I

117TH CONGRESS
1ST SESSION

H. R. 5982

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.

IN THE HOUSE OF REPRESENTATIVES

NOVEMBER 16, 2021

Mrs. FISCHBACH introduced the following bill; which was referred to the Committee on the Judiciary

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A BILL

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.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. TABLE OF CONTENTS.

The table of contents for this Act is as follows:

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

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

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

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

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

(1) IN GENERAL.—The restatement of existing law enacted by this Act does not change the meaning or effect of the existing law. The restatement incorporates in title 51, United States Code, various provisions that were enacted separately over a period of years, reorganizing them, conforming style and terminology, modernizing obsolete language, and correcting drafting errors. These changes serve to remove ambiguities, contradictions, and other imperfections, but they do not change the meaning or effect of the existing law or impair the precedential value of earlier judicial decisions or other interpretations.

(2) RULE OF CONSTRUCTION.—

(A) IN GENERAL.—Notwithstanding the plain meaning rule or other rules of statutory construction, a change in wording made in the

restatement of existing law enacted by this Act serves to clarify the existing law as indicated in paragraph (1), but not to change the meaning or effect of the existing law.

(B) REVISION NOTES.—Subparagraph (A) applies whether or not a change in wording is explained by a revision note appearing in a congressional report accompanying this Act. If such a revision note does appear, a court shall consider the revision note in interpreting the change.

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

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

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

"301. Funding ..... 30101";

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

"315. Facilities and Infrastructure 31501
"317 Through 397 .....Reserved
"399. Miscellaneous ..... 39901";

(3) by striking the item relating to chapter 409 and inserting the following:

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

(4) by striking the items relating to chapters 513 and 515 and inserting the following:

(5) by striking the item relating to chapter 701 and inserting the following:

and

(6) by inserting after the item relating to chapter 713 the following:

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

(1) in subsection (a), by striking "The Administration 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".

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

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

(2) by inserting after subsection (e) the following:

''(f) PROCEEDS.—Proceeds from leases entered into under this section shall be deposited in the Administration construction and environmental compliance and restoration appropriations account. The proceeds shall be available for a period of 5 years, to the extent and in amounts provided in appropriations acts.''.

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

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

(2) by redesignating subsection (d) as subsection (e); and

(3) by inserting after subsection (c) the following:

''(d) EVALUATION AND EXPANSION OF INTERAGENCY CONTRIBUTION.—

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

''(A) expand efforts to maximize the Administration's contribution to interagency efforts to enhance science, technology, engineering, and mathematics education capabilities; and

''(B) enhance the Nation's technological excellence and global competitiveness.

''(2) IDENTIFICATION IN REPORT.—The Administrator shall identify the expanded efforts and enhancements made under paragraph (1) in the annual reports required by subsection (e).''.

(e) REVISION OF CHAPTER 301.—

(1) CHAPTER HEADING.—The chapter heading of chapter 301 of title 51, United States Code, is amended by striking ''**APPROPRIATIONS, BUDGETS, AND ACCOUNTING**'' and inserting ''**FUNDING**''.

(2) CHAPTER TABLE OF CONTENTS.—The chapter table of contents of chapter 301 of title 51, 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.''.

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

(A) Section 30103 (Budgets) is redesignated as section 30121, and transferred to appear after section 30104 (Baselines and cost controls).

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

(4) DESIGNATION OF SUBCHAPTERS.—

(A) Chapter 301 of title 51, United States Code, is amended by inserting a subchapter heading (in typeface styled like other subchapter headings in title 51) before section 30101 as follows: ''SUBCHAPTER I—GENERAL PROVISIONS''.

(B) Chapter 301 of title 51, United States Code, is amended by inserting a subchapter heading (in typeface styled like other subchapter headings in title 51) before section 30121 (as redesignated and transferred by paragraph (3)(A)) as follows: ''SUBCHAPTER II—BUDGET PROVISIONS''.

(5) REVISION OF SECTION 30103.—Section 30103 (Baselines and cost controls) of title 51, United States Code (as redesignated by paragraph (3)(B)), is amended by striking ''Committee on

Science and Technology'' and inserting ''Committee on Science, Space, and Technology'' in—

(A) subsection (b)(2);

(B) subsection (c)(1);

(C) subsection (d)(3);

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

(E) subsection (e)(2).

(6) ENACTMENT OF SECTIONS 30104 AND 30105.—Chapter 301 of title 51, United States Code, is amended by inserting after section 30103 (Baselines and cost controls) (as redesignated by paragraph (3)(B) and amended by paragraph (5)) the following:

''§ 30104. Reports on estimated costs for certain programs

''For each program under the jurisdiction of the Administration for which development costs are expected to exceed $200,000,000, the Administrator shall submit to Congress, at the time of submission of the President's annual budget—

''(1) a 5-year budget detailing the estimated development costs of the program; and

''(2) an estimate of the life-cycle costs associated with the program.

"§ 30105. Annual report on program cost and control

''(a) ANNUAL REPORT.—Not later than April 30 of each year, the Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report on the implementation during the preceding year of the corrective action plan referred to in section 1203(a)(4) of the National Aeronautics and Space Administration Authorization Act of 2010 (Public Law 111–267).

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

''(1) DESCRIPTION OF OVER-BUDGET OR DELAYED PROGRAMS.—For the year covered by the report, a description of each Administration program that has exceeded its cost baseline by 15 percent or more or is more than 2 years behind its projected development schedule.

''(2) CORRECTIVE PLANS.—For each program described under paragraph (1), a plan for a decrease in scope or requirements, or other measures, to be undertaken to control cost and schedule, including any cost monitoring or corrective actions undertaken pursuant to the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155), and the amendments made by that Act.''.

(7) REVISION OF SECTION 30121.—Section 30121 of title 51, United States Code (as redesignated and transferred by paragraph (3)(A)), is amended—

(A) in the section heading, by striking "**Budgets**" and inserting "**General budget documentation requirements**"; and

(B) in subsection (b) (matter before paragraph (1)), by striking "Committee on Science and Technology" and inserting "Committee on Science, Space, and Technology".

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

"§ 30122. Consideration of decadal surveys

"The Administration shall take into account the current decadal surveys from the National Academies' Space Studies Board when submitting the President's budget request to Congress.

"§ 30123. Two-year budget request with 3d-year estimate

"Each fiscal year, the President shall submit to Congress a budget request for the Administration that includes—

''(1) a budget request for the immediate fiscal year and the following fiscal year; and

''(2) budget estimates for the 3d fiscal year.''.

(f) REVISION OF SECTION 30310.—Section 30310 of title 51, United States Code, is amended by striking ''Section 526(a) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17142(a))'' and inserting ''Section 526 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17142)''.

(g) ENACTMENT OF SECTION 30311.—

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

''30311. Counterfeit parts.''.

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

''§ 30311. Counterfeit parts

''(a) IN GENERAL.—The Administrator shall plan, develop, and implement a program, in coordination with other Federal agencies, to detect, track, catalog, and reduce the number of counterfeit electronic parts in the Administration supply chain.

''(b) REQUIREMENTS.—In carrying out the program, the Administrator shall establish—

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

''(A) teach employees how to identify counterfeit parts;

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

''(C) regularly update employees on new threats, identification techniques, and reporting requirements; and

''(D) integrate industry associations, manufacturers, suppliers, and other Federal agencies, as appropriate;

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

''(A) companies and individuals known and suspected of selling counterfeit parts;

''(B) parts known and suspected of being counterfeit, including lot and date codes, part numbers, and part images;

''(C) countries of origin;

''(D) sources of reporting;

''(E) United States Customs seizures; and

''(F) Government-Industry Data Exchange Program reports and other public- or private-sector database notifications; and

''(3) a mechanism—

''(A) to report all information on suspected and confirmed counterfeit electronic parts to law enforcement agency databases, industry association databases, and other databases; and

''(B) to issue bulletins to industry on counterfeit electronic parts and related counterfeit activity.

''(c) REVIEW OF PROCUREMENT AND ACQUISITION POLICY.—

''(1) IN GENERAL.—In establishing the program, the Administrator shall amend acquisition and procurement policy in effect on October 11, 2010, to require the purchase of electronic parts from trusted or approved manufacturers. To determine trusted or approved manufacturers, the Administrator shall establish a list, assessed and adjusted at least annually, and create criteria for manufacturers to meet in order to be placed on the list.

''(2) CRITERIA.—The criteria may include—

''(A) authentication or encryption codes;

''(B) embedded security markings in parts;

"(C) unique, hard-to-copy labels and markings;

"(D) identification of distinct lot and serial codes on external packaging;

"(E) radio frequency identification embedded into high-value parts;

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

"(G) testing certifications;

"(H) maintenance of procedures for handling any counterfeit parts that slip through;

"(I) maintenance of secure facilities to prevent unauthorized access to proprietary information; and

"(J) maintenance of product return, buy back, and inventory control practices that limit counterfeiting.".

(h) ENACTMENT OF SECTIONS 30505 AND 30506.—

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

"30505. Information security.
"30506. Workforce development for minority and underrepresented groups.".

(2) ENACTMENT OF SECTIONS.—Chapter 305 of title 51, United States Code, is amended by adding at the end the following:

"§ 30505. Information security

"(a) DEFINITION OF INFORMATION INFRASTRUCTURE.—In this section, the term `information infrastructure' means the underlying framework that information systems and assets rely on to process, transmit, receive, or store information electronically, including programmable electronic devices and communications networks and any associated hardware, software, or data.

"(b) MONITORING RISK.—

"(1) BIENNIAL UPDATE ON SYSTEM IMPLEMENTATION.—On a biennial basis, the chief information officer of the Administration, in coordination with other national security agencies, shall provide to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives—

"(A) an update on efforts to implement a system to provide dynamic, comprehensive, real-time information regarding risk of unauthorized remote, proximity, and insider use or access, for all information infrastructure under the respon-

sibility of the chief information officer, and mission-related networks, including contractor networks;

''(B) an assessment of whether the system has demonstrably and quantifiably reduced network risk compared with alternative methods of measuring security; and

''(C) an assessment of the progress that each center and facility has made toward implementing the system.

''(2) EXISTING ASSESSMENTS.—The assessments required of the Inspector General under section 3555 of title 44 shall evaluate the effectiveness of the system described in this subsection.

''(c) INFORMATION SECURITY AWARENESS AND EDUCATION.—

''(1) IN GENERAL.—In consultation with the Department of Education, other national security agencies, and other agency directorates, the chief information officer shall institute an information security awareness and education program for all operators and users of Administration information infrastructure, with the goal of reducing unauthorized remote, proximity, and insider use or access.

''(2) PROGRAM REQUIREMENTS.—

''(A) BRIEFINGS, EXERCISES, AND EXAMINATIONS.—The program shall include, at a minimum, ongoing classified and unclassified threat-based briefings, and automated exercises and examinations that simulate common attack techniques.

''(B) PARTICIPATION.—All agency employees and contractors engaged in the operation or use of agency information infrastructure shall participate in the program.

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

''(D) REWARDING ACHIEVEMENT.—The chief human capital officer of the Administration, in consultation with the chief information officer, shall create a system to reward operators and users of agency information infrastructure for continuous high achievement in the program.

