Union Calendar No. 67

103D CONGRESS
1ST SESSION

H. R. 2200

[Report No. 103–123]

A BILL

To authorize appropriations to the National Aeronautics and Space Administration for research and development, space flight, control, and data communications, construction of facilities, research and program management, and Inspector General, and for other purposes.

JUNE 10, 1993

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

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IN THE HOUSE OF REPRESENTATIVES

MAY 20, 1993

Mr. BROWN of California (for himself, Mr. HALL, Mr. VOLKMER, Mr. TRAFICANT, Mr. BACCHUS of Florida, Mr. CRAMER, Ms. ESHOO, Mr. MCCURDY, and Mr. PETE GEREN of Texas) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

JUNE 10, 1993

Additional sponsors: Mr. WALKER, Mr. SENSENBRENNER, Mr. LEWIS of Florida, Mr. BOEHLERT, Mrs. MORELLA, Mr. ROHRABACHER, Mr. BOUCHER, Mr. SCHIFF, Mr. BARTON of Texas, Mr. SAM JOHNSON of Texas, Mr. CALVERT, Mr. HOKE, Ms. DUNN, and Mr. BARTLETT of Maryland

JUNE 10, 1993

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 20, 1993]

A BILL

To authorize appropriations to the National Aeronautics and Space Administration for research and development,

space flight, control, and data communications, construction of facilities, research and program management, and Inspector General, 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.

This Act may be cited as the ''National Aeronautics and Space Administration Authorization Act, Fiscal Years 1994 and 1995''.

SEC. 2. FINDINGS.

The Congress finds and declares that—

(1) the civil space program has the potential to contribute to the advancement of technologies critical to the competitiveness and productivity of United States industry;

(2) the core mission of the National Aeronautics and Space Administration is, and depends upon, the extension of human presence beyond Planet Earth, specifically by the construction and operation of the International Space Station Freedom in the near term, and by the acquisition and development of knowledge necessary for expanding human presence beyond low Earth orbit to other celestial bodies over the middle and long term;

(3) the reduction in international tensions and the end of the Cold War provide an opportunity for

the National Aeronautics and Space Administration to achieve a closer coordination with defense-related agencies and, consistent with the National Aeronautics and Space Act of 1958, to reduce overlap and duplication among Federal space programs and to take greater advantage of other Federal space capabilities;

(4) the National Aeronautics and Space Administration should play an active role in preserving a robust space industrial base and should seek to strengthen incentives for industry to conduct research and development for both Federal mission needs and the diversification of space-related applications;

(5) in the conduct of its space activities, the United States should employ the existing space assets and capabilities of the former Soviet Union on a selective basis when unique programmatic benefits are offered, and should encourage a collaboration between United States industry and the privatizing space organizations of the former Soviet Union in developing future space capabilities;

(6) in the conduct of space missions, the United States should give preference to integrating the broad range of ''off-the-shelf'' existing space assets and capabilities available from commercial sources; and

(7) the cancellation of the Advanced Solid Rocket Motor program should result in a reduction of the funding requirements for the National Aeronautics and Space Administration equal to 50 percent of the project cost of such program over the 5-year period following the date of enactment of this Act.

TITLE I—AUTHORIZATION OF APPROPRIATIONS

Subtitle A—Authorizations

SEC. 101. RESEARCH AND DEVELOPMENT.

(a) SPACE STATION FREEDOM.—

(1) AUTHORIZATION.—There are authorized to be appropriated to the National Aeronautics and Space Administration for ''Research and Development'' for the Space Station Freedom, $1,900,000,000 for fiscal year 1994, $1,900,000,000 for fiscal year 1995, $1,900,000,000 for fiscal year 1996, $1,900,000,000 for fiscal year 1997, $1,900,000,000 for fiscal year 1998, $1,900,000,000 for fiscal year 1999, and $1,300,000,000 for fiscal year 2000.

(2) SCOPE OF PROGRAM.—The Space Station Freedom shall be designed to provide the capability for productive scientific and engineering research in low Earth orbit, shall be capable of incorporating advanced technologies over the operational life of the

Space Station for the purposes of increasing the productivity of research and reducing the costs of operation, shall include a habitation module as part of its permanently manned configuration, and shall be developed in accordance with the international agreements in place as of the date of enactment of this Act.

(3) ADDITIONAL FOREIGN PARTICIPATION.—The Space Station Freedom program shall, where feasible, employ the existing space assets and capabilities of the former Soviet Union on a selective basis when such use will reduce the cost of developing and operating the Space Station Freedom to the United States and its international partners. Any proposed use of such assets and capabilities shall be in accordance with the international agreements in place as of the date of enactment of this Act.

(4) PROGRAM MANAGEMENT OFFICE.—The National Aeronautics and Space Administration shall maintain a strong, independent Space Station Program Management Office with financial control of the program budget at least through the date of the First Element Launch, unless the Administrator of the National Aeronautics and Space Administration (in this Act referred to as the ''Administrator'') certifies to the Congress that an alternative management approach

will save money and will not result in increased annual funding requirements or schedule delays.

(b) OTHER RESEARCH AND DEVELOPMENT.—There are authorized to be appropriated to the National Aeronautics and Space Administration for ''Research and Development'' for—

(1) Technology Investment Program, established under title II of this Act, $22,000,000 for fiscal year 1994, and $40,000,000 for fiscal year 1995, none of which shall be available for administrative expenses of the National Aeronautics and Space Administration, except that no funds appropriated pursuant to this Act may be obligated for the establishment of any Technology Research Institutes unless otherwise specifically provided for by law;

(2) Space Transportation Capability Development, $751,600,000 for fiscal year 1994, and $819,300,000 for fiscal year 1995, of which $21,000,000 for fiscal year 1994 and $40,000,000 for fiscal year 1995 are authorized to develop improvements in existing expendable launch vehicles (including the development of a single-engine version of the Centaur upper stage rocket), and of which $21,400,000 for fiscal year 1994 and $46,000,000 for fiscal year 1995 are authorized to support the devel-

opment of advanced launch technologies, including single-stage-to-orbit technologies, and components;

(3) Physics and Astronomy, $1,094,700,000 for fiscal year 1994, and $1,162,300,000 for fiscal year 1995, of which $20,000,000 for fiscal year 1994 and $15,000,000 for fiscal year 1995 are for augmenting the funding for Mission Operations and Data Analysis activities by that amount;

