Union Calendar No. 82

106TH CONGRESS
1ST SESSION

H. R. 1654

[Report No. 106–145]

A BILL

To authorize appropriations for the National Aeronautics and Space Administration for fiscal years 2000, 2001, and 2002, and for other purposes.

MAY 18, 1999

Reported with an amendment, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed

Union Calendar No. 82

106TH CONGRESS
1ST SESSION

H. R. 1654

[Report No. 106–145]

To authorize appropriations for the National Aeronautics and Space Administration for fiscal years 2000, 2001, and 2002, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MAY 3, 1999

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

MAY 18, 1999

Additional sponsors: Mr. BROWN of California, Mr. WELDON of Florida, Mr. COOK, Mr. NETHERCUTT, Mr. ETHERIDGE, and Mr. GARY MILLER of California

Deleted sponsor: Mr. GORDON (added May 13, 1999; deleted May 17, 1999)

MAY 18, 1999

Reported with an amendment, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed

[Strike out all after the enacting clause and insert the part printed in italic]

[For text of introduced bill, see copy of bill as introduced on May 3, 1999]

A BILL

To authorize appropriations for the National Aeronautics and Space Administration for fiscal years 2000, 2001, and 2002, and for other purposes.

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

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the "National Aeronautics and Space Administration Authorization Act of 1999".

(b) TABLE OF CONTENTS.—

SEC. 2. FINDINGS.

The Congress makes the following findings:

(1) The National Aeronautics and Space Administration should continue to pursue actions and reforms directed at reducing institutional costs, including management restructuring, facility consolidation, procurement reform, and convergence with defense and commercial sector systems.

(2) The National Aeronautics and Space Administration must continue on its current course of returning to its proud history as the Nation's leader in basic scientific, air, and space research.

(3) The overwhelming preponderance of the Federal Government's requirements for routine, unmanned space transportation can be met most effectively, efficiently, and economically by a free and competitive market in privately developed and operated space transportation services.

(4) In formulating a national space transportation service policy, the National Aeronautics and

Space Administration should aggressively promote the pursuit by commercial providers of development of advanced space transportation technologies including reusable space vehicles, and human space systems.

(5) The Federal Government should invest in the types of research and innovative technology in which United States commercial providers do not invest, while avoiding competition with the activities in which United States commercial providers do invest.

(6) International cooperation in space exploration and science activities serves the United States national interest—

(A) when it—

(i) reduces the cost of undertaking missions the United States Government would pursue unilaterally;

(ii) enables the United States to pursue missions that it could not otherwise afford to pursue unilaterally; or

(iii) enhances United States capabilities to use and develop space for the benefit of United States citizens; and

(B) when it—

(i) is undertaken in a manner that is sensitive to the desire of United States com-

mercial providers to develop or explore space commercially;

(ii) is consistent with the need for Federal agencies to use space to complete their missions; and

(iii) is carried out in a manner consistent with United States export control laws.

(7) The National Aeronautics and Space Administration and the Department of Defense can cooperate more effectively in leveraging their mutual capabilities to conduct joint space missions that improve United States space capabilities and reduce the cost of conducting space missions.

(8) The Deep Space Network will continue to be a critically important part of the Nation's scientific and exploration infrastructure in the coming decades, and the National Aeronautics and Space Administration should ensure that the Network is adequately maintained and that upgrades required to support future missions are undertaken in a timely manner.

(9) The Hubble Space Telescope has proven to be an important national astronomical research facility that is revolutionizing our understanding of the universe and should be kept productive, and its capabili-

ties should be maintained and enhanced as appropriate to serve as a scientific bridge to the next generation of space-based observatories.

SEC. 3. DEFINITIONS.

For purposes of this Act—

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

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

(3) the term "institution of higher education" has the meaning given such term in section 1201(a) of the Higher Education Act of 1965 (20 U.S.C. 1141(a));

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

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

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

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

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

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

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

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

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

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

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

TITLE I—AUTHORIZATION OF APPROPRIATIONS

Subtitle A—Authorizations

SEC. 101. INTERNATIONAL SPACE STATION.

There are authorized to be appropriated to the National Aeronautics and Space Administration for International Space Station—

(1) for fiscal year 2000, $2,482,700,000, of which $394,400,000, notwithstanding section 121(a)—

(A) shall only be for Space Station research or for the purposes described in section 103(2); and

(B) shall be administered by the Office of Life and Microgravity Sciences and Applications;

(2) for fiscal year 2001, $2,328,000,000, of which $465,400,000, notwithstanding section 121(a)—

(A) shall only be for Space Station research or for the purposes described in section 103(2); and

(B) shall be administered by the Office of Life and Microgravity Sciences and Applications; and

(3) for fiscal year 2002, $2,091,000,000, of which $469,200,000, notwithstanding section 121(a)—

(A) shall only be for Space Station research or for the purposes described in section 103(2); and

(B) shall be administered by the Office of Life and Microgravity Sciences and Applications.