''§ 30506. Workforce development for minority and underrepresented groups

''(a) ADDRESSING IMPEDIMENTS.—To the extent practicable, the Administrator shall take all necessary

steps to address any impediments identified in the assessment described in subsection (b).

''(b) ASSESSMENT.—The assessment referred to in subsection (a) is the independent assessment of impediments to space science and engineering workforce development for minority and underrepresented groups at the Administration that was prepared under section 203(a) of the America COMPETES Reauthorization Act of 2010 (Public Law 111–358, 124 Stat. 3994).''.

(i) REVISION OF SECTION 30704.—Section 30704(2) of title 51, United States Code, is amended by striking ''the Buy American Act (41 U.S.C. 10a et seq.)'' and inserting ''chapter 83 of title 41''.

(j) ENACTMENT OF SECTION 30705.—

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

''30705. Limitation on international agreements concerning outer space activities.''.

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

''§ 30705. Limitation on international agreements concerning outer space activities

''(a) DEFINITIONS.—In this section:

''(1) CONGRESSIONAL DEFENSE COMMITTEES.—The term 'congressional defense committees' means—

''(A) the Committee on Armed Services and the Committee on Appropriations of the Senate; and

''(B) the Committee on Armed Services and the Committee on Appropriations of the House of Representatives.

''(2) COVERED CONGRESSIONAL COMMITTEES.—The term 'covered congressional committees' means—

''(A) the Committee on Armed Services, the Committee on Foreign Relations, and the Select Committee on Intelligence of the Senate; and

''(B) the Committee on Armed Services, the Committee on Foreign Affairs, and the Permanent Select Committee on Intelligence of the House of Representatives.

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

''(1) the President shall submit to the congressional defense committees, the Permanent Select Committee on Intelligence of the House of Representatives, and the Select Committee on Intelligence of the Senate a certification that the agreement has no legally binding effect or basis for limiting the activities of the United States in outer space; and

''(2) the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, and the Director of National Intelligence shall jointly submit to the congressional defense committees a certification that the agreement will be equitable, enhance national security, and have no militarily significant impact on the ability of the United States to conduct military or intelligence activities in space.

''(c) BRIEFINGS AND NOTIFICATIONS REQUIRED.—

''(1) RESTATEMENT OF POLICY FORMULATION UNDER THE ARMS CONTROL AND DISARMAMENT ACT WITH RESPECT TO OUTER SPACE.—No action shall be taken that would obligate the United States to reduce or limit the Armed Forces or armaments of the United States in outer space in a militarily significant manner, except pursuant to the treaty-making power of the President under Article II, Section 2,

Clause II of the Constitution or unless authorized by the enactment of further affirmative legislation by Congress.

''(2) BRIEFINGS.—

''(A) REQUIREMENT.—The Secretary of Defense, the Secretary of State, and the Director of National Intelligence shall jointly provide to the covered congressional committees regular, detailed updates on the negotiation of a non-legally binding international agreement concerning an International Code of Conduct for Outer Space Activities or any similar agreement.

''(B) TERMINATION OF REQUIREMENT.—The requirement to provide regular briefings under subparagraph (A) shall terminate on the date on which the United States becomes a signatory to an agreement referred to in subparagraph (A), or on the date on which the President certifies to Congress that the United States is no longer negotiating an agreement referred to in subparagraph (A), whichever is earlier.

''(3) NOTIFICATIONS.—If the United States becomes a signatory to a non-legally binding inter-

national 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**''.

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

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

(A) in the chapter table of contents, by redesignating the items for sections 31501

through 31505 as items for sections 39901 through 39905, respectively; and

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

(l) ENACTMENT OF CHAPTER 315.—

(1) ENACTMENT OF CHAPTER.—Title 51, United States Code, as amended by subsection (k), is amended by inserting after chapter 313 (and before ''CHAPTERS 317 THROUGH 397—RESERVED'' as inserted by subsection (k)(1)) the following:

''CHAPTER 315—FACILITIES AND INFRASTRUCTURE

''§ 31501. Policy and plan

''(a) POLICY.—It is the policy of the United States that the Administration maintain reliable and efficient facilities and infrastructure and that decisions on whether to dispose of, maintain, or modernize existing facilities or infrastructure be made in the context of meeting future Administration needs.

''(b) PLAN.—

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

''(2) GOAL.—The goal of the plan is to position the Administration to have the facilities and infrastructure, including laboratories, tools, and approaches, necessary to meet future Administration and other Federal agencies' laboratory needs.

''(3) CONTENTS.—The plan shall identify—

''(A) current Administration and other Federal agency laboratory needs;

''(B) future Administration research and development and testing needs;

''(C) a strategy for identifying facilities and infrastructure that are candidates for disposal, that is consistent with the national strategic direction set forth in—

''(i) the National Space Policy;

''(ii) the National Aeronautics Research, Development, Test, and Evaluation Infrastructure Plan;

''(iii) the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 119 Stat. 2895), the National Aeronautics and Space Administration Authorization Act of 2008 (Public Law 110–422, 122 Stat. 4779), and the National Aeronautics and Space

Administration Authorization Act of 2010 (Public Law 111–267, 124 Stat. 2805); and

''(iv) the human exploration roadmap under section 71721 of this title;

''(D) a strategy for the maintenance, repair, upgrading, and modernization of Administration facilities and infrastructure, including laboratories and equipment;

''(E) criteria for—

''(i) prioritizing deferred maintenance tasks;

''(ii) maintaining, repairing, upgrading, or modernizing Administration facilities and infrastructure; and

''(iii) implementing processes, plans, and policies for guiding the Administration's centers on whether to maintain, repair, upgrade, or modernize a facility or infrastructure and for determining the type of instrument to be used;

''(F) an assessment of modifications needed to maximize usage of facilities that offer unique and highly specialized benefits to the

aerospace industry and the American public; and

"(G) implementation steps, including a timeline, milestones, and an estimate of resources required for carrying out the plan.

"(c) REQUIREMENT TO ESTABLISH POLICY.—

"(1) IN GENERAL.—Not later than 180 days after March 21, 2017, the Administrator shall establish and make publicly available a policy that guides the Administration's use of existing authorities to out-grant, lease, excess to the General Services Administration, sell, decommission, demolish, or otherwise transfer property, facilities, or infrastructure.

"(2) CRITERIA.—The policy shall include criteria for the use of authorities, best practices, standardized procedures, and guidelines for how to appropriately manage property, facilities, and infrastructure.

"(d) SUBMISSION TO CONGRESS.—Not later than 1 year after March 21, 2017, the Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives the plan developed under subsection (b).".

(2) REDESIGNATION OF SECTION 39902 AS SECTION 31502.—

(A) REDESIGNATION AND TRANSFER.—Section 39902 of title 51, United States Code, as redesignated by subsection (k)(3)(B), is redesignated as section 31502 of title 51, United States Code, and transferred to appear after section 31501 of title 51, United States Code, as inserted by paragraph (1).

(B) AMENDMENT OF SECTION 31502.—Section 31502 of title 51, United States Code, as redesignated and transferred by subparagraph (A), is amended—

(i) in the heading, by striking "**Maintenance of facilities**" and inserting "**Maintenance and upgrade of center facilities**";

(ii) by striking "healthy Centers" and inserting "healthy centers"; and

(iii) by striking "Center facilities" and inserting "center facilities".

(C) CONFORMING AMENDMENTS TO CHAPTER 399.—Chapter 399 of title 51, United States Code, as redesignated and amended by subsections (k) and (l)(2)(A), is amended—

(i) in the chapter table of contents—

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

(II) by redesignating the items relating to sections 39903, 39904, and 39905 as items relating to sections 39902, 39903, and 39904, respectively; and

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

(m) REVISION OF SECTION 39901.—Section 39901 of title 51, United States Code (as redesignated by subsection (k)(3)), is amended—

(1) by redesignating the existing text as subsection (a) and inserting the subsection heading ''TECHNOLOGIES TO DECREASE RISK.—''; and

(2) by adding at the end the following:

''(b) INTERNATIONAL DISCUSSION.—

''(1) IN GENERAL.—The Administrator shall, in consultation with such other departments and agencies of the Federal Government as the Administrator considers appropriate, continue and strengthen discussions with the representatives of other spacefaring countries, within the Inter-Agency Space De-

bris Coordination Committee and elsewhere, to deal with orbital debris mitigation.

''(2) INTERAGENCY EFFORT.—For purposes of carrying out this subsection, the Director of the Office of Science and Technology Policy, in coordination with the Director of the National Security Council and using the President's Council of Advisors on Science and Technology coordinating mechanism, shall develop an overall strategy for review by the President, with recommendations for proposed international collaborative efforts to address the challenge of orbital debris mitigation.''.

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

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

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

''**CHAPTERS 411 THROUGH 497—RESERVED**''.

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

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

(A) in the chapter table of contents, by redesignating the items for sections 40901 through 40909 as items for sections 49901 through 49909, respectively; and

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

(p) ENACTMENT OF CHAPTER 409.—Title 51, United States Code, is amended by inserting after chapter 407 (and before ''CHAPTERS 411 THROUGH 497—RESERVED'' as inserted by subsection (o)(1)) the following:

''CHAPTER 409—AERONAUTICS AND SPACE TECHNOLOGY

''§ 40901. Aeronautics research goals

''The Administrator should ensure that the Administration maintains a strong aeronautics research portfolio ranging from fundamental research through systems research with specific research goals, including the following:

''(1) AIRSPACE CAPACITY.—The Administration's Aeronautics Research Mission Directorate shall address research needs of the Next Generation Air Transportation System, including the ability of the National Airspace System to handle up to 3 times the current travel demand by 2025.

''(2) ENVIRONMENTAL SUSTAINABILITY.—The Directorate shall—

''(A) consider and pursue concepts to reduce noise, emissions, and fuel consumption while maintaining high safety standards; and

''(B) pursue research relating to alternative fuels.

''(3) AVIATION SAFETY.—The Directorate shall proactively address safety challenges with new and current air vehicles and with operations in the Nation's current and future air transportation system.

''§ 40902. Research collaboration

''(a) DEPARTMENT OF DEFENSE.—The Administrator shall continue to coordinate with the Secretary of Defense, through the National Partnership for Aeronautics Testing, to develop and implement joint plans for those elements of the Nation's research, development, testing, and engineering infrastructure that are of common interest and use.

''(b) FEDERAL AVIATION ADMINISTRATION.—The Administrator shall continue to coordinate with, and work closely with, the Administrator of the Federal Aviation Administration, under the framework of the Senior Policy Council, in the development of the Next Generation Air Transportation Program. The Administrator shall encourage the Council to explore areas for greater collaboration, including areas in which the Administration can help to accelerate the development and demonstration of NextGen technologies.

''§ 40903. Goal for Administration space technology

''Building on its Innovative Partnerships Program and other partnering approaches, it is critical that the Administration maintain an Administration space technology base that helps align mission directorate investments and supports long term needs—

''(1) to complement mission-directorate funded research; and

''(2) where appropriate, to support multiple users.

''§ 40904. National space technology policy

''(a) IN GENERAL.—The President, in consultation with appropriate Federal agencies, shall develop a national policy to guide the space technology development programs of the United States through 2020. The policy shall

include national goals for technology development and shall describe the role and responsibilities of each Federal agency that will carry out the policy. In developing the policy, the President shall utilize external studies that have been conducted on the state of United States technology development and have suggested policies to ensure continued competitiveness.