(4) Planetary Exploration, $622,200,000 for fiscal year 1994, and $646,800,000 for fiscal year 1995, of which $65,000,000 for fiscal year 1994 and $85,000,000 for fiscal year 1995 are for augmenting funding for Mission Operations and Data Analysis activities and to initiate development of a Mars Environmental Survey mission;

(5) Life and Microgravity Sciences and Applications, $426,000,000 for fiscal year 1994, and $485,700,000 for fiscal year 1995, of which at least $2,000,000 for each such fiscal year is reserved for research on the causes of breast and ovarian cancers and other women's health issues;

(6) Mission to Planet Earth—

(A) $1,109,900,000 for fiscal year 1994, of which $5,000,000 are authorized for the development of instrumentation for and flight of re-

motely piloted aircraft, $25,000,000 are authorized for the High Resolution Multispectral Stereo Imager for Landsat 7, if the Administrator determines and reports to Congress in writing that equivalent data will not be made available by private remote-sensing space systems at the time Landsat 7 will be launched, or for the purchase of equivalent data to be provided in the future by private remote-sensing space systems, and of which $18,000,000 may be provided for the Consortium for International Earth Science Information Network, except that no funds may be obligated for the Consortium for International Earth Science Information Network in excess of $18,000,000 in fiscal year 1994 unless an equal amount of matching funding is provided from non-Federal sources; and

(B) $1,448,100,000 for fiscal year 1995;

(7) Space Research and Technology, $298,200,000 for fiscal year 1994, and $333,100,000 for fiscal year 1995;

(8) Commercial Programs, $172,000,000 for fiscal year 1994, and $141,400,000 for fiscal year 1995;

(9) Aeronautics Research and Technology Programs—

(A) for Research Operations Support, $143,500,000 for fiscal year 1994, and $148,300,000 for fiscal year 1995;

(B) for Research and Technology Base activities, $448,300,000 for fiscal year 1994, and $433,900,000 for fiscal year 1995;

(C) for High-Speed Research, $187,200,000 for fiscal year 1994, and $236,300,000 for fiscal year 1995;

(D) for Advanced Subsonic Technology, $101,300,000 for fiscal year 1994, and $128,500,000 for fiscal year 1995, of which $5,000,000 for fiscal year 1994 and $13,000,000 for fiscal year 1995 shall be for Short-Haul Aircraft, $30,200,000 for fiscal year 1994 and $30,500,000 for fiscal year 1995 shall be for Noise Reduction, and $11,500,000 for fiscal year 1994 and $12,000,000 for fiscal year 1995 shall be for Technology Integration for Reducing Environmental Pollution;

(E) for Other Systems Technology Programs, $140,400,000 for fiscal year 1994, and $168,000,000 for fiscal year 1995; and

(F) for the National Aero-Space Plane Program, $80,000,000 for fiscal year 1994, and $80,000,000 for fiscal year 1995;

(10) Safety, Reliability, and Quality Assurance, $35,300,000 for fiscal year 1994, and $38,500,000 for fiscal year 1995;

(11) Academic Programs, $74,500,000 for fiscal year 1994, and $81,500,000 for fiscal year 1995; and

(12) Tracking and Data Advanced Systems, $24,600,000 for fiscal year 1994, and $25,100,000 for fiscal year 1995.

The Administrator shall make available for the National Aero-Space Plane the full amounts authorized under paragraph (9)(F) from the amounts made available pursuant to paragraph (9) for each fiscal year.

SEC. 102. SPACE FLIGHT, CONTROL, AND DATA COMMUNICATIONS.

There are authorized to be appropriated to the National Aeronautics and Space Administration for ''Space Flight, Control, and Data Communications'' for—

(1) Space Shuttle Production and Operational Capability, $1,069,200,000 for fiscal year 1994 and $978,500,000 for fiscal year 1995, of which no funds are authorized for the continuation of the Advanced Solid Rocket Motor program, and of which

$150,000,000 for fiscal year 1994 and $35,000,000 for fiscal year 1995 are authorized to cover the cost of terminating the Advanced Solid Rocket Motor program and transferring the production of Space Shuttle and other solid rocket motor nozzles and the refurbishment of Redesigned Solid Rocket Motor cases to the new production site located near Yellow Creek, Mississippi;

(2) Space Shuttle Operations, $3,006,500,000 for fiscal year 1994, and $2,810,400,000 for fiscal year 1995;

(3) Space and Ground Networks, Communications, and Data Systems, $795,500,000 for fiscal year 1994, and $964,600,000 for fiscal year 1995, including procurement of Tracking and Data Relay Satellites on a fixed-price basis using functional performance specifications, and, to the extent practicable, seeking to incorporate potential improvements to such Satellites that result in cost savings or a greater probability of returning data; and

(4) Launch Services, $300,300,000 for fiscal year 1994, and $313,700,000 for fiscal year 1995.

None of the funds appropriated pursuant to this section shall be used to launch the Advanced X-ray Astrophysics Facility on the Space Shuttle. By fiscal year 2003, the com-

bined annual cost for the production and operation of the Space Shuttle program and the Space Station Freedom program shall not exceed, after adjustments for inflation, $4,325,000,000 in fiscal year 1992 dollars.

SEC. 103. CONSTRUCTION OF FACILITIES.

(a) FISCAL YEAR 1994.—There are authorized to be appropriated to the National Aeronautics and Space Administration for fiscal year 1994 for ''Construction of Facilities'', including land acquisition, for—

(1) Construction of Space Station Freedom Facilities, $25,000,000;

(2) Replacement of Mission Control Center Air Handlers, Johnson Space Center, $8,000,000;

(3) Replacement of Thermal Vacuum Helium Refrigeration System, Johnson Space Center, $7,400,000;

(4) Rehabilitation of Electrical Distribution System, Project Management Building, Johnson Space Center, $2,200,000;

(5) Modification of Launch Complex 39 Exterior Utility Piping, Kennedy Space Center, $1,200,000;

(6) Refurbishment of Launch Complex 39 Cooling System, Kennedy Space Center, $4,000,000;

(7) Refurbishment of Launch Complex 39 Secondary Circuit Breakers, Kennedy Space Center, $3,300,000;

(8) Refurbishment of Vehicle Assembly Building/Pad Water Storage Tanks, Kennedy Space Center, $3,000,000;