SEC. 102. LAUNCH VEHICLE AND PAYLOAD OPERATIONS.

There are authorized to be appropriated to the National Aeronautics and Space Administration for Launch Vehicle and Payload Operations the following amounts:

(1) For Space Shuttle Operations—

(A) for fiscal year 2000, $2,547,400,000;

(B) for fiscal year 2001, $2,649,900,000; and

(C) for fiscal year 2002, $2,629,000,000.

(2) For Space Shuttle Safety and Performance Upgrades—

(A) for fiscal year 2000, $456,800,000, of which $18,000,000 shall not be obligated until 45 days after the report required by section 207 has been submitted to the Congress;

(B) for fiscal year 2001, $407,200,000; and

(C) for fiscal year 2002, $414,000,000.

(3) For Payload and Utilization Operations—

(A) for fiscal year 2000, $169,100,000;

(B) for fiscal year 2001, $182,900,000; and

(C) for fiscal year 2002, $184,500,000.

SEC. 103. SCIENCE, AERONAUTICS, AND TECHNOLOGY.

There are authorized to be appropriated to the National Aeronautics and Space Administration for Science, Aeronautics, and Technology the following amounts:

(1) For Space Science—

(A) for fiscal year 2000, $2,202,400,000, of which—

(i) $10,500,000 shall be for the Near Earth Object Survey;

(ii) $472,000,000 shall be for the Research Program;

(iii) $12,000,000 shall be for Space Solar Power technology; and

(iv) $170,400,000 shall be for Hubble Space Telescope (Development);

(B) for fiscal year 2001, $2,315,200,000, of which—

(i) $10,500,000 shall be for the Near Earth Object Survey;

(ii) $475,800,000 shall be for the Research Program; and

(iii) $12,000,000 shall be for Space Solar Power technology; and

(C) for fiscal year 2002, $2,411,800,000, of which—

(i) $10,500,000 shall be for the Near Earth Object Survey;

(ii) $511,100,000 shall be for the Research Program;

(iii) $12,000,000 shall be for Space Solar Power technology; and

(iv) $5,000,000 shall be for space science data buy.

(2) For Life and Microgravity Sciences and Applications—

(A) for fiscal year 2000, $333,600,000, of which $2,000,000 shall be for research and early detection systems for breast and ovarian cancer and other women's health issues, and $5,000,000 shall be for sounding rocket vouchers;

(B) for fiscal year 2001, $335,200,000, of which $2,000,000 shall be for research and early detection systems for breast and ovarian cancer and other women's health issues; and

(C) for fiscal year 2002, $344,000,000, of which $2,000,000 shall be for research and early detection systems for breast and ovarian cancer and other women's health issues.

(3) For Earth Science, subject to the limitations set forth in sections 126 and 130—

(A) for fiscal year 2000, $1,382,500,000;

(B) for fiscal year 2001, $1,413,300,000; and

(C) for fiscal year 2002, $1,365,300,000.

(4) For Aero-Space Technology—

(A) for fiscal year 2000, $999,300,000, of which—

(i) $532,800,000 shall be for Aeronautical Research and Technology, with no funds to be used for the Ultra-Efficient Engine, and with $412,800,000 to be for the Research and Technology Base;

(ii) $334,000,000 shall be for Advanced Space Transportation Technology, including—

(I) $61,300,000 for the Future-X Demonstration Program; and

(II) $105,600,000 for Advanced Space Transportation Program; and

(iii) $132,500,000 shall be for Commercial Technology;

(B) for fiscal year 2001, $908,400,000, of which—

(i) $524,000,000 shall be for Aeronautical Research and Technology, with no funds to be used for the Ultra-Efficient Engine, and with $399,800,000 to be for the Research and Technology Base, and with

$54,200,000 to be for Aviation System Capacity;

(ii) $249,400,000 shall be for Advanced Space Transportation Technology, including—

(I) $109,000,000 for the Future-X Demonstration Program; and

(II) $134,400,000 for Advanced Space Transportation Program; and

(iii) $135,000,000 shall be for Commercial Technology; and

(C) for fiscal year 2002, $994,800,000, of which—

(i) $519,200,000 shall be for Aeronautical Research and Technology, with no funds to be used for the Ultra-Efficient Engine, and with $381,600,000 to be for the Research and Technology Base, and with $67,600,000 to be for Aviation System Capacity;

(ii) $340,000,000 shall be for Advanced Space Transportation Technology; and

(iii) $135,600,000 shall be for Commercial Technology.

