Authorization Act of 2010 (42
16 U.S.C. 18323).” and inserting “section 71522
17 of this title.”; and

18 (B) in paragraph (2)—

19 (i) by striking “means has the mean-
20 ing” and inserting “has the meaning”; and

21 (ii) by striking “section 3 of the Na-
22 tional Aeronautics and Space Administra-
23 tion Authorization Act of 2010 (42 U.S.C.
24 18302).” and inserting “section 71501 of
25 this title.”.

1 (3) Section 202 of the National Space Grant
2 College and Fellowship Act (Public Law 100–147,
3 title II, 51 U.S.C. 40301 note) is amended—

4 (A) by striking “The Congress finds” and
5 inserting “(a) Congress finds”; and

6 (B) by adding at the end the following:

7 “(b) The definitions in section 40302 of title 51,
8 United States Code, apply in this section.”.

9 (4) Section 50111(c)(2) of title 51, United
10 States Code, is amended—

11 (A) in subparagraph (E), by striking “sec-
12 tion 301(b)(2) of the National Aeronautics and
13 Space Administration Transition Authorization
14 Act of 2017;” and inserting “section 70912(2)
15 of this title;”;

16 (B) in subparagraph (G), by striking “sec-
17 tion 432 of the National Aeronautics and Space
18 Administration Transition Authorization Act of
19 2017;” and inserting “section 71721 of this
20 title;”;

21 (C) in subparagraph (J) (matter before
22 clause (i)), by striking “section 503 of the Na-
23 tional Aeronautics and Space Administration
24 Authorization Act of 2010 (42 U.S.C. 18353),”
25 and inserting “section 70910 of this title,”.

1 (5) Section 302(c)(1) of the National Aero-
2 nautics and Space Administration Transition Au-
3 thorization Act of 2017 (Public Law 115–10, 51
4 U.S.C. 50111 note) is amended by striking “(42
5 U.S.C. 18301 et seq.)” and inserting “(Public Law
6 111–267; 124 Stat. 2805)”.

7 (6) Section 501 of the National Aeronautics
8 and Space Administration Authorization Act, Fiscal
9 Year 1993 (Public Law 102–588, 51 U.S.C. 50501
10 note) is amended by striking “The Congress finds
11 that—” and inserting the following:

12 “(a) DEFINITIONS.—The definitions in section 50501
13 of title 51, United States Code, apply in this section.

14 “(b) IN GENERAL.—Congress finds that—”.

15 (7) Section 70501(a)(2) of title 51, United
16 States Code, is amended by striking “section 421(f)
17 of the National Aeronautics and Space Administra-
18 tion Transition Authorization Act of 2017” and in-
19 serting “section 71711(c) of this title”.

20 (8) Section 70504(a) of title 51, United States
21 Code, is amended—

22 (A) in paragraph (1), by striking “section
23 202(b)(5) of the National Aeronautics and
24 Space Administration Authorization Act of

1 2010 (42 U.S.C. 18312(b)(5));” and inserting
2 “section 71512(b)(5) of this title;” and

3 (B) in paragraph (2), by striking “section
4 432 of the National Aeronautics and Space Ad-
5 ministration Transition Authorization Act of
6 2017.” and inserting “section 71721 of this
7 title.”.

8 **SEC. 5. TRANSITIONAL AND SAVINGS PROVISIONS.**

9 (a) DEFINITIONS.—In this section:

10 (1) RESTATED PROVISION.—The term “restated
11 provision” means a provision of title 51, United
12 States Code, that is enacted by section 3.

13 (2) SOURCE PROVISION.—The term “source
14 provision” means a provision of law that is replaced
15 by a restated provision.

16 (b) CUTOFF DATE.—The restated provisions replace
17 certain provisions of law enacted on or before October 19,
18 2021. If a law enacted after that date amends or repeals
19 a source provision, that law is deemed to amend or repeal,
20 as the case may be, the corresponding restated provision.
21 If a law enacted after that date is otherwise inconsistent
22 with a restated provision or a provision of this Act, that
23 law supersedes the restated provision or provision of this
24 Act to the extent of the inconsistency.

1 (c) ORIGINAL DATE OF ENACTMENT UNCHANGED.—

2 A restated provision is deemed to have been enacted on
3 the date of enactment of the corresponding source provi-
4 sion.

5 (d) REFERENCES TO RESTATED PROVISIONS.—A

6 reference to a restated provision is deemed to refer to the
7 corresponding source provision.

8 (e) REFERENCES TO SOURCE PROVISIONS.—A ref-

9 erence to a source provision, including a reference in a
10 regulation, order, or other law, is deemed to refer to the
11 corresponding restated provision.

12 (f) REGULATIONS, ORDERS, AND OTHER ADMINIS-

13 TRATIVE ACTIONS.—A regulation, order, or other admin-
14 istrative action in effect under a source provision con-
15 tinues in effect under the corresponding restated provi-
16 sion.

17 (g) ACTIONS TAKEN AND OFFENSES COMMITTED.—

18 An action taken or an offense committed under a source
19 provision is deemed to have been taken or committed
20 under the corresponding restated provision.

1 SEC. 6. REPEALS.

2 (a) IN GENERAL.—The provisions of law listed in
 3 subsection (b) are repealed, except with respect to rights
 4 and duties that matured, penalties that were incurred, or
 5 proceedings that were begun before the date of enactment
 6 of this Act.

7 (b) SCHEDULE OF LAWS REPEALED.—The repealed
 8 provisions referred to in subsection (a) are listed in the
 9 table below.