''(b) CONTENT.—At a minimum, the national space technology development policy shall describe for the Administration—

''(1) the priority areas of research for technology investment;

''(2) the basis on which and the process by which priorities for ensuing fiscal years will be selected;

''(3) the facilities and personnel needed to carry out the technology development program; and

''(4) the budget assumptions on which the policy is based, which for fiscal years 2011, 2012, and 2013 shall be the authorized level for the Administration's technology program authorized by the National Aeronautics and Space Administration Authorization Act of 2010 (Public Law 111–267, 124 Stat. 2805).

''(c) POLICY PREMISE.—The policy shall be based on the premise that the Federal Government has an established interest in conducting research and development programs that help preserve the role of the United States as a global leader in space technologies and their application.

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

''(1) LONG TERM AND INCREMENTAL DEVELOPMENT.—The extent to which the Administration should focus on long term, high-risk research or more incremental technology development, and the expected impact of that decision on the United States economy.

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

''(3) COORDINATION WITH FEDERAL AGENCIES.—How the Administration will coordinate its technology program with other Federal agencies.

''(4) ADMINISTRATION, UNIVERSITY, AND INDUSTRY RESEARCH.—The extent to which the Administration will conduct research in-house, fund university research, and collaborate on industry re-

search and the expected impact of that mix of funding on the supply of United States workers for industry.

''(e) CONSULTATION.—In the development of the national space technology development policy, the President shall consult widely with academic and industry experts and with Federal agencies. The Administrator may enter into an arrangement with the National Academy of Sciences to help develop the policy.

''§ 40905. Commercial Reusable Suborbital Research Program

''(a) FINDING THAT SUBORBITAL SCIENCE MISSIONS ARE CRITICAL.—The report entitled Revitalizing NASA's Suborbital Program: Advancing Science, Driving Innovation, and Developing a Workforce (prepared by the Committee on NASA's Suborbital Research Capabilities, Space Studies Board, Division on Engineering and Physical Sciences, National Research Council of the National Academies) found that suborbital science missions are absolutely critical to building an aerospace workforce capable of meeting the needs of current and future human and robotic space exploration.

''(b) ESTABLISHMENT.—The Administrator shall establish a Commercial Reusable Suborbital Research Program within the Space Technology Program.

''(c) MANAGEMENT.—The Administrator shall designate an officer or employee of the Space Technology Program to act as the responsible official for the Commercial Reusable Suborbital Research Program. The designee shall be responsible for the development of short- and long-term strategic plans for maintaining, renewing, and extending suborbital facilities and capabilities.

''(d) ACTIVITIES.—The Commercial Reusable Suborbital Research Program—

''(1) shall fund the development of payloads for scientific research, technology development, and education;

''(2) shall provide flight opportunities to microgravity environments and suborbital altitudes for the payloads referred to in paragraph (1);

''(3) may fund engineering and integration demonstrations, proofs of concept, or educational experiments for commercial reusable vehicle flights; and

''(4) shall endeavor to work with the Administration's mission directorates to help achieve the Administration's research, technology, and education goals.

''(e) REPORT.—The Administrator shall annually submit to the Committee on Commerce, Science, and

Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report describing progress in carrying out the Commercial Reusable Suborbital Research program, including the number and type of suborbital missions planned in each fiscal year.''.

(q) ENACTMENT OF SECTIONS 49910 THROUGH 49912.—

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

(2) ENACTMENT OF SECTIONS.—Chapter 499 of title 51, United States Code (as redesignated and amended by subsection (o)), is amended by adding at the end the following:

''§ 49910. Programs to support STEM education

''(a) DEFINITION OF STEM.—In this section, the term 'STEM' means the academic and professional disciplines of science, technology, engineering, and mathematics.

''(b) EDUCATIONAL PROGRAM GOALS.—The Administration shall develop and maintain educational programs to—

''(1) carry out and support research-based programs and activities designed to increase student interest and participation in STEM, including students from minority and underrepresented groups;

''(2) improve public literacy in STEM;

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

''(4) provide curriculum support materials and other resources that—

''(A) are designed to be integrated with comprehensive STEM education;

''(B) are aligned with national science education standards; and

''(C) promote the adoption and implementation of high-quality education practices that build toward college and career-readiness; and

''(5) create and support opportunities for enhanced and ongoing professional development for teachers using best practices that improve the STEM content and knowledge of the teachers, including through programs linking STEM teachers with STEM educators at the higher education level.

''(c) CYBERSECURITY IN STEM PROGRAMS.—In carrying out any STEM education program of the Administration, including a program of the Office of STEM Engagement, the Administrator shall, to the maximum extent practicable, encourage the inclusion of cybersecurity education opportunities in the program.

''§ 49911. Supporting women's involvement in the fields of aerospace and space exploration

''The Administrator shall encourage women and girls to study science, technology, engineering, and mathematics, pursue careers in aerospace, and further advance the Nation's space science and exploration efforts through support of the following initiatives:

''(1) NASA GIRLS and NASA BOYS.

''(2) Aspire to Inspire.

''(3) Summer Institute in Science, Technology, Engineering, and Research.

''§ 49912. Internship and fellowship opportunities

''Not later than October 1, 2018, the Administrator shall institute a process to encourage the recruitment of qualified candidates who are women or individuals who are underrepresented in the fields of science, technology, engineering, and mathematics (STEM) and computer science for internships and fellowships at the Administration with relevance to the aerospace sector and related fields.''.

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

(1) in the 2d sentence of subsection (a)(1), by striking ''subsection (b)(2)(D)'' and inserting ''subsection (b)(2)(E)'';

(2) in the 3d sentence of subsection (a)(1), by striking ''subsection (b)(2)(D)'' and inserting ''subsection (b)(2)(E)'';

(3) in the last sentence of subsection (a)(1), by striking ''Committee on Science'' and inserting ''Committee on Science, Space, and Technology'';

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

(5) in subsection (b)(6)(A), by striking ''the date of enactment of the Commercial Space Launch Amendments Act of 2004'' and inserting ''December 23, 2004''; and

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

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

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

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

(3) in subsection (c)(1)—

(A) by striking ''the date of enactment of the Commercial Space Launch Amendments Act of 2004,'' and inserting ''December 23, 2004,'';

(B) by striking ''that Act,'' and inserting ''the Commercial Space Launch Amendments Act of 2004,''; and

(C) by striking ''such date of enactment,'' and inserting ''December 23, 2004,'';

(4) in subsection (c)(2)(A), by striking ''the date of enactment of the Commercial Space Launch Amendments Act of 2004,'' and inserting ''December 23, 2004,'';

(5) in subsection (d)(2)—

(A) by striking ''the date of enactment of the Commercial Space Launch Amendments Act of 2004,'' and inserting ''December 23, 2004,''; and

(B) by striking ''that Act'' and inserting ''the Commercial Space Launch Amendments Act of 2004''; and

(6) in subsection (d)(3), by striking ''the date of enactment of the Commercial Space Launch Amendments Act of 2004'' and inserting ''December 23, 2004,''.

(t) REVISION OF CHAPTER 515.—

(1) TABLE OF CONTENTS.—Chapter 515 of title 51, United States Code, is amended by inserting after the chapter heading the following:

''Sec.
''51501. Establishment of Office of Spaceports.''.

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

(A) by redesignating subsections (a), (b), (c), (d), and (e) as subsections (b), (c), (d), (e), and (a), respectively, and transferring subsection (a), as redesignated, to appear at the beginning of the section;

(B) in the heading for subsection (a), as redesignated, by striking ''DEFINITION'' and inserting ''DEFINITION OF SPACEPORT'';

(C) in subsection (a), as redesignated, by inserting a comma after ''In this section'';

(D) in subsection (b), as redesignated, by striking ''the date of enactment of this section,'' and inserting ''October 5, 2018,''; and

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

(i) by striking ''functions assigned in subsection (b),'' and inserting ''functions assigned in subsection (c),''; and

(ii) by striking ''host'' from the end of the matter before paragraph (1) and inserting ''host'' at the beginning of paragraph (1).

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

''CHAPTER 517—DEVELOPMENT AND USE OF COMMERCIAL CARGO AND CREW TRANSPORTATION CAPABILITIES

''§ 51701. Commercial development of cargo transportation capabilities

''The Administrator shall continue to support the existing Commercial Resupply Services program, aimed at enabling the commercial space industry in support of the

Administration to develop reliable means of launching cargo and supplies to the International Space Station throughout the duration of the facility's operation. The Administrator may apply funds toward the reduction of risk to the timely start of the services, specifically—

''(1) efforts to conduct a flight test;

''(2) the acceleration of development; and

''(3) the development of the ground infrastructure needed for commercial cargo capability.

''§ 51702. Commercial development of crew transportation capabilities

''For the duration of the commercial crew development program, the Administrator may support follow-on commercially developed crew transportation systems dependent on the completion of each of the following:

''(1) HUMAN RATING REQUIREMENTS.—The Administrator shall develop and make available to the public detailed human rating processes and requirements to guide the design of commercially developed crew transportation capabilities, which requirements shall be at least equivalent to proven requirements for crew transportation in use as of October 11, 2010.

''(2) PROCUREMENT SYSTEM REVIEW.—

''(A) REVIEW OF CURRENT PRACTICES AND PROCESSES.—The Administrator shall review current Government procurement and acquisition practices and processes, including agreement authorities under chapter 201 of this title, to determine the most cost-effective means of procuring commercial crew transportation capabilities and related services in a manner that ensures appropriate accountability, transparency, and maximum efficiency in the procurement of the capabilities and services. The review shall include identification of proposed measures to address—

''(i) risk management and means of indemnification of commercial providers of the capabilities and services;

''(ii) quality control;

''(iii) safety oversight; and

''(iv) the application of Federal oversight processes within the jurisdiction of other Federal agencies.

''(B) REVIEW OF PROPOSED PROCUREMENT.—A description of the proposed procurement process and justification of the proposed procurement for its selection shall be included

in any proposed initiation of procurement activity for commercially developed crew transportation capabilities and services and shall be subject to review by the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives before the initiation of any competitive process to procure the capabilities or services. In support of the review by the committees, the Comptroller General shall undertake an assessment of the proposed procurement process and provide a report to the committees not later than 90 days after the date on which the Administrator provides the description and justification to the committees.

''(3) USE OF GOVERNMENT-SUPPLIED CAPABILITIES AND INFRASTRUCTURE.—In evaluating any proposed development activity for commercially developed crew or cargo launch capabilities, the Administrator shall identify the anticipated contribution of Government personnel, expertise, technologies, and infrastructure to be utilized in support of design, development, or operations of the capabilities. This assessment shall include a clear delinea-

tion of the full requirements for the commercial crew service (including the contingency for crew rescue). The Administrator shall include details and associated costs of such support as part of any proposed development initiative for the procurement of commercially developed crew or cargo launch capabilities or services.

''(4) FLIGHT DEMONSTRATION AND READINESS REQUIREMENTS.—The Administrator shall establish appropriate milestones and minimum performance objectives to be achieved before authority is granted to proceed to the procurement of commercially developed crew transportation capabilities or services. The guidelines shall include a procedure to provide independent assurance of flight safety and flight readiness before the authorization of United States government personnel to participate as crew onboard any commercial launch vehicle developed pursuant to this section.