(5) For Mission Communication Services—

(A) for fiscal year 2000, $406,300,000;

(B) for fiscal year 2001, $382,100,000; and

(C) for fiscal year 2002, $296,600,000.

(6) For Academic Programs—

(A) for fiscal year 2000, $128,600,000, of which $11,600,000 shall be for Higher Education within the Teacher/Faculty Preparation and Enhancement Programs, of which $20,000,000 shall be for the National Space Grant College and Fellowship Program, and of which $62,100,000 shall be for minority university research and education, including $33,600,000 for Historically Black Colleges and Universities;

(B) for fiscal year 2001, $128,600,000, of which $62,100,000 shall be for minority university research and education, including $33,600,000 for Historically Black Colleges and Universities; and

(C) for fiscal year 2002, $130,600,000, of which $62,800,000 shall be for minority university research and education, including $34,000,000 for Historically Black Colleges and Universities.

(7) For Future Planning (Space Launch)—

(A) for fiscal year 2001, $144,000,000; and

(B) for fiscal year 2002, $280,000,000.

SEC. 104. MISSION SUPPORT.

There are authorized to be appropriated to the National Aeronautics and Space Administration for Mission Support the following amounts:

(1) For Safety, Reliability, and Quality Assurance—

(A) for fiscal year 2000, $43,000,000;

(B) for fiscal year 2001, $45,000,000; and

(C) for fiscal year 2002, $49,000,000.

(2) For Space Communication Services—

(A) for fiscal year 2000, $89,700,000;

(B) for fiscal year 2001, $109,300,000; and

(C) for fiscal year 2002, $174,200,000.

(3) For Construction of Facilities, including land acquisition—

(A) for fiscal year 2000, $181,000,000, including—

(i) Restore Electrical Distribution System (ARC), $2,700,000;

(ii) Rehabilitate Main Hangar Building 4802 (Dryden Flight Research Center (DFRC)), $2,900,000;

(iii) Rehabilitate High Voltage System (Glenn Research Center), $7,600,000;

(iv) Repair Site Steam Distribution System (GSFC), $2,900,000;

(v) Restore Chilled Water Distribution System (GSFC), $3,900,000;

(vi) Rehabilitate Hydrostatic Bearing Runner, 70 meter Antenna, Goldstone (JPL), $1,700,000;

(vii) Upgrade 70 meter Antenna Servo Drive, 70 meter Antenna Subnet (JPL), $3,400,000;

(viii) Rehabilitate Utility Tunnel Structure and Systems (Johnson Space Center (JSC)), $5,600,000;

(ix) Connect KSC to CCAS Wastewater Treatment Plant (KSC), $2,500,000;

(x) Repair and Modernize HVAC System, Central Instrument Facility (KSC), $3,000,000;

(xi) Replace High Voltage Load Break Switches (KSC), $2,700,000;

(xii) Repair and Modernize HVAC and Electrical systems, Building 4201 (Marshall Space Flight Center (MSFC)), $2,300,000;

(xiii) Repair Roofs, Vehicle Component Supply buildings (MAF), $2,000,000;

(xiv) Minor Revitalization of Facilities at Various Locations, not in excess of $1,500,000 per project, $65,500,000;

(xv) Minor Construction of New Facilities and Additions to Existing Facilities at Various Locations, not in excess of $1,500,000 per project, $5,000,000;

(xvi) Facility Planning and Design, $19,200,000;

(xvii) Deferred Major Maintenance, $8,000,000;

(xviii) Environmental Compliance and Restoration, $40,100,000;

(B) for fiscal year 2001, $181,000,000; and

(C) for fiscal year 2002, $191,000,000.

(4) For Research and Program Management, including personnel and related costs, travel, and research operations support—

(A) for fiscal year 2000, $2,181,200,000;

(B) for fiscal year 2001, $2,195,000,000; and

(C) for fiscal year 2002, $2,261,600,000.

SEC. 105. INSPECTOR GENERAL.

There are authorized to be appropriated to the National Aeronautics and Space Administration for Inspector General—

(1) for fiscal year 2000, $22,000,000;

(2) for fiscal year 2001, $22,000,000; and

(3) for fiscal year 2002, $22,000,000.

SEC. 106. TOTAL AUTHORIZATION.