(9) Rehabilitation of Industrial Area Fire Alarm Reporting System, Kennedy Space Center, $4,900,000;

(10) Restoration of C–5 Substation, Launch Complex 39 Area, Kennedy Space Center, $5,000,000;

(11) Restoration of Class III Landfill, Kennedy Space Center, $1,900,000;

(12) Restoration of High Pressure Air Compressor System, Marshall Space Flight Center, $8,500,000;

(13) Restoration of Electrical Power System, Marshall Space Flight Center, $2,600,000;

(14) Repair of Decking and Roof, X-Ray and Staging Facility, Michoud Assembly Facility, $1,500,000;

(15) Replacement of Cooling Tower and Boiler, Michoud Assembly Facility, $4,000,000;

(16) Restoration of Space Shuttle Main Engine Text Complex High Pressure Industrial Water System, Stennis Space Center, $2,300,000;

(17) Restoration of High Pressure Gas Storage Capacity, Stennis Space Center, $2,300,000;

(18) Restoration of Underground Communication Distribution System, Stennis Space Center, $3,800,000;

(19) Construction of Earth Systems Science Building, Goddard Space Flight Center, $12,000,000;

(20) Replacement of Central Plant Steam and Electrical Generation Equipment, Goddard Space Flight Center, $8,600,000;

(21) Restoration and Modernization of Chilled Water System, Goddard Space Flight Center, $5,000,000;

(22) Restoration of Airfield, Wallops Flight Facility, $5,200,000;

(23) Replacement of Chillers and Modification of Related Systems, Various Buildings, Jet Propulsion Laboratory, $2,900,000;

(24) Construction of Advanced Solid Rocket Motor Facilities, Various Locations, $32,600,000;

(25) Phase I Facility Studies, Requirements Definition, Design, and Modification and Construction of

National Aeronautics Facilities, Various Locations, $74,000,000;

(26) Modifications for Composite Technology Center, Lewis Research Center, $27,000,000;

(27) National Transonic Facility Productivity Enhancement, Langley Research Center, $60,000,000;

(28) Performance Improvements in 11-Foot Wind Tunnel, Ames Research Center, $20,000,000;

(29) Rehabilitation of Control Systems, National Full-Scale Aerodynamics Complex, Ames Research Center, $2,100,000;

(30) Upgrade of Outdoor Aerodynamic Research Facility, Ames Research Center, $3,900,000;

(31) Modernization of the Unitary Plan Wind Tunnel Complex, Ames Research Center, $25,000,000;

(32) Construction of EOSDIS Distributed Active Archive Center, Langley Research Center, $8,000,000;

(33) Rehabilitation of Rocket Engine Test Facility, Lewis Research Center, $12,500,000;

(34) Construction of 34-Meter Multifrequency Antenna, Goldstone Facility, Jet Propulsion Laboratory, $17,600,000;

(35) Repair of facilities at various locations, not in excess of $1,000,000 per project, $36,000,000;

(36) Rehabilitation and modification of facilities at various locations, not in excess of $1,000,000 per project, $36,000,000;

(37) Minor construction of new facilities and additions to existing facilities at various locations, not in excess of $750,000 per project, $14,000,000;

(38) Facility Planning and Design, $27,000,000; and

(39) Environmental Compliance and Restoration, $50,000,000.

Notwithstanding paragraphs (1) through (39), the total amount authorized to be appropriated under this subsection shall not exceed $570,300,000.

(b) FISCAL YEAR 1995.—There are authorized to be appropriated to the National Aeronautics and Space Administration for fiscal year 1995 for ''Construction of Facilities'', including land acquisition, $422,200,000.

SEC. 104. RESEARCH AND PROGRAM MANAGEMENT.

There are authorized to be appropriated to the National Aeronautics and Space Administration for ''Research and Program Management'', $1,650,000,000 for fiscal year 1994, and $1,675,000,000 for fiscal year 1995.

SEC. 105. INSPECTOR GENERAL.

There are authorized to be appropriated to the National Aeronautics and Space Administration for ''Inspec-

tor General'', $15,500,000 for fiscal year 1994, and $16,000,000 for fiscal year 1995.

Subtitle B—Limitations and Special Authority

SEC. 111. USE OF FUNDS FOR CERTAIN ITEMS AND GRANTS.

(a) AUTHORIZED USES.—Appropriations authorized under sections 101 and 102 may be used for—

(1) any items of a capital nature (other than acquisition of land) which may be required at locations other than installations of the National Aeronautics and Space Administration for the performance of research and development contracts; and

(2) 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.

(b) VESTING OF TITLE; GRANT CONDITIONS.—Title to facilities described in subsection (a)(2) 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 or the Federal contribution to such purchase or construction is not substantial enough to warrant vesting title in the United States. Each grant under subsection (a)(2) 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.

(c) LIMITATION.—None of the funds appropriated under sections 101 and 102 may be used in accordance with this section for the construction of any facility, the estimated cost of which, including collateral equipment, exceeds $750,000, unless 30 days have passed after the Administrator has notified the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives of the nature, location, and estimated cost of such facility.

SEC. 112. AVAILABILITY OF APPROPRIATED AMOUNTS.

Appropriations authorized under sections 101, 102, and 103 may remain available until expended. Contracts may be entered into with funds appropriated under section 104 or 105 for training, investigations, and costs associated with personnel relocation and for other services provided during the fiscal year following the fiscal year for which funds are appropriated.

SEC. 113. LIMITED USE OF FUNDS.

(a) USE FOR SCIENTIFIC CONSULTATIONS OR EXTRAORDINARY EXPENSES.—Appropriations authorized under section 101 may be used, but not to exceed $35,000

per fiscal year, for scientific consultations or extraordinary expenses upon the authority of the Administrator, and the Administrator's determination shall be final and conclusive upon the accounting officers of the Government.

(b) USE FOR FACILITIES.—(1) Except as provided in paragraph (3), appropriations authorized under sections 101 and 102 may be used for the construction of new facilities and additions to, repair of, rehabilitation of, or modification of existing facilities, except that the cost of each such project, including collateral equipment, shall not exceed $200,000 per fiscal year.

(2) Appropriations authorized under sections 101 and 102 may be used for unforeseen programmatic facility project needs, other than those described in paragraph (1), except that the cost of each such project, including collateral equipment, shall not exceed $750,000 per fiscal year.