''(5) COMMERCIAL CREW RESCUE CAPABILITIES.—The provision of a commercial capability to provide International Space Station crew services shall include crew rescue requirements, and shall be undertaken through the procurement process initiated in conformance with this section. In the event

such development is initiated, the Administrator shall make available any relevant government-owned intellectual property deriving from the development of a multipurpose crew vehicle authorized by this section and sections 71522 and 71523 of this title to commercial entities involved with such crew rescue capability development which shall be relevant to the design of a crew rescue capability. In addition, the Administrator shall seek to ensure that contracts for development of the multipurpose crew vehicle contain provisions for the licensing of relevant intellectual property to participating commercial providers of any crew rescue capability development undertaken pursuant to this section. If 1 or more contractors involved with development of the multipurpose crew vehicle seek to compete in development of a commercial crew service with crew rescue capability, separate legislative authority must be enacted to enable the Administrator to provide funding for any modifications of the multipurpose crew vehicle necessary to fulfill the International Space Station crew rescue function.

"§ 51703. Commercial Crew Program

''(a) OBJECTIVE.—The objective of the Commercial Crew Program shall be to assist in the development and

certification of commercially provided transportation that—

''(1) can carry United States government astronauts (meaning a government astronaut as defined in section 50902 of this title) safely, reliably, and affordably to and from the International Space Station;

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

''(3) can accomplish the goals stated in paragraphs (1) and (2) as soon as practicable.

''(b) PRIMARY CONSIDERATION.—The objective described in subsection (a) shall be the primary consideration in the acquisition strategy for the Commercial Crew Program.

''(c) SAFETY.—

''(1) IN GENERAL.—The Administrator shall protect the safety of government astronauts (as defined in section 50902 of this title) by ensuring that each commercially provided transportation system under this section meets all applicable human rating requirements in accordance with section 51702(1) of this title.

''(2) LESSONS LEARNED.—Consistent with the findings and recommendations of the Columbia Accident Investigation Board, the Administration shall

ensure that safety and the minimization of the probability of loss of crew are the critical priorities of the Commercial Crew Program.

''(d) COST MINIMIZATION.—The Administrator shall strive through the competitive selection process to minimize the life cycle cost to the Administration through the planned period of commercially provided crew transportation services.

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

''It is the policy of the United States that, to foster the competitive development, operation, improvement, and commercial availability of space transportation services, and to minimize the life cycle cost to the Administration, the Administrator shall procure services for Federal Government access to and return from the International Space Station, whenever practicable, via fair and open competition for well-defined, milestone-based, Federal Acquisition Regulation-based contracts under section 71511(a) of this title.

''§ 51705. Transparency

''The Administrator shall, to the greatest extent practicable and in a manner that does not add costs or schedule delays to the program, ensure all Commercial Crew Program and Commercial Resupply Services Program pro-

viders provide evidence-based support for their costs and schedules.''.

(v) REVISION OF SECTION 60304.—

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

(A) in the section heading, by striking ''**Program evaluation**'' and inserting ''**Advisory committee**'';

(B) in subsection (a)—

(i) by striking the subsection designation ''(a)'' and the subsection heading ''ADVISORY COMMITTEE.—''; and

(ii) by striking ''(5 App. U.S.C.),'' and inserting ''(5 U.S.C. App.),''; and

(C) by striking subsection (b).

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

''60304. Advisory committee.''.

(w) ENACTMENT OF SECTIONS 60507 THROUGH 60510.—

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

(2) ENACTMENT OF SECTIONS.—Chapter 605 of title 51, United States Code, is amended by adding at the end the following:

''§ 60507. Interagency collaboration implementation approach

''The Director of the Office of Science and Technology Policy shall establish a mechanism to ensure greater coordination of the research, operations, and activities relating to civilian Earth observation of Federal agencies, including the Administration, that have active programs that contribute either directly or indirectly to those areas. The mechanism should include the development of a strategic implementation plan that is updated at least every 3 years with a process for external independent advisory input. The strategic implementation plan should include—

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

''(2) recommended cost-sharing and procurement arrangements between Federal agencies and other entities, including international arrangements; and

''(3) a plan for ensuring the provision of sustained, long-term space-based climate observations.

"§ 60508. Transitioning experimental research to operations

''Based on the implementation plan provided to Congress in March 2011, the Administrator shall coordinate with the Administrator of the National Oceanic and Atmospheric Administration and the Director of the United States Geological Survey to establish a formal mechanism that plans, coordinates, and supports the transitioning of the research findings, assets, and capabilities of the Administration to the operations of the National Oceanic and Atmospheric Administration and the United States Geological Survey. In defining the mechanism, the Administration should consider the establishment of a formal or informal interagency transition office.

"§ 60509. Decadal Survey missions implementation for Earth observation

''The Administrator shall undertake to implement, as appropriate, missions identified in the National Research Council's Earth Science Decadal Survey within the scope of the funds authorized for the Earth Science Mission Directorate.

"§ 60510. Instrument testbeds and venture class missions

''The Administrator shall pursue innovative ways to fly instrument-level payloads for early demonstration or as co-manifested payloads. Congress encourages the use

of the International Space Station as an accessible platform for the conduct of such activities. Additionally, in order to address the cost and schedule challenges associated with large flight systems, the Administrator should pursue smaller systems to the extent practicable and warranted.''.

(x) REVISION OF CHAPTER 709.—

(1) CHAPTER TABLE OF CONTENTS.—The chapter table of contents of chapter 709 of title 51, United States Code, is amended by adding at the 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.''.

(2) TECHNICAL AMENDMENT TO SECTION 70902.—Section 70902 of title 51, United States Code, is amended by striking ''section 40904'' and inserting ''section 49904''.

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

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

(A) in subsection (b)(2), by striking ''section 40904'' and inserting ''section 49904'';

(B) in subsection (b)(3), by striking ''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''; and

(C) in subsection (c)(2), by striking ''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''.

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

''§ 70908. Continuation of the International Space Station

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

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

''(1) pursue international, commercial, and intragovernmental means to maximize International Space Station logistics supply, maintenance, and

operational capabilities, reduce risks to International Space Station systems sustainability, and offset and minimize United States operations costs relating to the International Space Station;

''(2) utilize, to the extent practicable, the International Space Station for the development of capabilities and technologies needed for the future of human space exploration beyond low-Earth orbit; and

''(3) utilize, if practical and cost effective, the International Space Station for Science Mission Directorate missions in low-Earth orbit.

''§ 70909. Maximum utilization of the International Space Station

''(a) IN GENERAL.—With assembly of the International Space Station complete, the Administration shall take steps to maximize the productivity and use of the International Space Station with respect to scientific and technological research and development, advancement of space exploration, and international collaboration.

''(b) ACTIONS.—In carrying out subsection (a), the Administration shall, at a minimum, undertake the following:

''(1) INNOVATIVE USE OF U.S. SEGMENT.—The United States segment of the International Space

Station, which has been designated as a national laboratory, shall be developed, managed, and utilized in a manner that enables the effective and innovative use of the facility, as provided in section 70911 of this title.

''(2) INTERNATIONAL COOPERATION.—

''(A) DEFINITION OF NEAR-EARTH SPACE.—In this paragraph, the term 'near-Earth space' means the region of space that includes low-Earth orbit and extends out to and includes geo-synchronous orbit.

''(B) USE OF INTERNATIONAL SPACE STATION.—The International Space Station shall continue to be utilized as a key component of international efforts to build missions and capabilities that further the development of a human presence beyond near-Earth space and advance United States security and economic goals. The Administrator shall actively seek ways to encourage and enable the use of International Space Station capabilities to support those efforts.

''(3) DOMESTIC COLLABORATION.—The operations, management, and utilization of the International Space Station shall be conducted in a man-

ner that provides opportunities for collaboration with other research programs and objectives of the United States Government in cooperation with commercial suppliers, users, and developers.

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

''(a) IN GENERAL.—The Administrator shall take all actions necessary to ensure the safe and effective operation, maintenance, and maximum utilization of the United States segment of the International Space Station through at least September 30, 2024.

''(b) PLANNING, MANAGEMENT, AND SUPPORT.—Utilization of research facilities and capabilities aboard the International Space Station (other than exploration-related research and technology development facilities and capabilities, and associated ground support and logistics) shall be planned, managed, and supported as provided in section 70911 of this title. Exploration-related research and technology development facilities, capabilities, and associated ground support and logistics shall be planned, managed, and supported by the appropriate Administration organizations and officials in a manner that does not interfere with other activities under section 70911 of this title.

"§ 70911. Management of national laboratory

''(a) COOPERATIVE AGREEMENT WITH NOT-FOR-PROFIT ORGANIZATION FOR MANAGEMENT OF NATIONAL LABORATORY.—

''(1) IN GENERAL.—The Administrator shall provide initial financial assistance and enter into a cooperative agreement with an appropriate organization that is exempt from taxation under section 501(c)(3) of the Internal Revenue Code of 1986 (26 U.S.C. 501(c)(3)) to manage the activities of the International Space Station national laboratory in accordance with this section.

''(2) QUALIFICATIONS.—The organization with which the Administrator enters into the cooperative agreement shall develop the capabilities to implement research and development projects utilizing the International Space Station national laboratory and to otherwise manage the activities of the International Space Station national laboratory.

''(3) PROHIBITION ON OTHER ACTIVITIES.—The cooperative agreement shall require the organization entering into the agreement to engage exclusively in activities relating to the management of the International Space Station national laboratory and activities that promote its long-term research and development mission as required by this section,

without any other organizational objectives or responsibilities on behalf of the organization or any parent organization or other entity.

''(b) ADMINISTRATION LIAISON.—

''(1) DESIGNATION.—The Administrator shall designate an official or employee of the Space Operations Mission Directorate of the Administration to act as liaison between the Administration and the organization with which the Administrator enters into a cooperative agreement under subsection (a) with regard to the management of the International Space Station national laboratory.

''(2) CONSULTATION WITH LIAISON.—The cooperative agreement shall require the organization entering into the agreement to carry out its responsibilities under the agreement in cooperation and consultation with the official or employee designated under paragraph (1).

''(c) PLANNING AND COORDINATION OF NATIONAL LABORATORY RESEARCH ACTIVITIES.—The Administrator shall provide initial financial assistance to the organization with which the Administrator enters into a cooperative agreement under subsection (a), in order for the organization to initiate the following:

''(1) Planning and coordination of the International Space Station national laboratory research activities.

''(2) Development and implementation of guidelines, selection criteria, and flight support requirements for non-Administration scientific utilization of International Space Station research capabilities and facilities available in United States-owned modules of the International Space Station or in partner-owned facilities of the International Space Station allocated to United States utilization by international agreement.

''(3) Interaction with and integration of the International Space Station National Laboratory Advisory Committee established under section 70906 of this title with the governance of the organization, and review of recommendations provided by that Committee regarding agreements with non-Administration departments and agencies of the United States Government, academic institutions and consortia, and commercial entities leading to the utilization of the International Space Station national laboratory facilities.

''(4) Coordination of transportation requirements in support of the International Space Station

national laboratory research and development objectives, including provision for delivery of instruments, logistics support, and related experiment materials, and provision for return to Earth of collected samples, materials, and scientific instruments in need of replacement or upgrade.