Notwithstanding any other provision of this title, the total amount authorized to be appropriated to the National Aeronautics and Space Administration under this Act shall not exceed—

(1) for fiscal year 2000, $13,625,600,000;

(2) for fiscal year 2001, $13,747,100,000; and

(3) for fiscal year 2002, $13,839,400,000.

SEC. 107. AVIATION SYSTEMS CAPACITY.

In addition to amounts otherwise authorized, there are authorized to be appropriated to the Administrator of the Federal Aviation Administration $5,000,000 for fiscal year 2001 for aviation systems capacity.

Subtitle B—Limitations and Special Authority

SEC. 121. USE OF FUNDS FOR CONSTRUCTION.

(a) AUTHORIZED USES.—Funds appropriated under sections 101, 102, 103, and 104(1) and (2), and funds appropriated for research operations support under section

104(4), may be used for the construction of new facilities and additions to, repair of, rehabilitation of, or modification of existing facilities at any location in support of the purposes for which such funds are authorized.

(b) LIMITATION.—No funds may be expended pursuant to subsection (a) for a project, the estimated cost of which to the National Aeronautics and Space Administration, including collateral equipment, exceeds $1,000,000, until 30 days have passed after the Administrator has notified the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate of the nature, location, and estimated cost to the National Aeronautics and Space Administration of such project.

(c) TITLE TO FACILITIES.—If funds are used pursuant to subsection (a) for grants to institutions of higher education, or to nonprofit organizations whose primary purpose is the conduct of scientific research, for purchase or construction of additional research facilities, title to such facilities shall be vested in the United States unless the Administrator determines that the national program of aeronautical and space activities will best be served by vesting title in the grantee institution or organization. Each such grant shall be made under such conditions as the Administrator shall determine to be required to ensure that the

United States will receive therefrom benefits adequate to justify the making of that grant.

SEC. 122. AVAILABILITY OF APPROPRIATED AMOUNTS.

To the extent provided in appropriations Acts, appropriations authorized under subtitle A may remain available without fiscal year limitation.

SEC. 123. REPROGRAMMING FOR CONSTRUCTION OF FACILITIES.

(a) IN GENERAL.—Appropriations authorized for construction of facilities under section 104(3)—

(1) may be varied upward by 10 percent in the discretion of the Administrator; or

(2) may be varied upward by 25 percent, to meet unusual cost variations, after the expiration of 15 days following a report on the circumstances of such action by the Administrator to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

The aggregate amount authorized to be appropriated for construction of facilities under section 104(3) shall not be increased as a result of actions authorized under paragraphs (1) and (2) of this subsection.

(b) SPECIAL RULE.—Where the Administrator determines that new developments in the national program of

aeronautical and space activities have occurred; and that such developments require the use of additional funds for the purposes of construction, expansion, or modification of facilities at any location; and that deferral of such action until the enactment of the next National Aeronautics and Space Administration authorization Act would be inconsistent with the interest of the Nation in aeronautical and space activities, the Administrator may use up to $10,000,000 of the amounts authorized under section 104(3) for each fiscal year for such purposes. No such funds may be obligated until a period of 30 days has passed after the Administrator has transmitted to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives a written report describing the nature of the construction, its costs, and the reasons therefor.

SEC. 124. LIMITATION ON OBLIGATION OF UNAUTHORIZED APPROPRIATIONS.

(a) REPORTS TO CONGRESS.—

(1) REQUIREMENT.—Not later than—

(A) 30 days after the later of the date of the enactment of an Act making appropriations to the National Aeronautics and Space Administration for fiscal year 2000 and the date of the enactment of this Act; and

(B) 30 days after the date of the enactment of an Act making appropriations to the National Aeronautics and Space Administration for fiscal year 2001 or 2002,

the Administrator shall submit a report to Congress and to the Comptroller General.

(2) CONTENTS.—The reports required by paragraph (1) shall specify—

(A) the portion of such appropriations which are for programs, projects, or activities not authorized under subtitle A of this title, or which are in excess of amounts authorized for the relevant program, project, or activity under this Act; and

(B) the portion of such appropriations which are authorized under this Act.

(b) FEDERAL REGISTER NOTICE.—The Administrator shall, coincident with the submission of each report required by subsection (a), publish in the Federal Register a notice of all programs, projects, or activities for which funds are appropriated but which were not authorized under this Act, and solicit public comment thereon regarding the impact of such programs, projects, or activities on the conduct and effectiveness of the national aeronautics and space program.