(3) Appropriations authorized under section 101 may be used for repair, rehabilitation, or modification of facilities controlled by the General Services Administration, except that the cost of each such project, including collateral equipment, shall not exceed $500,000 per fiscal year.

SEC. 114. REPROGRAMMING FOR CONSTRUCTION OF FACILITIES.

Appropriations authorized under any paragraph of section 103—

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

(2) after the expiration of 30 days following a report by the Administrator to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives on the circumstances of such action, may be varied upward by 25 percent, to meet unusual cost variations.

The total amount authorized to be appropriated under section 103 shall not be increased as a result of actions authorized under paragraphs (1) and (2) of this section.

SEC. 115. SPECIAL REPROGRAMMING AUTHORITY FOR CONSTRUCTION OF FACILITIES.

Where the Administrator determines that new developments or scientific or engineering changes in the national program of aeronautical and space activities have occurred; and that such changes 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 transfer not to exceed one-half of one percent of the funds appropriated pur-

suant to sections 101 and 102 to the appropriation under section 103 for such purposes. The Administrator may also use up to $10,000,000 of the amounts authorized under section 103 for such purposes. The funds so made available pursuant to this section may be expended to acquire, construct, convert, rehabilitate, or install permanent or temporary public works, including land acquisition, site preparation, appurtenances, utilities, and equipment. 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, Space, and Technology of the House of Representatives a written report describing the nature of the construction, its costs, and the reasons therefor.

SEC. 116. CONSIDERATION BY COMMITTEES.

Notwithstanding any other provision of this Act—

(1) no amount appropriated pursuant to this Act may be used for any program deleted by the Congress from requests as originally made by the President for the National Aeronautics and Space Administration to either the Committee on Commerce, Science, and Transportation of the Senate or the Committee on Science, Space, and Technology of the House of Representatives;

(2) no amount appropriated pursuant to this Act may be used for any program in excess of the amount actually authorized for the particular program by section 101, 102, or 104; and

(3) no amount appropriated pursuant to this Act may be used for any program which has not been presented to either such committee,

unless a period of 30 days has passed after the receipt, by each such committee, of notice given by the Administrator containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such proposed action. The National Aeronautics and Space Administration shall keep the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives fully and currently informed with respect to all activities and responsibilities within the jurisdiction of those committees. Any Federal department, agency, or independent establishment shall furnish any information requested by either committee relating to any such activity or responsibility.

SEC. 117. LIMITATION ON OBLIGATION OF UNAUTHORIZED APPROPRIATIONS.

(a) REPORT TO CONGRESS.—Not later than 30 days after the later of the date of enactment of an Act making

appropriations to the National Aeronautics and Space Administration for fiscal year 1994 or 1995 and the date of enactment of this Act, the Administrator shall submit a report to Congress and to the Comptroller General which specifies—

(1) the portion of such appropriations which are for programs, projects, or activities not specifically 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

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

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

(c) LIMITATION.—Notwithstanding any other provision of this Act, no funds may be obligated for any programs, projects, or activities of the National Aeronautics and Space Administration for fiscal years 1994 and 1995 not specifically authorized under this Act until 30 days

have passed after the close of the public comment period contained in the notice required in subsection (b).

SEC. 118. LIMITATION ON APPROPRIATIONS

Notwithstanding any other provision of this Act, no funds are authorized to be appropriated for carrying out the programs for which funds are authorized by this Act for any fiscal year other than as provided by this Act.

SEC. 119. ADDITIONAL LIMITATION.

No funds authorized under this Act may be obligated or expended to transfer the management of the External Tank Program from the Marshall Space Flight Center unless 30 days have passed after the Administrator has made a report of the technical justification for such a move to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, and such Committees have raised no objection.

SEC. 120. PRIORITY EXPENDITURE.

Of the amounts authorized under—

(1) section 102(1), only $258,200,000 for fiscal year 1994 and only $252,200,000 for fiscal year 1995;

(2) section 103(a)(24), no funds for fiscal year 1994 and no funds for fiscal year 1995;

(3) section 102(2), only $1,887,800,000 for fiscal year 1994 and only $1,870,000,000 for fiscal year 1995; and

(4) section 104, only $1,400,000,000 for each of fiscal years 1994 and 1995 to effect the closure of at least one National Aeronautics and Space Administration Center and the corresponding reduction in full-time equivalent employees,

may be expended unless $1,900,000,000 are made available for such fiscal year for the Space Station Freedom.

TITLE II—ADVANCED SPACE TECHNOLOGY PROGRAM.

SEC. 201. POLICY.

It is the policy of the United States that—

(1) the Administrator, in planning for national programs in space science and application, aeronautical research, space flight, advanced concepts and technology, and exploration, shall consider ways in which the competitiveness of the United States in advanced space technologies can be enhanced;

(2) the Administrator shall work closely with other Federal agencies, States, local governments, and industry to coordinate and execute the advanced space technology investment activities of the National Aeronautics and Space Administration;

(3) opportunities for investment in advanced space technologies that advance the competitiveness of the United States shall be identified in concert with United States industry; and

(4) the Administrator shall encourage the establishment of industry-led consortia to maximize the opportunities described in paragraph (3).

SEC. 202. ADVANCED SPACE TECHNOLOGY INVESTMENT PROGRAM.

(a) COMPETITIVE PROGRAM.—The Administrator shall establish a competitive program under this section—

(1) to advance the capabilities of United States space technology;

(2) to encourage industry-led consortia to develop advanced space technologies that advance the competitiveness of the United States; and

(3) to encourage participation by industrial participants not part of the traditional Federal contracting base.

(b) ELIGIBLE PARTICIPANTS.—

(1) GENERAL RULE.—Single firms, consortia or cooperative arrangements among 2 or more eligible firms, or a nonprofit research organization established by 2 or more eligible firms, are eligible participants under this section. Such eligible participants

may include participation by Federal laboratories, institutions of higher education, State agencies, and other entities.

(c) CRITERIA.—In selecting from among applicants for financial assistance under this section, the Administrator shall consider—

(1) the potential of the proposed project to develop advanced space technologies that enhance the long-term ability of the United States to make advances in space transportation, exploration, experimentation, and commerce;

(2) the application's scientific and technical merit;

(3) the extent of funding provided by industry;

(4) the potential for long-term commercial application of the technologies in nongovernmental markets;

(5) the likelihood that the goals and objectives of the proposed application will not be achieved without financial assistance under this section; and

(6) such other criteria as the Administrator considers appropriate.