''(5) Cooperation with the Administration, other departments and agencies of the United States Government, the States, and commercial entities in ensuring the enhancement and sustained operations of non-exploration-related research payload ground support facilities for the International Space Station, including the Space Life Sciences Laboratory, the Space Station Processing Facility, and the Payload Operations Integration Center.

''(6) Development and implementation of scientific outreach and education activities designed to ensure effective utilization of International Space Station research capabilities, including the conduct of scientific assemblies, conferences, and other fora for the presentation of research findings, methods, and mechanisms for the dissemination of non-restricted research findings and the development of educational programs, course supplements, and interaction with educational programs at all grade

levels, including student-focused research opportunities for conduct of research in the International Space Station national laboratory facilities.

''(7) Other matters relating to the utilization of the International Space Station national laboratory facilities for research and development as the Administrator considers appropriate.

''(d) RESEARCH CAPACITY ALLOCATION AND INTEGRATION OF RESEARCH PAYLOADS.—

''(1) ALLOCATION OF INTERNATIONAL SPACE STATION RESEARCH CAPACITY.—International Space Station national laboratory managed experiments shall be guaranteed access to, and utilization of, not less than 50 percent of the United States research capacity allocation, including power, cold stowage, and requisite crew time onboard the International Space Station through at least September 30, 2024. Access to the International Space Station research capacity includes provision for the adequate upmass and downmass capabilities to utilize the International Space Station research capacity, as available. The Administrator may allocate additional capacity to the International Space Station national laboratory should such capacity be in excess of Administration research requirements.

''(2) ADDITIONAL RESEARCH CAPABILITIES.—If any Administration research plan is determined to require research capacity onboard the International Space Station beyond the percentage allocated under paragraph (1), the research plan shall be prepared in the form of a requested research opportunity to be submitted to the process established under this section for the consideration of proposed research within the capacity allocated to the International Space Station national laboratory. A proposal for such a research plan may include the establishment of partnerships with non-Administration institutions eligible to propose research to be conducted within the International Space Station national laboratory capacity. Until at least September 30, 2024, the official or employee designated under subsection (b) may grant an exception to this requirement in the case of a proposed experiment considered essential for purposes of preparing for exploration beyond low-Earth orbit, as determined by joint agreement between the organization with which the Administrator enters into a cooperative agreement under subsection (a) and the official or employee designated under subsection (b).

''(3) RESEARCH PRIORITIES AND ENHANCED CAPACITY.—The organization with which the Administrator enters into the cooperative agreement shall consider recommendations of the National Academies Decadal Survey on Biological and Physical Sciences in Space in establishing research priorities and in developing proposed enhancements of research capacity and opportunities for the 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.''.

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

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

''CHAPTER 715—HUMAN SPACE FLIGHT AND EXPLORATION

''SUBCHAPTER I—GENERAL PROVISIONS

''SUBCHAPTER II—POLICY, GOALS, AND OBJECTIVES

''SUBCHAPTER III—EXPANSION OF HUMAN SPACE FLIGHT BEYOND THE INTERNATIONAL SPACE STATION AND LOW-EARTH ORBIT

''SUBCHAPTER IV—SPACE SCIENCE

''SUBCHAPTER I—GENERAL PROVISIONS

''§ 71501. Definitions

''In this chapter:

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

''(2) DEEP SPACE.—The term 'deep space' means the region of space beyond cis-lunar space.

''(3) NEAR-EARTH SPACE.—The term 'near-Earth space' means the region of space that includes low-Earth orbit and extends out to and includes geo-synchronous orbit.

''(4) SPACE LAUNCH SYSTEM.—The term 'Space Launch System' means the follow-on Government-owned civil launch system developed, managed, and operated by the Administration to serve as a key component to expand human presence beyond low-Earth orbit.

''SUBCHAPTER II—POLICY, GOALS, AND OBJECTIVES

''§ 71511. Human space flight policy

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

''(1) DEFINITIONS.—In this subsection:

''(A) COMMERCIAL PROVIDER.—The term 'commercial provider' means any person providing human space flight transportation services, primary control of which is held by persons other than the Federal Government, a State or local government, or a foreign government.

''(B) QUALIFIED FOREIGN ENTITY.—The term 'qualified foreign entity' means a foreign entity that is in compliance with all applicable safety standards and is not prohibited from providing space transportation services under other law.

''(C) UNITED STATES COMMERCIAL PROVIDER.—The term 'United States commercial provider' means a commercial provider, organized under the laws of the United States or of a State, that is more than 50 percent owned by United States nationals.

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

''(A) no United States Government-operated human space flight capability is available;

''(B) no United States commercial provider is available; and

''(C) it is a qualified foreign entity.

''(3) ARRANGEMENTS WITH FOREIGN ENTITIES.—Nothing in this subsection shall prevent the Administrator from negotiating or entering into human space flight transportation arrangements with foreign entities to ensure safety of flight and continued International Space Station operations.

''(b) UNITED STATES HUMAN SPACE FLIGHT CAPABILITIES.—Congress reaffirms the policy stated in section 70501(a) of this title that the United States shall maintain an uninterrupted capability for human space flight and operations in low-Earth orbit, and beyond, as an essential instrument of national security and of the capacity to ensure continued United States participation and leadership in the exploration and utilization of space.

"§ 71512. Goals and objectives

''(a) LONG-TERM GOALS.—The long-term goals of the human space flight and exploration efforts of the Administration shall be—

''(1) to expand permanent human presence beyond low-Earth orbit and to do so, where practical, in a manner involving international, academic, and industry partners;

''(2) crewed missions and progress toward achieving the goal in paragraph (1) to enable the potential for subsequent human exploration and the extension of human presence throughout the solar system; and

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

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

''(1) to sustain the capability for long-duration presence in low-Earth orbit, initially through continuation of the International Space Station and full utilization of the United States segment of the International Space Station as a national laboratory, and through assisting and enabling an expanded commercial presence in, and access to, low-Earth

orbit, as elements of a low-Earth orbit infrastructure;

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

''(A) identify potential roles that space resources such as energy and materials can play;

''(B) meet national and global needs and challenges such as potential cataclysmic threats; and

''(C) explore the viability of and lay the foundation for sustainable economic activities in space;

''(3) to maximize the role that human exploration of space can play in—

''(A) advancing overall knowledge of the universe;

''(B) supporting United States national and economic security and the United States global competitive posture; and

''(C) inspiring young people in their educational pursuits;

''(4) to build on the cooperative and mutually beneficial framework established by the International

Space Station partnership agreements and experience in developing and undertaking programs and meeting objectives designed to realize the goal of human space flight set forth in subsection (a); and

''(5) to achieve human exploration of Mars and beyond through the prioritization of those technologies and capabilities best suited for such a mission in accordance with the stepping stone approach to exploration under section 70504 of this title.

''SUBCHAPTER III—EXPANSION OF HUMAN SPACE FLIGHT BEYOND THE INTERNATIONAL SPACE STATION AND LOW-EARTH ORBIT

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

''(a) POLICY.—It is the policy of the United States that the Administration develop a Space Launch System as a follow-on to the space shuttle that can access cislunar space and the regions of space beyond low-Earth orbit in order to enable the United States to participate in global efforts to access and develop that increasingly strategic region.

''(b) INITIATION OF DEVELOPMENT.—

''(1) IN GENERAL.—As soon as practicable after October 11, 2010, the Administrator shall ini-

tiate development of a Space Launch System meeting the minimum capability requirements specified in subsection (c).

''(2) MODIFICATION OF CURRENT CONTRACTS.—In order to limit the Administration's termination liability costs and support critical capabilities, the Administrator shall, to the extent practicable, 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 otherwise met by available commercial or partner-supplied vehicles.

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

''(2) FLEXIBILITY.—The Space Launch System shall be designed from inception as a fully integrated vehicle capable of carrying a total payload of 130 tons or more into low-Earth orbit in preparation for transit for missions beyond low-Earth orbit. The Space Launch System shall, to the extent practicable, incorporate capabilities for evolutionary growth to carry heavier payloads. Developmental work and testing of the core elements and the upper stage should proceed in parallel subject to appropriations. Priority should be placed on the core elements

with the goal for operational capability for the core elements not later than December 31, 2016.

''(3) TRANSITION NEEDS.—The Administrator shall ensure that critical skills and capabilities are retained, modified, and developed, as appropriate, in areas relating to solid and liquid engines, large diameter fuel tanks, rocket propulsion, and other ground test capabilities for an effective transition to the follow-on Space Launch System.

''§ 71522. Multipurpose crew vehicle

''(a) INITIATION OF DEVELOPMENT.—

''(1) IN GENERAL.—The Administrator shall continue the development of a multipurpose crew vehicle to be available as soon as practicable, and no later than for use with the Space Launch System. The vehicle shall continue to advance development of the human safety features, designs, and systems in the Orion project.

''(2) GOAL FOR OPERATIONAL CAPABILITY.—It shall be the goal to achieve full operational capability for the transportation vehicle developed pursuant to this subsection by not later than December 31, 2016. For purposes of meeting such goal, the Administrator may undertake a test of the transpor-

tation vehicle at the International Space Station before that date.

''(b) MINIMUM CAPABILITY REQUIREMENTS.—The multipurpose crew vehicle developed pursuant to subsection (a) shall be designed to have, at a minimum, the following:

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

''(2) The capability to conduct regular in-space operations, such as rendezvous, docking, and extravehicular activities, in conjunction with payloads delivered by the Space Launch System developed pursuant to section 71521 of this title, or other vehicles, in preparation for missions beyond low-Earth orbit or servicing of assets described in section 71543 of this title, or other assets in cis-lunar space.

''(3) The capability to provide an alternative means of delivery of crew and cargo to the International Space Station, in the event other vehicles, whether commercial vehicles or partner-supplied vehicles, are unable to perform that function.

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

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

''(a) IN GENERAL.—In developing the Space Launch System pursuant to section 71521 of this title and the multipurpose crew vehicle pursuant to section 71522 of this title, the Administrator shall, to the extent practicable, utilize—

''(1) existing (as of October 11, 2010) contracts, investments, workforce, industrial base, and capabilities from the space shuttle and Orion and Ares 1 projects, including—

''(A) spacesuit development activities for application to, and coordinated development of, a multipurpose crew vehicle suit and associated life-support requirements with potential development of standard Administration-certified suit and life support systems for use in alternative commercially developed crew transportation systems; and

''(B) space shuttle-derived components and Ares 1 components that use existing (as of October 11, 2010) United States propulsion systems, including liquid fuel engines, external tank or tank-related capability, and solid rocket motor engines; and

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

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

''(1) shall, to the extent practicable, utilize ground-based manufacturing capability, ground testing activities, launch and operations infrastructure, and workforce expertise;

''(2) shall, to the extent practicable, minimize the modification and development of ground infrastructure and maximize the utilization of existing (as of October 11, 2010) software, vehicle, and mission operations processes;

''(3) shall complete construction and activation of the A–3 test stand with a completion goal of September 30, 2013;

''(4) may procure, develop, and flight test applicable components; and

''(5) shall take appropriate actions to ensure timely and cost-effective development of the Space Launch System and the multipurpose crew vehicle, including the use of a procurement approach that incorporates adequate and effective oversight, the facilitation of contractor efficiencies, and the streamlining of contract and procurement requirements.