(c) LIMITATION.—Notwithstanding any other provision of law, no funds may be obligated for any programs, projects, or activities of the National Aeronautics and Space Administration for fiscal year 2000, 2001, or 2002 not authorized under this Act until 30 days have passed after the close of the public comment period contained in a notice required by subsection (b).

SEC. 125. USE OF FUNDS FOR SCIENTIFIC CONSULTATIONS OR EXTRAORDINARY EXPENSES.

Not more than $30,000 of the funds appropriated under section 103 may be used for scientific consultations or extraordinary expenses, upon the authority of the Administrator.

SEC. 126. EARTH SCIENCE LIMITATION.

Of the funds authorized to be appropriated for Earth Science under section 103(3) for each of fiscal years 2001 and 2002, $50,000,000 shall be for the Commercial Remote Sensing Program at Stennis Space Center for commercial data purchases, unless the National Aeronautics and Space Administration has integrated data purchases into the procurement process for Earth science research by obligating at least 5 percent of the aggregate amount appropriated for that fiscal year for Earth Observing System and Earth Probes for the purchase of Earth science data from the private sector.

SEC. 127. COMPETITIVENESS AND INTERNATIONAL CO-OPERATION.

(a) LIMITATION.—As part of the evaluation of the costs and benefits of entering into an obligation to conduct a space mission in which a foreign entity will participate as a supplier of the spacecraft, spacecraft system, or launch system, the Administrator shall solicit comment on the potential impact of such participation through notice published in Commerce Business Daily at least 45 days before entering into such an obligation.

(b) NATIONAL INTERESTS.—Before entering into an obligation described in subsection (a), the Administrator shall consider the national interests of the United States described in section 2(6).

SEC. 128. TRANS-HAB.

(a) REPLACEMENT STRUCTURE.—No funds authorized by this Act shall be obligated for the definition, design, or development of an inflatable space structure to replace any International Space Station components scheduled for launch in the Assembly Sequence released by the National Aeronautics and Space Administration on February 22, 1999.

(b) GENERAL LIMITATION.—No funds authorized by this Act for fiscal year 2000 shall be obligated for the definition, design, or development of an inflatable space structure capable of accommodating humans in space.

SEC. 129. CONSOLIDATED SPACE OPERATIONS CONTRACT.

No funds authorized by this Act shall be used to create a Government-owned corporation to perform the functions that are the subject of the Consolidated Space Operations Contract.

SEC. 130. TRIANA FUNDING PROHIBITION.

None of the funds authorized by this Act may be used for the Triana program, except that $2,500,000 of the amount authorized under section 103(3)(A) for fiscal year 2000 shall be available for termination costs.

TITLE II—MISCELLANEOUS PROVISIONS

SEC. 201. REQUIREMENT FOR INDEPENDENT COST ANALYSIS.

Before any funds may be obligated for Phase B of a project that is projected to cost more than $100,000,000 in total project costs, the Chief Financial Officer for the National Aeronautics and Space Administration shall conduct an independent cost analysis of such project and shall report the results to Congress. In developing cost accounting and reporting standards for carrying out this section, the Chief Financial Officer shall, to the extent practicable and consistent with other laws, solicit the advice of expertise outside of the National Aeronautics and Space Administration.

SEC. 202. NATIONAL AERONAUTICS AND SPACE ACT OF 1958 AMENDMENTS.

(a) DECLARATION OF POLICY AND PURPOSE.—Section 102 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2451) is amended—

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

(2) in subsection (g), as so redesignated by paragraph (1) of this subsection, by striking "(f), and (g)" and inserting in lieu thereof "and (f)".

(b) REPORTS TO THE CONGRESS.—Section 206(a) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2476(a)) is amended—

(1) by striking "January" and inserting in lieu thereof "May"; and

(2) by striking "calendar" and inserting in lieu thereof "fiscal".

SEC. 203. COMMERCIAL SPACE GOODS AND SERVICES.

The National Aeronautics and Space Administration shall purchase commercially available space goods and services to the fullest extent feasible, and shall not conduct activities that preclude or deter commercial space activities except for reasons of national security or public safety. A space good or service shall be deemed commercially available if it is offered by a United States commercial provider,

or if it could be supplied by a United States commercial provider in response to a Government procurement request. For purposes of this section, a purchase is feasible if it meets mission requirements in a cost-effective manner.

SEC. 204. COST EFFECTIVENESS CALCULATIONS.

In calculating the cost effectiveness of the cost of the National Aeronautics and Space Administration engaging in an activity as compared to a commercial provider, the Administrator shall compare the cost of the National Aeronautics and Space Administration engaging in the activity using full cost accounting principles with the price the commercial provider will charge for such activity.