(d) NON-FEDERAL CONTRIBUTION.—The Administrator shall ensure that the amount of the funds provided by the Federal Government under this section does not ex-

ceed the total amount provided by non-Federal participants for any one application. The Administrator shall ensure that not less than 30 percent of total funding for any project for which financial assistance is made available under this section is provided by industry.

(e) FINANCING MECHANISMS.—The Administrator shall make full use of the various authorities available under section 203(c)(5) of the National Aeronautics and Space Act of 1958 to carry out this section, especially when applied to eligible firms which are not part of the traditional Federal contracting base.

SEC. 203. COORDINATION WITH EXISTING PROGRAMS.

The Administrator shall coordinate existing activities within the National Aeronautics and Space Administration, including the Small Business Innovation Research Program and Independent Research and Development activities conducted by industry, with the advanced space technology investment activities established under this title. The Administrator shall coordinate such advanced space technology investment activities with existing programs of the Department of Commerce, the Department of Defense, the Department of Energy, and other Federal agencies to maximize the United States investment in advanced space technology.

SEC. 204. REPORT TO CONGRESS.

The Administrator shall assess the advanced space technology investment activities established under this title, and shall submit a report to Congress on the results of such activities to accompany the President's budget request for fiscal year 1996.

SEC. 205. DEFINITIONS.

For the purposes of this title—

(1) the term ''advanced space technology'' means technologies which are fundamentally new capabilities requiring basic research, as opposed to evolutions of current technologies and systems;

(2) the term ''eligible firm'' means a business entity—

(A) that conducts a significant level of its research, development, engineering, and manufacturing activities in the United States;

(B) the majority ownership or control of which is held by United States citizens; or

(C) with a parent company that is incorporated in a country, the government of which—

(i) permits the participation of firms incorporated in the United States in research and development consortia to which the government of that country provides

funding directly or indirectly through international organizations; and

(ii) affords adequate and effective protection for the intellectual property rights of firms incorporated in the United States,

and that maintains substantial employment in the United States and agrees to promote the manufacturing within the United States of products resulting from technologies developed under this title;

(3) the term ''Federal laboratory'' has the meaning given such term in section 4(6) of the Stevenson-Wydler Technology Innovation Act of 1980; and

(4) the term ''United States'' means the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other territory or possession of the United States.

SEC. 206. TECHNOLOGY PROCUREMENT INITIATIVE.

(a) IN GENERAL.—The Administrator shall coordinate National Aeronautics and Space Administration resources in the areas of procurement, commercial programs, and advanced technology in order to—

(1) fairly assess and procure commercially available technology from the marketplace in the most efficient manner practicable;

(2) achieve a continuous pattern of integrating advanced technology from the commercial sector into the missions and programs of the National Aeronautics and Space Administration;

(3) incorporate private sector buying and bidding procedures, including fixed price contracts, into procurements; and

(4) provide incentives for cost-plus contractors of the National Aeronautics and Space Administration to integrate commercially available technology in subsystem contracts on a fixed-price basis.

(b) CERTIFICATION.—Upon solicitation of any procurement for space hardware, technology, or services that are not commercially available, the Administrator shall certify, by publication of a notice and opportunity to comment in the Commerce Business Daily, for each such procurement action, that no functional equivalent, commercially available space hardware, technology, or service exists and that no commercial method of procurement is available.

TITLE III—MISCELLANEOUS PROVISIONS RELATING TO SPACE ACTIVITIES

SEC. 301. TRANSMISSION OF BUDGET ESTIMATES.

The Administrator shall, at the time of submission of the President's annual budget request for every fiscal year, transmit to the Congress—

(1) a five-year budget detailing the estimated development costs for each individual program under the jurisdiction of the National Aeronautics and Space Administration for which development costs are expected to exceed $200,000,000; and

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

SEC. 302. COMMERCIAL SPACE LAUNCH ACT AMENDMENTS.

(a) AMENDMENTS.—The Commercial Space Launch Act (49 U.S.C. App. 2601 et seq.) is amended—

(1) in section 4—

(A) by inserting ''from Earth'' after ''if any,'' in paragraph (2);

(B) by redesignating paragraphs (9) through (12) as paragraphs (11) through (14), respectively; and

(C) by inserting after paragraph (8) the following new paragraphs:

''(9) 'reenter' and 'reentry' mean to return purposefully, or attempt to return, a reentry vehicle and payload, if any, from Earth orbit or outer space to Earth;

''(10) 'reentry vehicle' means any vehicle designed to return from Earth orbit or outer space to Earth substantially intact;'';

(2) in section 6(a), by inserting '', or reenter a reentry vehicle,'' after ''operate a launch site'' each place it appears;

(3) in section 6(a)(2) and (3), by striking ''section 4(11)'' each place it appears and inserting in lieu thereof ''section 4(14)'';

(4) in section 6(a)(3)(A), by inserting ''or reentry'' after ''such launch or operation'';

(5) in section 6(a)(3), by inserting '', or reentry of a reentry vehicle,'' after ''operation of a launch site'' each place it appears;

(6) in section 6(b)(1)—

(A) by striking ''launch license'' and inserting in lieu thereof ''license'';

(B) by inserting ''or reenter'' after ''shall not launch'';

(C) by inserting ''or reentry'' after ''relate to the launch''; and

(D) by inserting ''or reentered'' after ''to be launched'';

(7) in section 6(b)(2)—

(A) by inserting ''or reentry'' after ''prevent the launch'';

(B) by striking ''holder of a launch license'' and inserting in lieu thereof ''licensee''; and

(C) by inserting ''or reentry'' after ''determines that the launch'';

(8) in section 6(c)(1), by inserting ''or reentry of a reentry vehicle'' after ''operation of a launch site'';

(9) in section 7, by striking ''both'' and inserting in lieu thereof ''for reentering one or more reentry vehicles'';

(10) in sections 8(a), 9(b), 11(a), 11(b), 12(a)(2)(B), and 12(b), by inserting '', or reentry of a reentry vehicle,'' after ''operation of a launch site'' each place it appears;

(11) in section 8(b), by inserting ''and the reentry of reentry vehicles,'' after ''operation of launch sites,'';

(12) in section 11(a), by inserting ''or reentry'' after ''launch or operation'';

(13) in section 12(a)(1), by inserting ''or reentry'' after ''prevent the launch'';