''(c) CONTINUATION OF CONTRACTOR SUPPORT.—The Administrator may not terminate any contract that provides the system transitions necessary for shuttle-derived hardware to be used on the Space Launch System described in section 71521 of this title or the multipurpose crew vehicle described in section 71522 of this title.

"§ 71524. Launch support and infrastructure modernization program

''(a) IN GENERAL.—The Administrator shall carry out a program the primary purpose of which is to prepare infrastructure at the Kennedy Space Center that is needed to enable processing and launch of the Space Launch System. Vehicle interfaces and other ground processing and payload integration areas should be simplified to minimize overall costs, enhance safety, and complement the purpose of this section.

''(b) ELEMENTS.—The program required by this section shall include—

''(1) investments to improve civil and national security operations at the Kennedy Space Center, to enhance the overall capabilities of the Center, and to reduce the long-term cost of operations and maintenance;

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

''(3) other measures that the Administrator considers appropriate, including investments to improve launch infrastructure at Administration flight facilities scheduled to launch cargo to the International Space Station under the program to develop commercial cargo transportation capabilities.

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

''(a) DEVELOPMENT AUTHORIZED.—The Administrator may initiate activities to develop the following:

''(1) Technologies identified as necessary elements of missions beyond low-Earth orbit.

''(2) In-space capabilities such as refueling and storage technology, orbital transfer stages, innovative in-space propulsion technology, communications, and data management that facilitate a broad range of users (including military and commercial).

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

''(4) Spacesuit development and associated life support technology.

''(5) Flagship missions.

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

''(1) space technologies such as advanced propulsion, propellant depots, in situ resource utilization, and robotic payloads or capabilities that enable human missions beyond low-Earth orbit ultimately leading to Mars;

''(2) a space-based transfer vehicle including technologies described in paragraph (1) with an ability to conduct space-based operations that provide capabilities—

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

''(B) to provide opportunities for in-space servicing of and delivery to multiple space-based platforms; and

''(C) to facilitate international efforts to expand human presence to deep space destinations;

''(3) advanced life support technologies and capabilities;

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

''(5) technologies and capabilities relating to in-space propellant transfer and storage;

''(6) technologies and capabilities relating to in situ resource utilization; and

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

''(c) UTILIZATION OF INTERNATIONAL SPACE STATION AS TESTBED.—The Administrator may utilize the International Space Station as a testbed for any technology or capability developed under subsection (a) in a manner consistent with sections 70908 through 70911 of this title.

''(d) COORDINATION.—The Administrator shall coordinate development of technologies and capabilities under this section through an overall Administration technology approach consistent with the plan required by section 905 of the National Aeronautics and Space Administration Authorization Act of 2010 (Public Law 111–267, 124 Stat. 2836), which outlines how the Administration's space technology program will meet the goal described in section 40903 of this title, including an explanation of how the plan will link to other mission-directorate technology efforts.

''SUBCHAPTER IV—SPACE SCIENCE

''§ 71541. Technology development

''The Administrator shall ensure that the Science Mission Directorate maintains a long-term technology development program for space and Earth science. That effort should be coordinated with an overall Administration technology investment approach consistent with the plan required by section 905 of the National Aeronautics and Space Administration Authorization Act of 2010 (Public Law 111–267, 124 Stat. 2836), which outlines how the Administration's space technology program will meet the goal described in section 40903 of this title, including an explanation of how the plan will link to other mission-directorate technology efforts.

''§ 71542. Suborbital research activities

''(a) MANAGEMENT.—The Administrator shall designate an officer or employee of the Science Mission Directorate to act as the responsible official for all Suborbital Research in the Science Mission Directorate. The designee shall be responsible for—

''(1) the development of short- and long-term strategic plans for maintaining, renewing, and extending suborbital facilities and capabilities;

''(2) monitoring progress toward goals in the plans; and

''(3) integration of suborbital activities and workforce development within the Administration, thereby ensuring the long-term recognition of their combined value to the Directorate, to the Administration, and to the Nation.

''(b) ESTABLISHMENT OF SUBORBITAL RESEARCH PROGRAM.—The Administrator shall establish a Suborbital Research Program within the Science Mission Directorate that shall include the use of sounding rockets, aircraft, high altitude balloons, suborbital reusable launch vehicles, and commercial launch vehicles to advance science and train the next generation of scientists and engineers in systems engineering and systems integration, which are vital to maintaining critical skills in the aerospace workforce. The program shall integrate existing (as of October 11, 2010) suborbital research programs with orbital missions at the discretion of the designated officer or employee and shall emphasize the participation of undergraduate and graduate students and post-doctoral researchers when formulating announcements of opportunity.

''(c) ANNUAL REPORT.—The Administrator shall report annually to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Rep-

resentatives on the number and type of suborbital missions conducted in each fiscal year and the number of undergraduate and graduate students that participated in the missions.

"§ 71543. In-space servicing

''The Administrator shall continue to take all necessary steps to ensure that provisions are made for robotic or human in-space servicing and repair of all future observatory-class scientific spacecraft intended to be deployed in Earth-orbit or at a Lagrangian point to the extent practicable and appropriate. The Administrator should ensure that Administration investments and future capabilities for space technology, robotics, and human space flight take the ability to service and repair observatory-class scientific spacecraft into account, as appropriate, and incorporate those capabilities into design and operational plans.

"§ 71544. Ongoing restoration of radioisotope thermoelectric generator material production

''The Administrator shall, in coordination with the Secretary of Energy, pursue a joint approach beginning in fiscal year 2011 toward restarting and sustaining the domestic production of radioisotope thermoelectric generator material for deep space and other science and exploration missions. Funds authorized by the National Aero-

nautics and Space Administration Authorization Act of 2010 for the Administration shall be made available under a reimbursable agreement with the Department of Energy for the purpose of reestablishing facilities to produce fuel required for radioisotope thermoelectric generators to enable future missions.

"§ 71545. Coordinated approach for robotic missions

''The Administrator shall ensure that the Exploration Systems Mission Directorate and the Space Operations Mission Directorate coordinate with the Science Mission Directorate on an overall approach and plan for interagency and international collaboration on robotic missions that are developed by the Administration or internationally developed, including lunar, Lagrangian, near-Earth orbit, and Mars spacecraft, such as the International Lunar Network.

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

''(a) POLICY REAFFIRMATION.—Congress reaffirms the policy set forth in section 20102(g) of this title relating to surveying near-Earth asteroids and comets.

''(b) IMPLEMENTATION.—Consistent with section 71103 of this title, the Director of the Office of Science and Technology Policy shall implement, before September 30, 2012, a policy for notifying Federal agencies and rel-

evant emergency response institutions of an impending near-Earth object threat if near-term public safety is at risk, and assign a Federal agency or agencies to be responsible for protecting the United States and working with the international community on such threats.''.

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

''CHAPTER 717—ADVANCING HUMAN SPACE EXPLORATION

''SUBCHAPTER I—GENERAL PROVISIONS

''SUBCHAPTER I—GENERAL PROVISIONS

''§ 71701. Definitions

''In this chapter:

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

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

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

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

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

''(4) ORION.—The term 'Orion' means the multipurpose crew vehicle described under section 71522 of this title.

''(5) SPACE LAUNCH SYSTEM.—The term 'Space Launch System' has the meaning given the term in section 71501 of this title.

''SUBCHAPTER II—ADVANCING HUMAN DEEP SPACE EXPLORATION

''PART A—ASSURING CORE CAPABILITIES FOR EXPLORATION

''§ 71711. Space launch system, Orion, and exploration ground systems

''(a) REAFFIRMATION.—Congress reaffirms the policy and minimum capability requirements for the Space Launch System under section 71521 of this title.

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

''(c) EXPLORATION MISSIONS.—The Administrator shall continue development of—

''(1) an uncrewed exploration mission to demonstrate the capability of both the Space Launch System and Orion as an integrated system by 2018;

''(2) subject to applicable human rating processes and requirements, a crewed exploration mission to demonstrate the Space Launch System, including the Core Stage and Exploration Upper Stages, by 2021;

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

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

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

''PART B—JOURNEY TO MARS

''§ 71721. Human exploration roadmap

''(a) IN GENERAL.—The Administrator shall develop a human exploration roadmap, including a critical decision plan, to expand human presence beyond low-Earth orbit

to the surface of Mars and beyond, considering potential interim destinations such as cis-lunar space and the moons of Mars.

''(b) SCOPE.—The human exploration roadmap shall include—

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

''(2) opportunities for international, academic, and industry partnerships for exploration-related systems, services, research, and technology if those opportunities provide cost-savings, accelerate program schedules, or otherwise benefit the goals and objectives developed under paragraph (1);

''(3) sets and sequences of precursor missions in cis-lunar space and other missions or activities necessary—

''(A) to demonstrate the proficiency of the capabilities and technologies identified under paragraph (4); and

''(B) to meet the goals and objectives developed under paragraph (1), including antici-

pated timelines and missions for the Space Launch System and Orion;

''(4) an identification of the specific capabilities and technologies, including the Space Launch System, Orion, a deep space habitat, and other capabilities, that facilitate the goals and objectives developed under paragraph (1);

''(5) a description of how cis-lunar elements, objectives, and activities advance the human exploration of Mars;

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

''(7) mitigation plans, whenever possible, to address the risks identified in paragraph (6);

''(8) a description of those technologies already under development across the Federal Government or by other entities that facilitate the goals and objectives developed under paragraph (1);

''(9) a specific process for the evolution of the capabilities of the fully integrated Orion with the Space Launch System and a description of how these systems facilitate the goals and objectives developed under paragraph (1) and demonstrate the capabilities and technologies described in paragraph (4);

''(10) a description of the capabilities and technologies that need to be demonstrated or research data that could be gained through the utilization of the International Space Station and the status of the development of such capabilities and technologies;

''(11) a framework for international cooperation in the development of all capabilities and technologies identified under this section, including an assessment of the risks posed by relying on international partners for capabilities and technologies on the critical path of development;

''(12) a process for partnering with nongovernmental entities using Space Act Agreements or other acquisition instruments for future human space exploration; and

''(13) information on the phasing of planned intermediate destinations, Mars mission risk areas and potential risk mitigation approaches, technology requirements and phasing of required technology development activities, the management strategy to be followed, related International Space Station activities, planned international collaborative activities, potential commercial contributions, and other activi-

ties relevant to the achievement of the goal established in this section.

''(c) CONSIDERATIONS.—In developing the human exploration roadmap, the Administrator shall consider—

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

''(2) using existing commercially available technologies and capabilities or those technologies and capabilities being developed by industry for commercial purposes;

''(3) establishing an organizational approach to ensure collaboration and coordination among the Administration's mission directorates under section 71761 of this title, when appropriate, including to collect and return to Earth a sample from the Martian surface;

''(4) building upon the initial uncrewed mission, EM–1, and first crewed mission, EM–2, of the Space Launch System and Orion to establish a sustainable cadence of missions extending human exploration missions into cis-lunar space, including anticipated timelines and milestones;

''(5) developing the robotic and precursor missions and activities that will demonstrate, test, and develop key technologies and capabilities essential

for achieving human missions to Mars, including long-duration human operations beyond low-Earth orbit, space suits, solar electric propulsion, deep space habitats, environmental control life support systems, Mars lander and ascent vehicle, entry, descent, landing, ascent, Mars surface systems, and in-situ resource utilization;

''(6) demonstrating and testing 1 or more habitat modules in cis-lunar space to prepare for Mars missions;

''(7) using public-private, firm fixed-price partnerships, where practicable;

''(8) collaborating with international, academic, and industry partners, when appropriate;

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

''(10) any risks identified through research outcomes under the Administration Human Research Program's Behavioral Health Element; and

''(11) the recommendations and ideas of several independently developed reports or concepts that describe potential Mars architectures or concepts and identify Mars as the long-term goal for human space exploration, including the reports described under section 431 of the National Aeronautics and Space

Administration Transition Authorization Act of 2017 (Public Law 115–10, 131 Stat. 38).