SEC. 205. FOREIGN CONTRACT LIMITATION.

The National Aeronautics and Space Administration shall not enter into any agreement or contract with a foreign government that grants the foreign government the right to recover profit in the event that the agreement or contract is terminated.

SEC. 206. AUTHORITY TO REDUCE OR SUSPEND CONTRACT PAYMENTS BASED ON SUBSTANTIAL EVIDENCE OF FRAUD.

Section 2307(i)(8) of title 10, United States Code, is amended by striking "and (4)" and inserting in lieu thereof "(4), and (6)".

SEC. 207. SPACE SHUTTLE UPGRADE STUDY.

(a) STUDY.—The Administrator shall enter into appropriate arrangements for the conduct of an independent study to reassess the priority of all Phase III and Phase IV Space Shuttle upgrades.

(b) PRIORITIES.—The study described in subsection (a) shall establish relative priorities of the upgrades within each of the following categories:

(1) Upgrades that are safety related.

(2) Upgrades that may have functional or technological applicability to reusable launch vehicles.

(3) Upgrades that have a payback period within the next 12 years.

(c) COMPLETION DATE.—The results of the study described in subsection (a) shall be transmitted to the Congress not later than 180 days after the date of the enactment of this Act.

SEC. 208. AERO-SPACE TRANSPORTATION TECHNOLOGY INTEGRATION.

(a) INTEGRATION PLAN.—The Administrator shall develop a plan for the integration of research, development, and experimental demonstration activities in the aeronautics transportation technology and space transportation technology areas. The plan shall ensure that integration is accomplished without losing unique capabilities which support the National Aeronautics and Space Administration's

defined missions. The plan shall also include appropriate strategies for using aeronautics centers in integration efforts.

(b) REPORTS TO CONGRESS.—Not later than 90 days after the date of the enactment of this Act, the Administrator shall transmit to the Congress a report containing the plan developed under subsection (a). The Administrator shall transmit to the Congress annually thereafter for 5 years a report on progress in achieving such plan, to be transmitted with the annual budget request.

SEC. 209. DEFINITIONS OF COMMERCIAL SPACE POLICY TERMS.

The Administrator shall ensure that the usage of terminology in National Aeronautics and Space Administration policies and programs is consistent with the following definitions:

(1) The term "commercialization" means the process of private entities conducting privatized space activities to expand their customer base beyond the Federal Government to address existing or potential commercial markets, investing private resources to meet those commercial market requirements.

(2) The term "commercial purchase" means a purchase by the Federal Government of space goods and services at a market price from a private entity

which has invested private resources to meet commercial requirements.

(3) The term "commercial use of Federal assets" means the use by a service contractor or other private entity of the capability of Federal assets to deliver services to commercial customers, with or without putting private capital at risk.

(4) The term "contract consolidation" means the combining of two or more Government service contracts for related space activities into one larger Government service contract.

(5) The term "privatization" means the process of transferring—

(A) control and ownership of Federal space-related assets, along with the responsibility for operating, maintaining, and upgrading those assets; or

(B) control and responsibility for space-related functions,

from the Federal Government to the private sector.

SEC. 210. EXTERNAL TANK OPPORTUNITIES STUDY.

(a) APPLICATIONS.—the Administrator shall enter into appropriate arrangements for an independent study to identify, and evaluate the potential benefits and costs of, the broadest possible range of commercial and scientific ap-

plications which are enabled by the launch of Space Shuttle external tanks into Earth orbit and retention in space, including—

(1) the use of privately owned external tanks as a venue for commercial advertising on the ground, during ascent, and in Earth orbit, except that such study shall not consider advertising that while in orbit is observable from the ground with the unaided human eye;

(2) the use of external tanks to achieve scientific or technology demonstration missions in Earth orbit, on the Moon, or elsewhere in space; and

(3) the use of external tanks as low-cost infrastructure in Earth orbit or on the Moon, including as an augmentation to the International Space Station.

A final report on the results of such study shall be delivered to the Congress not later than 90 days after the date of enactment of this Act. Such report shall include recommendations as to Government and industry-funded improvements to the external tank which would maximize its cost-effectiveness for the scientific and commercial applications identified.

(b) REQUIRED IMPROVEMENTS.—The Administrator shall conduct an internal agency study, based on the conclusions of the study required by subsection (a), of what—

(1) improvements to the current Space Shuttle external tank; and

(2) other in-space transportation or infrastructure capability developments,

would be required for the safe and economical use of the Space Shuttle external tank for any or all of the applications identified by the study required by subsection (a), a report on which shall be delivered to Congress not later than 45 days after receipt of the final report required by subsection (a).