(14) in section 12(b), by inserting ''or reentry'' after ''prevent the launch'';

(15) in section 14(a)(1)—

(A) by inserting ''or reentry site'' after ''observers at any launch site''; and

(B) by inserting ''or reentry vehicle'' after ''assembly of a launch vehicle'';

(16) in section 15(b)(4)(A)—

(A) by inserting ''and reentries'' after ''ensure that the launches'';

(B) by inserting ''or reentry date commitment'' after ''launch date commitment'';

(C) by inserting ''or reentry'' after ''obtained for a launch'';

(D) by inserting '', reentry sites,'' after ''United States launch sites'';

(E) by inserting ''or reentry site'' after ''access to a launch site'';

(F) by inserting '', or services related to a reentry,'' after ''amount for launch services''; and

(G) by inserting ''or reentry'' after ''the scheduled launch'';

(17) in section 15(b)(4)(B), by inserting ''or reentry'' after ''prompt launching'';

(18) in section 15(c), by inserting ''or reentry'' after ''launch site'';

(19) in section 16(a)(1)(A) and (B), by inserting ''or reentry'' after ''any particular launch'' each place it appears;

(20) in section 16(a)(1)(C) and (D), by inserting ''or a reentry'' after ''launch services'' each place it appears;

(21) in section 16(a)(2), by inserting ''or reentry'' after ''launch services'';

(22) in section 16(b)(1) and (4) (A) and (B), by inserting ''or reentry'' after ''particular launch'' each place it appears;

(23) in section 17(b)(2)(A)—

(A) by inserting ''reentry site,'' after ''launch site,''; and

(B) by inserting ''or reentry vehicle'' after ''site of a launch vehicle'';

(24) in section 21(a), by inserting ''and reentry'' after ''approval of space launch'';

(25) in section 21(b)—

(A) by inserting '', reentry vehicle,'' after ''A launch vehicle''; and

(B) by inserting ''or reentry'' after ''the launching'';

(26) in section 21(c)(1)—

(A) by striking ''or'' in subparagraph (B);

(B) by redesignating subparagraph (C) as subparagraph (D); and

(C) by inserting after subparagraph (B) the following new subparagraph:

''(C) reentry of a reentry vehicle, or'';

(27) in section 21(c)(2), by inserting ''reentry,'' after ''launch,'';

(28) in section 22(a)—

(A) by striking ''ending after the date of enactment of this Act and before October 1, 1989'';

and

(B) by inserting ''and reentries'' after ''further commercial launches''; and

(29) in section 24, by inserting ''There are authorized to be appropriated to the Secretary $4,467,000 to carry out this Act for fiscal year 1994.'' after ''$4,900,000 to carry out this Act.''.

(b) REPORT TO CONGRESS.—The Secretary of Transportation shall submit to Congress an annual report to accompany the President's budget request which reviews the performance of the regulatory activities and the effectiveness of the Office of Commercial Space Transportation.

SEC. 303. SPACE TRANSPORTATION INFRASTRUCTURE MATCHING GRANTS.

In order to ensure the continued resiliency of the Nation's space transportation infrastructure, the Secretary of Transportation is authorized to make project grants to public agencies in accordance with section 505 of Public Law 102–588. There are authorized to be appropriated for such grants, $10,000,000 for fiscal year 1995. Such funds shall remain available until expended.

SEC. 304. OFFICE OF SPACE COMMERCE AUTHORIZATION.

(a) ROLE OF THE OFFICE OF SPACE COMMERCE.—The Office of Space Commerce of the Department of Commerce shall be responsible for the development and coordination of all policy recommendations and activities pertaining to commercial activities in space except those functions and activities explicitly authorized in statute to other Federal agencies. In carrying out this responsibility, such Office shall consult with other Federal agencies as appropriate, including the Department of Transportation, the National Aeronautics and Space Administration, the Department of Defense, the Department of State, and the Office of the United States Trade Representative.

(b) AUTHORIZATION OF APPROPRIATIONS.—In order to carry out this section, there are authorized to be appropriated to the Secretary of Commerce for the Office of Space Commerce, $538,000 for fiscal year 1994.

SEC. 305. USE OF DOMESTIC PRODUCTS.

(a) GENERAL RULE.—Except as provided in subsection (b), the Administrator shall ensure that procurements are conducted in compliance with sections 2 through 4 of the Act of March 3, 1933 (41 U.S.C. 10a through 10c, popularly known as the ''Buy American Act'').

(b) LIMITATIONS.—This section shall apply only to procurements made for which—

(1) amounts are authorized by this Act to be made available; and

(2) solications for bids are issued after the date of enactment of this Act.

(c) INAPPLICABILITY IN CASE OF VIOLATION OF INTERNATIONAL AGREEMENT.—This section shall not apply to the extent that the United States Trade Representative determines that a procurement described in subsection (b) would be in violation of the General Agreement on Tariffs and Trade or an international agreement to which the United States is a party.

(d) PURCHASE OF AMERICAN MADE EQUIPMENT AND PRODUCTS.—

(1) SENSE OF CONGRESS.—It is the sense of Congress that any recipient of a grant under this Act, or under any amendment made by this Act, should purchase, when available and cost-effective, American

made equipment and products when expending grant monies.

(2) NOTICE TO RECIPIENTS OF ASSISTANCE.—In allocating grants under this Act, or under any amendment made by this Act, the Secretary shall provide to each recipient a notice describing the statement made in paragraph (1) by the Congress.

SEC. 306. REQUIREMENT FOR INDEPENDENT COST ANALYSIS.

The Chief Financial Officer for the National Aeronautics and Space Administration shall be responsible for conducting independent cost analyses of all new projects estimated to cost more than $5,000,000 and shall report the results annually to Congress at the time of the submission of the President's budget request. 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. 307. GLOBAL CHANGE DATA AND INFORMATION SYSTEM.

Title I of the Global Change Research Act of 1990 (15 U.S.C. 2931 et seq.) is amended by adding at the end the following new section:

''SEC. 109. GLOBAL CHANGE DATA AND INFORMATION SYSTEM.

''(a) The National Aeronautics and Space Administration, in coordination with other agencies that belong to the Committee on Earth and Environmental Sciences, shall establish the requirements and architecture for, design, and develop a Global Change Data and Information System that shall serve as the system to process, archive, and distribute data generated by the Global Change Research Program.