''(d) CRITICAL DECISION PLAN ON HUMAN SPACE EXPLORATION.—As part of the human exploration roadmap, the Administrator shall include a critical decision plan—

''(1) identifying and defining key decisions guiding human space exploration priorities and plans that need to be made before June 30, 2020, including decisions that may guide human space exploration capability development, precursor missions, long-term missions, and activities;

''(2) defining decisions needed to maximize efficiencies and resources for reaching the near-, intermediate-, and long-term goals and objectives of human space exploration; and

''(3) identifying and defining timelines and milestones for a sustainable cadence of missions beginning with EM–3 for the Space Launch System and Orion to extend human exploration from cislunar space to the surface of Mars.

''(e) REPORTS.—

''(1) INITIAL HUMAN EXPLORATION ROADMAP.—The Administrator shall submit to the appropriate committees of Congress—

"(A) an initial human exploration roadmap, including a critical decision plan, before December 1, 2017; and

"(B) an updated human exploration roadmap periodically as the Administrator considers necessary but not less than biennially.

"(2) CONTENTS.—Each human exploration roadmap under this subsection shall include a description of—

"(A) the achievements and goals accomplished in the process of developing capabilities and technologies described in this section during the 2-year period prior to the submission of the human exploration roadmap; and

"(B) the expected goals and achievements in the following 2-year period.

"(3) SUBMISSION WITH BUDGET.—Each human exploration roadmap under this section shall be included in the budget for that fiscal year transmitted to Congress under section 1105(a) of title 31.

''SUBCHAPTER III—ADVANCING SPACE SCIENCE

''§ 71731. Policy on maintaining balanced space science portfolio

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

''§ 71732. Mission priorities for planetary science

''(a) IN GENERAL.—In accordance with the priorities established in the most recent Planetary Science Decadal Survey, the Administrator shall ensure, to the greatest extent practicable, the completion of a balanced set of Discovery, New Frontiers, and Flagship missions at the cadence recommended by the most recent Planetary Science Decadal Survey.

''(b) MISSION PRIORITY ADJUSTMENTS.—Consistent with the set of missions described in subsection (a), and while maintaining the continuity of scientific data and steady development of capabilities and technologies, the Administrator may seek, if necessary, adjustments to mission priorities, schedule, and scope in light of changing budget projections.

''§ 71733. Extrasolar planet exploration strategy

''(a) STRATEGY.—

''(1) IN GENERAL.—The Administrator shall enter into an arrangement with the National Acad-

emies to develop a science strategy for the study and exploration of extrasolar planets, including the use of the Transiting Exoplanet Survey Satellite, the James Webb Space Telescope, a potential Wide-Field Infrared Survey Telescope mission, or any other telescope, spacecraft, or instrument, as appropriate.

''(2) REQUIREMENTS.—The strategy shall—

''(A) outline key scientific questions;

''(B) identify the most promising research in the field;

''(C) indicate the extent to which the mission priorities in existing decadal surveys address the key extrasolar planet research and exploration goals;

''(D) identify opportunities for coordination with international partners, commercial partners, and not-for-profit partners; and

''(E) make recommendations regarding the activities under subparagraphs (A) through (D), as appropriate.

''(b) USE OF STRATEGY.—The Administrator shall use the strategy—

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

''(2) to provide a foundation for future activities and initiatives related to extrasolar planet research and exploration.

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

"§ 71734. Astrobiology strategy

''(a) STRATEGY.—

''(1) IN GENERAL.—The Administrator shall enter into an arrangement with the National Academies to develop a science strategy for astrobiology that would outline key scientific questions, identify the most promising research in the field, and indicate the extent to which the mission priorities in existing decadal surveys address the search for life's origin, evolution, distribution, and future in the universe.

''(2) RECOMMENDATIONS.—The strategy shall include recommendations for coordination with international partners.

''(b) USE OF STRATEGY.—The Administrator shall use the strategy developed under subsection (a) in planning and funding research and other activities and initiatives in the field of astrobiology.

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

''§ 71735. Collaboration

''The Administration shall continue to develop first-of-a-kind instruments that, once proved, can be transitioned to other agencies for operations. Whenever responsibilities for the development of sensors or for measurements are transferred to the Administration from another agency, the Administration shall seek, to the extent possible, to be reimbursed for the assumption of such responsibilities.

''SUBCHAPTER IV—SPACE TECHNOLOGY

''§ 71741. Space technology infusion

''(a) POLICY.—It is the policy of the United States that the Administrator shall develop technologies to support the Administration's core missions, as described in section 2(3) of the National Aeronautics and Space Administration Authorization Act of 2010 (Public Law 111–

267, 124 Stat. 2807), and support sustained investments in early stage innovation, fundamental research, and technologies to expand the boundaries of the national aerospace enterprise.

''(b) PROPULSION TECHNOLOGIES.—A goal of propulsion technologies developed under subsection (a) shall be to significantly reduce human travel time to Mars.

"§ 71742. Space technology program

''(a) SPACE TECHNOLOGY PROGRAM AUTHORIZED.—The Administrator shall conduct a space technology program (referred to in this section as the 'Program') to research and develop advanced space technologies that could deliver innovative solutions across the Administration's space exploration and science missions.

''(b) CONSIDERATIONS.—In conducting the Program, the Administrator shall consider—

''(1) the recommendations of the National Academies' review of the Administration's Space Technology roadmaps and priorities; and

''(2) the applicable enabling aspects of the stepping stone approach to exploration under section 70504 of this title.

''(c) REQUIREMENTS.—In conducting the Program, the Administrator shall—

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

''(2) to the extent practicable and appropriate, use small satellites and the Administration's suborbital and ground-based platforms to demonstrate space technology concepts and developments; and

''(3) as appropriate, partner with other Federal agencies, universities, private industry, and foreign countries.

''(d) SMALL BUSINESS PROGRAMS.—The Administrator shall organize and manage the Administration's Small Business Innovation Research Program and Small Business Technology Transfer Program within the Program.

''(e) NONDUPLICATION CERTIFICATION.—The Administrator shall submit a budget for each fiscal year, as transmitted to Congress under section 1105(a) of title 31, that avoids duplication of projects, programs, or missions conducted by the Program with other projects, programs, or missions conducted by another office or directorate of the Administration.

''(f) COLLABORATION, COORDINATION, AND ALIGNMENT.—The Administrator shall—

''(1) ensure that the Administration's projects, programs, and activities in support of technology re-

search and development of advanced space technologies are fully coordinated and aligned;

''(2) ensure that the results of the projects, programs, and activities under paragraph (1) are shared and leveraged within the Administration; and

''(3) ensure that the organizational responsibility for research and development activities in support of human space exploration not initiated as of March 21, 2017, is established on the basis of a sound rationale.

''(g) ANNUAL REPORT.—The Administrator shall include in the Administration's annual budget request for each fiscal year the rationale for assigning organizational responsibility for, in the year prior to the budget fiscal year, each initiated project, program, and mission focused on research and development of advanced technologies for human space exploration.

''SUBCHAPTER V—MAXIMIZING EFFICIENCY

''PART A—ADMINISTRATION INFORMATION TECHNOLOGY AND CYBERSECURITY

''§ 71751. Information technology governance

''The Administrator shall, in a manner that reflects the unique nature of the Administration's mission and expertise—

''(1) ensure the Administration Chief Information Officer, mission directorates, and centers have appropriate roles in the management, governance, and oversight processes related to information technology operations and investments and information security programs for the protection of Administration systems;

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

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

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

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

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

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

''§ 71752. Information technology strategic plan

''(a) IN GENERAL.—Subject to subsection (b), the Administrator shall develop an information technology strategic plan to guide Administration information technology management and strategic objectives.

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

''(1) the deadline under section 306(a) of title 5; and

''(2) the requirements under section 3506 of title 44.

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

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

''(2) a plan for how the Administration will submit to Congress a list of information technology projects, including completion dates and risk levels in accordance with guidance from the Office of Management and Budget;

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

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

''(5) a plan to increase the efficiency and effectiveness of information technology investments, including a description of how unnecessarily duplicative, wasteful, legacy, or outdated information tech-

nology across the Administration will be identified and eliminated, and a schedule for the identification and elimination of such information technology;

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

''(7) submission by the Administration to Congress of information regarding high risk projects and cybersecurity risks.

''(d) CONGRESSIONAL OVERSIGHT.—The Administrator shall submit to the appropriate committees of Congress the strategic plan under subsection (a) and any updates to the strategic plan.

"§ 71753. Information security plan for cybersecurity

''(a) IN GENERAL.—Not later than 1 year after March 21, 2017, the Administrator shall implement the information security plan developed under subsection (b) and take such further actions as the Administrator considers necessary to improve the information security system in accordance with this section.

''(b) INFORMATION SECURITY PLAN.—Subject to subsections (c) and (d), the Administrator shall develop an Administration-wide information security plan to en-

hance information security for Administration information and information infrastructure.

''(c) REQUIREMENTS.—In developing the plan under subsection (b), the Administrator shall ensure that the plan—

''(1) reflects the unique nature of the Administration's mission and expertise;

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

''(3) is consistent with the standards and guidelines under section 11331 of title 40; and

''(4) meets applicable National Institute of Standards and Technology information security standards and guidelines.

''(d) CONTENTS.—The plan shall address—

''(1) an overview of the requirements of the information security system;

''(2) an Administration-wide risk management framework for information security;

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

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

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

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

''(7) a schedule of frequent reviews and updates, as necessary, of the plan.

''PART B—COLLABORATION AMONG MISSION DIRECTORATES AND OTHER MATTERS

''§ 71761. Collaboration among mission directorates

''The Administrator shall encourage an interdisciplinary approach among all Administration mission directorates and divisions, whenever appropriate, for projects or missions—

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

''(2) to determine areas of overlap or alignment;

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

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

"§ 71762. Administration launch capabilities collaboration

''The Administrator shall pursue a strategy for acquisition of crewed transportation services and non-crewed launch services that continues to enhance communication, collaboration, and coordination between the Launch Services Program and the Commercial Crew Program.

"§ 71763. Education and outreach

''The Administrator shall continue engagement with the public and education opportunities for students via all the Administration's mission directorates to the maximum extent practicable.

"§ 71764. Leveraging commercial satellite servicing capabilities across mission directorates

''The Administrator shall—

''(1) identify orbital assets in both the Science Mission Directorate and the Human Exploration and Operations Mission Directorate that could benefit from satellite servicing-related technologies; and

''(2) work across all Administration mission directorates to evaluate opportunities for the private

sector to perform such services or advance technical capabilities by leveraging the technologies and techniques developed by Administration programs and other industry programs.