(c) CHANGES IN LAW OR POLICY.—Upon receipt of the final report required by subsection (a), the Administrator shall solicit comment from industry on what, if any, changes in law or policy would be required to achieve the applications identified in that final report. Not later than 90 days after receipt of such final report, the Administrator shall transmit to the Congress the comments received along with the recommendations of the Administrator as to changes in law or policy that may be required for those purposes.

SEC. 211. ELIGIBILITY FOR AWARDS.

(a) IN GENERAL.—The Administrator shall exclude from consideration for grant agreements made by the National Aeronautics and Space Administration after fiscal year 1999 any person who received funds, other than those

described in subsection (b), appropriated for a fiscal year after fiscal year 1999, under a grant agreement from any Federal funding source for a project that was not subjected to a competitive, merit-based award process, except as specifically authorized by this Act. Any exclusion from consideration pursuant to this section shall be effective for a period of 5 years after the person receives such Federal funds.

(b) EXCEPTION.—Subsection (a) shall not apply to the receipt of Federal funds by a person due to the membership of that person in a class specified by law for which assistance is awarded to members of the class according to a formula provided by law.

(c) DEFINITION.—For purposes of this section, the term "grant agreement" means a legal instrument whose principal purpose is to transfer a thing of value to the recipient to carry out a public purpose of support or stimulation authorized by a law of the United States, and does not include the acquisition (by purchase, lease, or barter) of property or services for the direct benefit or use of the United States Government. Such term does not include a cooperative agreement (as such term is used in section 6305 of title 31, United States Code) or a cooperative research and development agreement (as such term is defined in section 12(d)(1) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a(d)(1))).

SEC. 212. NOTICE.

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

(b) NOTICE OF REORGANIZATION.—The Administrator shall provide notice to the Committees on Science and Appropriations of the House of Representatives, and the Committees on Commerce, Science, and Transportation and Appropriations of the Senate, not later than 15 days before any major reorganization of any program, project, or activity of the National Aeronautics and Space Administration.

SEC. 213. UNITARY WIND TUNNEL PLAN ACT OF 1949 AMENDMENTS.

The Unitary Wind Tunnel Plan Act of 1949 is amended—

(1) in section 101 (50 U.S.C. 511) by striking "transsonic and supersonic" and inserting in lieu thereof "transsonic, supersonic, and hypersonic"; and

(2) in section 103 (50 U.S.C. 513)—

(A) by striking "laboratories" in subsection (a) and inserting in lieu thereof "laboratories and centers";

(B) by striking "supersonic" in subsection (a) and inserting in lieu thereof "transsonic, supersonic, and hypersonic"; and

(C) by striking "laboratory" in subsection (c) and inserting in lieu thereof "facility".

SEC. 214. INNOVATIVE TECHNOLOGIES FOR HUMAN SPACE FLIGHT.

(a) ESTABLISHMENT OF PROGRAM.—In order to promote a "faster, cheaper, better" approach to the human exploration and development of space, the Administrator shall establish a Human Space Flight Commercialization/Technology program of ground-based and space-based research and development in innovative technologies.

(b) AWARDS.—At least 75 percent of the amount appropriated for the program established under subsection (a) for any fiscal year shall be awarded through broadly distributed announcements of opportunity that solicit proposals from educational institutions, industry, nonprofit institutions, National Aeronautics and Space Administration Centers, the Jet Propulsion Laboratory, other Federal agencies, and other interested organizations, and that allow partnerships among any combination of those entities, with

evaluation, prioritization, and recommendations made by external peer review panels.

(c) PLAN.—The Administrator shall include as part of the National Aeronautics and Space Administration's budget request to the Congress for fiscal year 2001 a plan for the implementation of the program established under subsection (a).

SEC. 215. LIFE IN THE UNIVERSE.

(a) REVIEW.—The Administrator shall enter into appropriate arrangements with the National Academy of Sciences for the conduct of a review of—

(1) international efforts to determine the extent of life in the universe; and

(2) enhancements that can be made to the National Aeronautics and Space Administration's efforts to determine the extent of life in the universe.