''(b) The National Aeronautics and Space Administration shall design the Global Change Data and Information System—

''(1) so that other Federal agencies may connect data centers operated by such agencies to such System; and

''(2) so as to minimize, to the extent practicable, the cost of connecting such data centers.

''(c) Each agency involved in the Global Change Research Program shall retain the responsibility to establish and operate Global Change Data and Information System data centers to process, archive, and distribute data generated by such agency's programs. Agencies may agree to assume the responsibility for processing, archiving, or distributing data generated by other agencies.''.

SEC. 308. ACCESS TO CLASSIFIED DATA FOR GLOBAL CHANGE RESEARCH.

The Committee on Earth and Environmental Sciences shall develop and submit to the Congress within one year after the date of enactment of this Act a plan for providing access to data from classified archives and systems for global change research. The plan shall—

(1) to the extent consistent with classification restrictions, identify what data from classified archives and systems may be valuable and available for global change research;

(2) determine whether the Global Change Data and Information System or other means should be used to provide access to such data for the scientific community; and

(3) identify what agencies should be responsible for particular parts of such classified data and any data centers needed to process, archive, and distribute such data.

SEC. 309. ORBITAL DEBRIS.

The Office of Science and Technology Policy, in coordination with the National Aeronautics and Space Administration, the Department of Defense, the Department of State, and other agencies as appropriate, shall submit a plan to Congress within one year after the date of enactment of this Act for the control of orbital debris. The plan

shall include proposed launch vehicle and spacecraft design standards and operational procedures to minimize the creation of new debris. The plan shall propose a schedule for the incorporation of the standards into all United States civil, military, and commercial space activities. Finally, the plan shall include a schedule for the development of an international agreement on the control of orbital debris.

SEC. 310. NATIONAL AERONAUTICS AND SPACE ACT OF 1958 AMENDMENTS.

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

(1) by striking subsections (e) and (f) and inserting in lieu thereof the following:

''(e) The Congress declares that the general welfare of the United States requires that the unique competence in scientific and engineering systems of the National Aeronautics and Space Administration also be directed toward supporting the private sector development of advanced space technologies which enhance economic growth, competitiveness, and productivity.'';

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

(3) in subsection (g), as so redesignated, by striking ''(f), and (g)'' and inserting in lieu thereof ''and (f)''.

(b) REPORTS TO CONGRESS.—Section 206(a) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2476(a)) is amended by striking ''calendar'' and inserting in lieu thereof ''fiscal''.

SEC. 311. COMPARATIVE ANALYSIS OF UNITED STATES AND FOREIGN EXPENDABLE SPACE LAUNCH SYSTEMS.

The National Aeronautics and Space Administration shall conduct a comprehensive study of the differences between existing United States and foreign expendable space launch vehicles. This study shall determine specific differences in the design, manufacture, processing, and overall management and infrastructure of current United States and foreign expendable space launch vehicles. The study shall also determine the approximate effect of these differences on the relative cost, reliability, and operational efficiency of such space launch systems. This study shall be conducted in consultation with the Department of Defense and, as appropriate, other Federal agencies, United States industries, and academic institutions. The results of this study shall be submitted to the Congress no later than October 1, 1994.

SEC. 312. UNIVERSITY INNOVATIVE RESEARCH PROGRAM STUDY.

(a) FINDINGS.—The Congress finds that—

(1) universities offer a significant resource for the conduct of innovative scientific and technological research to advance the National Aeronautics and Space Administration's mission;

(2) the National Aeronautics and Space Administration should act to broaden the foundation of its research base by increasing the direct involvement of university research laboratories in the development of technology for space science;

(3) the National Aeronautics and Space Administration should commit to strengthening university research programs in technology beyond contracting with universities for services in support of specific programs; and

(4) the National Aeronautics and Space Administration should develop mechanisms to foster innovative technological research at universities that do not participate in the University Space Engineering Research Centers.

(b) STUDY.—The Administrator shall undertake a study of the feasibility and potential implementation of a University Innovative Research Program which—

(1) promotes technological innovation in the United States by using the Nation's universities to help meet the National Aeronautics and Space Administration's research and development needs, by stimulating technology transfer between universities and industry, and by encouraging participation by minority and disadvantaged persons in technological innovation;

(2) is modeled on the Small Business Innovation Research Program;

(3) avoids duplication of existing National Aeronautics and Space Administration programs with the universities; and

(4) derives funding from the Space Research and Technology program.

(c) COMPLETION.—The study required by subsection (b) shall be completed and its results submitted to the Congress within one year after the date of enactment of this Act.

(d) ADVICE.—In carrying out the study required by subsection (b), the Administrator shall seek the advice of the National Aeronautics and Space Administration Advisory Council, the National Research Council's Aeronautics and Space Engineering Board and Space Studies Board, and other organizations as appropriate.

SEC. 313. GEOGRAPHICAL DISTRIBUTION.

The National Aeronautics and Space Administration shall give consideration to geographical distribution of its research and development funds whenever feasible.

SEC. 314. CONTRACTOR PERFORMANCE.

(a) GENERAL RULE.—The Administrator shall require that all cost-type research and development contracts entered into by the National Aeronautics and Space Administration for the acquisition of articles or services shall incorporate a provision which holds the contractor liable, in accordance with subsection (c) of this section, for failure to comply with the requirements of the contract.

(b) LIABILITIES.—A provision described in subsection (a) shall, in the event of such a failure, hold the contractor liable for the lesser of—

(1) 50 percent of the cost of rectifying such failure; or

(2) 10 percent of the contract value at the time of such failure.

(c) EXCEPTIONS.—Liability under subsection (b) shall not be imposed if—

(1) the failure occurred despite the best efforts of the contractor and could not have been reasonably predicted at the time the contract was awarded; or

(2) the failure occurred notwithstanding the fact that the contractor had adopted, and its employees

were following, generally accepted industrial practices in carrying out the contract requirements.

(d) PROHIBITION.—The cost of insurance to cover potential liabilities described in subsection (b) shall not be an allowable cost under a contract described in subsection (a).

SEC. 315. LAND CONVEYANCE.

The Administrator may accept the conveyance to the United States of certain parcels of land from the cities of Cleveland and Brook Park, Ohio, for the purpose of establishing a Visitor Center for the Lewis Research Center.

TITLE IV—AERONAUTICS RESEARCH AND TECHNOLOGY

SEC. 401. FINDINGS.