"§ 71765. Flight opportunities

''(a) DEVELOPMENT OF PAYLOADS.—

''(1) IN GENERAL.—In order to conduct necessary research, the Administrator shall continue and, as the Administrator considers appropriate, expand the development of technology payloads for—

''(A) scientific research; and

''(B) investigating new or improved capabilities.

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

''(A) flight testing;

''(B) payload development; and

''(C) hardware related to subparagraphs (A) and (B).

''(b) REAFFIRMATION OF POLICY.—Congress reaffirms that the Administrator should provide flight opportunities for payloads to microgravity environments and suborbital altitudes as authorized by section 40905 of this title.

"§ 71766. Space Act Agreements

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

''(b) NON-EXCLUSIVITY.—

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

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

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

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

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

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

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

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

''(d) ANNUAL REPORTS.—

''(1) REQUIREMENT.—Not later than 90 days after the end of each fiscal year, the Administrator shall submit to the appropriate committees of Congress a report on the use of Space Act Agreement authority by the Administration during the previous fiscal year.

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

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

''(B) a description of—

''(i) the subject and terms;

''(ii) the parties;

''(iii) the responsible—

''(I) mission directorate;

''(II) center; or

''(III) headquarters element;

''(iv) the value;

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

''(vi) the time period or schedule; and

''(vii) all milestones; and

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

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

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

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

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

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

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

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

(bb) COMMITTEE NAME CHANGE.—

(1) Section 20117(1) of title 51, United States Code, is amended by striking ''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''.

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

(A) in subsection (a), by striking ''Committee on Science'' and inserting ''Committee on Science, Space, and Technology''; and

(B) in subsection (b), by striking ''Committees on Science and Appropriations'' and inserting ''Committee on Science, Space, and

Technology and the Committee on Appropriations''.

(3) Section 30303(b) of title 51, United States Code, is amended by striking ''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''.

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

(5) Section 203(b) of the America COMPETES Reauthorization Act of 2010 (Public Law 111–358, 51 U.S.C. note prec. 30501) is amended by striking ''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''.

(6) Section 30501(a) of title 51, United States Code, is amended by striking ''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''.

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

(A) in subsection (a), by striking ''Committee on Science and Technology'' and insert-

ing ''Committee on Science, Space, and Technology''; and

(B) in subsection (d) (matter before paragraph (1)), by striking ''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''.

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

(9) Section 102 of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155, 51 U.S.C. note prec. 49901 (formerly 40901)) is amended by striking ''Committee on Science'' and inserting ''Committee on Science, Space, and Technology'' in the following provisions:

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

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

(C) Subsection (b) (matter before paragraph (1)).

(D) Subsection (c)(3).

(E) Subsection (d).

(F) Subsection (e)(2) (matter before subparagraph (A)).

(10) Section 49906(b) (matter before paragraph (1)) of title 51, United States Code (as redesignated by subsection (o)(3)), is amended by striking ''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''.

(11) Section 50134(b)(1) (matter before subparagraph (A)) of title 51, United States Code, is amended by striking ''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''.

(12) Section 50505(a) of title 51, United States Code, is amended by striking ''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''.

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

(14) Section 621(b) (matter before paragraph (1)) of the National Aeronautics and Space Administration Authorization Act of 2008 (Public Law 110–422, 51 U.S.C. 50903 note) is amended by striking

''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''.

(15) Section 50906(a) of title 51, United States Code, is amended by striking ''Committee on Science'' and inserting ''Committee on Science, Space, and Technology''.

(16) Section 50914(d)(1) of title 51, United States Code, is amended by striking ''Committee on Science'' and inserting ''Committee on Science, Space, and Technology''.

(17) Section 60505(b) of title 51, United States Code, is amended by striking ''Committee on Science and Technology'' and inserting ''Committee on Science, Space, and Technology''.

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

(A) in subsection (b) (matter before paragraph (1)), by striking ''Committee on Science'' and inserting ''Committee on Science, Space, and Technology''; and

(B) in subsection (c), by striking ''Committee on Science'' and inserting ''Committee on Science, Space, and Technology''.

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

(20) Section 203(b) of the National Aeronautics and Space Administration Authorization Act of 2000 (Public Law 106–391, 51 U.S.C. 70901 note) is amended by striking ''Committee on Science'' and inserting ''Committee on Science, Space, and Technology''.

(21) Section 205(b) (matter before paragraph (1)) of the National Aeronautics and Space Administration Authorization Act of 2000 (Public Law 106–391, 51 U.S.C. 70901 note) is amended by striking ''Committee on Science'' and inserting ''Committee on Science, Space, and Technology''.

SEC. 4. TECHNICAL AMENDMENTS.

(a) TITLE 5, UNITED STATES CODE.—Section 914 of the Ronald W. Reagan National Defense Authorization

Act for Fiscal Year 2005 (Public Law 108–375, 5 U.S.C. 552 note) is amended—

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

(2) in subsection (e), by striking ''section 3 of the Land Remote Sensing Policy Act of 1992 (15 U.S.C. 5602).'' and inserting ''section 60101 of title 51, United States Code.''.

(b) TITLE 28, UNITED STATES CODE.—

(1) The chapter table of contents of chapter 123 of title 28, United States Code, is amended in the item for section 1932 (relating to revocation of earned release credit) by striking ''1932'' and inserting ''1933''.

(2) Section 1932 of title 28, United States Code (relating to revocation of earned release credit), is redesignated as section 1933 of that title.

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

(d) TITLE 36, UNITED STATES CODE.—The title table of contents of title 36, United States Code, is amended—

(1) in the item for chapter 23, by striking ''Council'' and inserting ''Museum''; and

(2) in the item for chapter 307, by striking ''For'' and inserting ''for''.

(e) TITLE 42, UNITED STATES CODE.—

(1) Section 602(b)(1) of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18362(b)(1)) is amended by striking ''section 302 of this Act.'' and inserting ''section 71521 of title 51, United States Code.''.

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

(A) in subsection (a), by striking ''(42 U.S.C. 17761(a)),'' and inserting ''(51 U.S.C. 70501 note),''; and

(B) in subsection (b), by striking ''(42 U.S.C. 17761(a)).'' and inserting ''(51 U.S.C. 70501 note).''.

(f) TITLE 51, UNITED STATES CODE.—

(1) Section 2 of the National Aeronautics and Space Administration Transition Authorization Act

of 2017 (Public Law 115–10, 51 U.S.C. 10101 note) is amended—

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

(B) in paragraph (10), by striking ''section 303 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18323).'' and inserting ''section 71522 of title 51, United States Code.''; and

(C) in paragraph (11), by striking ''section 3 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18302).'' and inserting ''section 71501 of title 51, United States Code.''.

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

(A) in paragraph (1), by striking ''section 303 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18323).'' and inserting ''section 71522 of this title.''; and

(B) in paragraph (2)—

(i) by striking ''means has the meaning'' and inserting ''has the meaning''; and

(ii) by striking ''section 3 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18302).'' and inserting ''section 71501 of this title.''.

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

(A) by striking ''The Congress finds'' and inserting ''(a) Congress finds''; and

(B) by adding at the end the following:

''(b) The definitions in section 40302 of title 51, United States Code, apply in this section.''.

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

(A) in subparagraph (E), by striking ''section 301(b)(2) of the National Aeronautics and Space Administration Transition Authorization Act of 2017;'' and inserting ''section 70912(2) of this title;'';

(B) in subparagraph (G), by striking ''section 432 of the National Aeronautics and Space Administration Transition Authorization Act of

2017;'' and inserting ''section 71721 of this title;''; and

(C) in subparagraph (J) (matter before clause (i)), by striking ''section 503 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18353),'' and inserting ''section 70910 of this title,''.

(5) Section 302(c)(1) of the National Aeronautics and Space Administration Transition Authorization Act of 2017 (Public Law 115–10, 51 U.S.C. 50111 note) is amended by striking ''(42 U.S.C. 18301 et seq.)'' and inserting ''(Public Law 111–267; 124 Stat. 2805)''.

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

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

''(b) IN GENERAL.—Congress finds that—''.

(7) Section 70501(a)(2) of title 51, United States Code, is amended by striking ''section 421(f) of the National Aeronautics and Space Administra-

tion Transition Authorization Act of 2017'' and inserting ''section 71711(c) of this title''.

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

(A) in paragraph (1), by striking ''section 202(b)(5) of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18312(b)(5));'' and inserting ''section 71512(b)(5) of this title;''; and

(B) in paragraph (2), by striking ''section 432 of the National Aeronautics and Space Administration Transition Authorization Act of 2017.'' and inserting ''section 71721 of this title.''.

SEC. 5. TRANSITIONAL AND SAVINGS PROVISIONS.

(a) DEFINITIONS.—In this section:

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

(2) SOURCE PROVISION.—The term ''source provision'' means a provision of law that is replaced by a restated provision.

(b) CUTOFF DATE.—The restated provisions replace certain provisions of law enacted on or before October 19, 2021. If a law enacted after that date amends or repeals

a source provision, that law is deemed to amend or repeal, as the case may be, the corresponding restated provision. If a law enacted after that date is otherwise inconsistent with a restated provision or a provision of this Act, that law supersedes the restated provision or provision of this Act to the extent of the inconsistency.

(c) ORIGINAL DATE OF ENACTMENT UNCHANGED.—A restated provision is deemed to have been enacted on the date of enactment of the corresponding source provision.

(d) REFERENCES TO RESTATED PROVISIONS.—A reference to a restated provision is deemed to refer to the corresponding source provision.

(e) REFERENCES TO SOURCE PROVISIONS.—A reference to a source provision, including a reference in a regulation, order, or other law, is deemed to refer to the corresponding restated provision.

(f) REGULATIONS, ORDERS, AND OTHER ADMINISTRATIVE ACTIONS.—A regulation, order, or other administrative action in effect under a source provision continues in effect under the corresponding restated provision.

(g) ACTIONS TAKEN AND OFFENSES COMMITTED.—An action taken or an offense committed under a source

provision is deemed to have been taken or committed under the corresponding restated provision.

SEC. 6. REPEALS.

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

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

Schedule of Laws Repealed—Continued

Act	Section	United States Code Former Classification
	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)
	1203(b)	42 U.S.C. 18442(b)
	1206	42 U.S.C. 18444
	1207	42 U.S.C. 18445
America COMPETES Reauthorization Act of 2010 (Public Law 111–358)	202(b)	51 U.S.C. note prec. 40901
	203(c)	51 U.S.C. note prec. 30501
	204(b)	51 U.S.C. 20303 note
National Defense Authorization Act for Fiscal Year 2013 (Public Law 112–239)	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(c)	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(c)	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(c)	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(c)	51 U.S.C. 50131 note
	824(b)(1)	51 U.S.C. note prec. 40901
	825(c)	51 U.S.C. 50131 note
	826	51 U.S.C. 70102 note
	837(b)	51 U.S.C. 31502 note
	837(c)	51 U.S.C. 31502 note
	837(d)	51 U.S.C. 31502 note

Schedule of Laws Repealed—Continued

Act	Section	United States Code Former Classification
	837(e)	51 U.S.C. 31502 note
	841(b)	51 U.S.C. 20113 note
	841(c)	51 U.S.C. 20113 note
	841(d)	51 U.S.C. 20113 note
	841(e)	51 U.S.C. 20113 note
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

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