(b) ELEMENTS.—The review required by subsection (a) shall include—

(1) an assessment of the direction of the National Aeronautics and Space Administration's astrobiology initiatives within the Origins program;

(2) an assessment of the direction of other initiatives carried out by entities other than the National Aeronautics and Space Administration to determine the extent of life in the universe, including other Fed-

eral agencies, foreign space agencies, and private groups such as the Search for Extraterrestrial Intelligence Institute;

(3) recommendations about scientific and technological enhancements that could be made to the National Aeronautics and Space Administration's astrobiology initiatives to effectively utilize the initiatives of the scientific and technical communities; and

(4) recommendations for possible coordination or integration of National Aeronautics and Space Administration initiatives with initiatives of other entities described in paragraph (2).

(c) REPORT TO CONGRESS.—Not later than 18 months after the date of the enactment of this Act, the Administrator shall transmit to the Congress a report on the results of the review carried out under this section.

SEC. 216. RESEARCH ON INTERNATIONAL SPACE STATION.

(a) STUDY.—The Administrator shall enter into a contract with the National Research Council and the National Academy of Public Administration to jointly conduct a study of the status of life and microgravity research as it relates to the International Space Station. The study shall include—

(1) an assessment of the United States scientific community's readiness to use the International Space Station for life and microgravity research;

(2) an assessment of the current and projected factors limiting the United States scientific community's ability to maximize the research potential of the International Space Station, including, but not limited to, the past and present availability of resources in the life and microgravity research accounts within the Office of Human Spaceflight and the Office of Life and Microgravity Sciences and Applications, and the past, present, and projected access to space of the scientific community; and

(3) recommendations for improving the United States scientific community's ability to maximize the research potential of the International Space Station, including an assessment of the relative costs and benefits of—

(A) dedicating an annual mission of the Space Shuttle to life and microgravity research during assembly of the International Space Station; and

(B) maintaining the schedule for assembly in place at the time of enactment.

(b) REPORT.—Not later than 1 year after the date of the enactment of this Act, the Administrator shall transmit to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report on the results of the study conducted under this section.

SEC. 217. REMOTE SENSING FOR AGRICULTURAL AND RESOURCE MANAGEMENT.

The Administrator shall—

(1) consult with the Secretary of Agriculture to determine data product types that are of use to farmers which can be remotely sensed from air or space;

(2) consider useful commercial data products related to agriculture as identified by the focused research program between the National Aeronautics and Space Administration's Stennis Space Center and the Department of Agriculture; and

(3) examine other data sources, including commercial sources, LightSAR, RADARSAT I, and RADARSAT II, which can provide domestic and international agricultural information relating to crop conditions, fertilization and irrigation needs, pest infiltration, soil conditions, projected food, feed, and fiber production, and other related subjects.

SEC. 218. INTEGRATED SAFETY RESEARCH PLAN.

(a) REQUIREMENT.—Not later than March 1, 2000, the Administrator and the Administrator of the Federal Aviation Administration shall jointly prepare and transmit to the Congress an integrated civil aviation safety research and development plan.

(b) CONTENTS.—The plan required by subsection (a) shall include—

(1) an identification of the respective research and development requirements, roles, and responsibilities of the National Aeronautics and Space Administration and the Federal Aviation Administration;

(2) formal mechanisms for the timely sharing of information between the National Aeronautics and Space Administration and the Federal Aviation Administration, including a requirement that the FAA-NASA Coordinating Committee established in 1980 meet at least twice a year; and

(3) procedures for increased communication and coordination between the Federal Aviation Administration research advisory committee established under section 44508 of title 49, United States Code, and the NASA Aeronautics and Space Transportation Technology Advisory Committee, including a proposal for greater cross-membership between those 2 advisory committees.

SEC. 219. 100TH ANNIVERSARY OF FLIGHT EDUCATIONAL INITIATIVE.

(a) EDUCATION CURRICULUM.—In recognition of the 100th anniversary of the first powered flight, the Administrator, in coordination with the Secretary of Education, shall develop and provide for the distribution, for use in the 2000–2001 academic year and thereafter, of an age-appropriate educational curriculum, for use at the kindergarten, elementary, and secondary levels, on the history of flight, the contribution of flight to global development in the 20th century, the practical benefits of aeronautics and space flight to society, the scientific and mathematical principles used in flight, and any other topics the Administrator considers appropriate. The Administrator shall integrate into the educational curriculum plans for the development and flight of the Mars plane.

(b) REPORT TO CONGRESS.—Not later than May 1, 2000, the Administrator shall transmit a report to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on activities undertaken pursuant to this section.

SEC. 220. INTERNET AVAILABILITY OF INFORMATION.

The Administrator shall make available through the Internet home page of the National Aeronautics and Space Administration the abstracts relating to all research grants and awards made with funds authorized by this Act. Noth-

ing in this section shall be construed to require or permit the release of any information prohibited by law or regulation from being released to the public.