Schedule of Laws Repealed

Act	Section	United States Code Former Classification
National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989 (Public Law 100–685)	104	31 U.S.C. 1105 note
National Aeronautics and Space Administration Authorization Act, Fiscal Year 1993 (Public Law 102–588)	210	51 U.S.C. 30103 note
National Aeronautics and Space Administration Authorization Act of 2010 (Public Law 111–267)	201	42 U.S.C. 18311
	202	42 U.S.C. 18312
	301(b)	42 U.S.C. 18321(b)
	302	42 U.S.C. 18322
	303	42 U.S.C. 18323
	304	42 U.S.C. 18324
	305	42 U.S.C. 18325
	308	42 U.S.C. 18326
	401	42 U.S.C. 18341
	403	42 U.S.C. 18342
	501	42 U.S.C. 18351
	502	42 U.S.C. 18352
	503(a)	42 U.S.C. 18353(a)
	503(d)	42 U.S.C. 18353(d)
	503(e)	42 U.S.C. 18353(e)
	503(f)	42 U.S.C. 18353(f)
	504	42 U.S.C. 18354
	702	42 U.S.C. 18371
	703	42 U.S.C. 18372
	704	42 U.S.C. 18373
	706	42 U.S.C. 18374
	801	42 U.S.C. 18381
	802(b) through (e)	42 U.S.C. 18382(b) through (e)
	804	42 U.S.C. 18383
	805	42 U.S.C. 18384
	806(b), (c)	42 U.S.C. 18385(b), (c)
	807	42 U.S.C. 18386
	808	42 U.S.C. 18387
	902	42 U.S.C. 18401
	903	42 U.S.C. 18402
	904	42 U.S.C. 18403
	906	42 U.S.C. 18404
	907	42 U.S.C. 18405
	1202(b)	42 U.S.C. 18441(b)

Schedule of Laws Repealed—Continued

Act	Section	United States Code Former Classification
America COMPETES Reauthorization Act of 2010 (Public Law 111–358)	1203(b)	42 U.S.C. 18442(b)
	1206	42 U.S.C. 18444
	1207	42 U.S.C. 18445
	202(b)	51 U.S.C. note prec. 40901
National Defense Authorization Act for Fiscal Year 2013 (Public Law 112–239)	203(e)	51 U.S.C. note prec. 30501
	204(b)	51 U.S.C. 20303 note
	913(a), (b)	51 U.S.C. 30701 note
Science Appropriations Act, 2013 (Public Law 113–6, div. B, title III)	(1st, 2d provisos under heading “CONSTRUCTION AND ENVIRONMENTAL COMPLIANCE AND RESTORATION”, at 127 Stat. 263)	51 U.S.C. 20145 note
Inspiring the Next Space Pioneers, Innovators, Researchers, and Explorers (INSPIRE) Women Act (Public Law 115–7)	3	51 U.S.C. note prec. 40901
National Aeronautics and Space Administration Transition Authorization Act of 2017 (Public Law 115–10)	301(b)	51 U.S.C. 50111 note
	301(e)	42 U.S.C. 18351, 51 U.S.C. 50111 note
	302(d)	42 U.S.C. 18311, 51 U.S.C. 50111 note
	302(e)	51 U.S.C. 50111 note
	302(f)	42 U.S.C. 18341, 51 U.S.C. 50111 note
	302(g)	51 U.S.C. 50111 note
	302(h)(2)	51 U.S.C. 50111 note
	303(e)	51 U.S.C. 50111, 51 U.S.C. 50111 note
	421(b)(2)	51 U.S.C. 20301 note
	421(d)	51 U.S.C. 20301 note
	421(f)	51 U.S.C. 20301 note
	421(g)	51 U.S.C. 20301 note
	432(b)	51 U.S.C. 20302 note
	501(b)	51 U.S.C. 20301 note
	502(b)	51 U.S.C. 20301 note
	508	51 U.S.C. 20301 note
	509	51 U.S.C. 20301 note
	517	51 U.S.C. 20113 note
	701(e)	51 U.S.C. 20301 note
	701(d)	51 U.S.C. 20301 note
	702(a)	51 U.S.C. 20301 note
	702(b)	51 U.S.C. 20301 note
	702(e)	51 U.S.C. 20301 note
	702(d)	51 U.S.C. 20301 note
	702(e)	51 U.S.C. 20301 note
	702(f)(1)	51 U.S.C. 20301 note
	702(h)	51 U.S.C. 20301 note
	811(a)	51 U.S.C. 20111 note
	812	51 U.S.C. 20111 note
	813(b)	51 U.S.C. 20111 note
	821	51 U.S.C. 20111 note
	822(e)	51 U.S.C. 50131 note
	824(b)(1)	51 U.S.C. note prec. 40901
	825(e)	51 U.S.C. 50131 note
	826	51 U.S.C. 70102 note
	837(b)	51 U.S.C. 31502 note
	837(e)	51 U.S.C. 31502 note
	837(d)	51 U.S.C. 31502 note
	837(e)	51 U.S.C. 31502 note
	841(b)	51 U.S.C. 20113 note
	841(e)	51 U.S.C. 20113 note
	841(d)	51 U.S.C. 20113 note
	841(e)	51 U.S.C. 20113 note

Schedule of Laws Repealed—Continued

Act	Section	United States Code Former Classification
Women in Aerospace Education Act (Public Law 115–303)	3	51 U.S.C. note prec. 40901
William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116–283)	9406	51 U.S.C. note prec. 40901

Passed the House of Representatives December 8,
2021.

Attest:

CHERYL L. JOHNSON,
Clerk.