The Congress finds that—

(1) the aerospace industry makes a major contribution to the economy of the United States, accounting for the largest positive trade balance of any United States industry (more than $28,000,000,000 in 1992), and providing over 1,000,000 high-value jobs;

(2) the international market share of the United States aerospace industry has steadily eroded due to competition from foreign consortia that receive substantial direct subsidies from their governments;

(3) the United States aerospace industry is further negatively impacted by reduced investment in national defense;

(4) the continued competitiveness of the United States aerospace industry can be significantly aided by an enhanced Federal investment in technology base research and development in aeronautics;

(5) maintaining state-of-the-art experimental facilities is a key element of Federal investment in aeronautics research and development;

(6) the long-term contribution of advances in aeronautics to the economy and society will rely on a continued commitment to pioneering research and development such as the National Aero-Space Plane;

(7) the National Aero-Space Plane program should explore the possibility of collaboration with other nations for opportunities that would offer unique programmatic benefits without compromising the strategic advantage to the United States; and

(8) cost sharing for facilities use is a highly desirable objective given the deficit reduction goals of the President and the Congress.

SEC. 402. DEFINITION.

For purposes of this title, the term ''independent organization'' means an organization that does not receive sig-

nificant funding or support from the National Aeronautics and Space Administration, other than under sections 403, 404, and 406.

SEC. 403. INDEPENDENT PERFORMANCE REVIEW.

(a) PLAN.—The Administrator shall provide for the development of a plan establishing criteria, procedures, and milestones for the evaluation, by an independent organization, of advances made in fundamental aeronautics research and development and the progress made by the aeronautics programs of the National Aeronautics and Space Administration in achieving their goals. Such plan shall be developed by an independent organization in consultation with the Administrator. The plan shall also describe criteria and procedures for terminating National Aeronautics and Space Administration programs that are not making acceptable progress toward their goals. The Administrator shall submit a report describing such plan to the Congress within 6 months after the date of the enactment of this Act.

(b) ANNUAL REPORT.—Beginning in the first year after submission of the plan under subsection (a), at the time of the President's annual budget request to Congress, the Administrator shall submit to the Congress an annual report on the results of an evaluation, conducted by an independent organization, of the progress made by the National Aeronautics and Space Administration in advancing aero-

nautics and achieving the goals of aeronautics programs. Such evaluation shall be conducted using the criteria, procedures, and milestones established under the plan required by subsection (a).

SEC. 404. TECHNOLOGY TRANSFER REVIEW.

(a) PLAN.—The Administrator shall provide for the development of a plan establishing criteria and procedures for the evaluation, by an independent organization, of the effectiveness of technology transfer from the National Aeronautics and Space Administration's aeronautics programs to industry and other public organizations. Such plan shall be developed by an independent organization in consultation with the Administrator. The plan shall include clear, quantitative measures of the success of such technology transfer activities. The Administrator shall submit a report describing such plan to the Congress within 6 months after the date of the enactment of this Act.

(b) ANNUAL REPORT.—Beginning in the first year after submission of the plan under subsection (a), at the time of the President's annual budget request to Congress, the Administrator shall submit to the Congress an annual report on the results of an evaluation, conducted by an independent organization, of the effectiveness of the National Aeronautics and Space Administration's technology transfer programs. Such evaluation shall be conducted using the

criteria and procedures established under the plan required by subsection (a).

SEC. 405. FACILITIES COST SHARING.

The Administrator, in conjunction with other ongoing activities of the National Aeronautics and Space Administration such as the Aerospace Facilities Plan, shall study existing and potential cost sharing provisions between the Federal Government and industry as they relate to the use of wind tunnels and related test facilities to ensure that cost sharing is employed to the fullest reasonable extent. The Administrator shall submit to the Congress the results of such study concurrent with the completion of the Aerospace Facilities Plan, or one year after the date of enactment of this Act, whichever occurs first.

SEC. 406. JOINT AERONAUTICAL RESEARCH AND DEVELOPMENT PROGRAM.

(a) ESTABLISHMENT.—The Administrator and the heads of other appropriate Federal agencies shall jointly establish a program for the purpose of conducting research on aeronautical technologies that enhance United States competitiveness. Such program shall include—

(1) research on next-generation wind tunnel and advanced wind tunnel instrumentation technology;

(2) research on advanced engine materials, engine concepts, and testing of propulsion systems or

components of the high-speed civil transport research program;

(3) advanced general aviation research;

(4) advanced rotorcraft research; and

(5) advanced hypersonic aeronautical research.

(b) CONTRACTS AND GRANTS.—Contracts and grants entered into under the program established under subsection (a) shall be administered using procedures developed jointly by the Administrator and the heads of the other Federal agencies involved in the program. These procedures should include an integrated acquisition policy for contract and grant requirements and for technical data rights that are not an impediment to joint programs among the National Aeronautics and Space Administration, the other Federal agencies involved in the program, and industry.

(c) ELEMENTS OF PROGRAM.—The program established under subsection (a) shall include—

(1) selected programs that jointly enhance public and private aeronautical technology development;

(2) an opportunity for private contractors to be involved in such technology research and development; and

(3) the transfer of Government-developed technologies to the private sector to promote economic strength and competitiveness.

SEC. 407. NATIONAL AERO-SPACE PLANE.

(a) FINDINGS.—The Congress finds that—

(1) hypersonic flight will be critical to the continued contribution of aeronautics to the economic and strategic interests of the United States in the early twenty-first century;

(2) the data obtained through rocket-based hypersonic flight experiments will not, by themselves, reduce risk sufficiently to allow the development of a single-stage-to-orbit, air-breathing plane; and

(3) a single-stage hypersonic research plane is critical to the successful exploration of the hypersonic flight regime and the timely realization of a single-stage-to-orbit, air-breathing plane.

(b) HYPERSONIC RESEARCH PLANE ASSESSMENT.—The Administrator shall conduct a study, through an independent organization, of strategies that would optimize the next phase of the National Aero-Space Plane program by integrating with the rocket-based hypersonic flight experiments the development, in the shortest possible time frame, of a single-stage hypersonic research plane capable of speeds in the Mach 10 to Mach 15 range or greater, with the objective of providing data that would accelerate the ultimate development of a single-stage-to-orbit, air-breathing plane. The Administrator shall report the results of the study to

Congress no later than 6 months after the date of the enactment of this Act.