Public Law 101-611
101st Congress

An Act

Nov. 16, 1990
[S. 2287]

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

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

National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991.

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991".

TITLE I—NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AUTHORIZATIONS

42 USC 2451 note.

SEC. 101. FINDINGS.

The Congress finds that—

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SEC. 102. POLICY.

42 USC 2451 note.

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

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

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

(3) ensure that the long-range environmental impact of all activities carried out under this title are fully understood and considered;

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

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

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

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

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

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

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

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

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

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

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

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

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

SEC. 103. AUTHORIZATION OF APPROPRIATIONS.

(a) AUTHORIZATIONS.—There are authorized to be appropriated to the National Aeronautics and Space Administration the following amounts:

(1) For "research and development", for the following programs:

(A) United States International Space Station Freedom:

(i) Notwithstanding section 201(a)(1)(A) of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989, not more than $2,451,000,000 shall be made available for fiscal year 1991.

(ii) Such sums as are necessary from funds authorized for the United States International Space Station Freedom shall be used to initiate a flight test of the solar dynamic power program. By May 1, 1991, the Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report on the implementation plan for the conduct of a flight test of the solar dynamic power program.

Reports.

(B) Space transportation capability development, $723,400,000 for fiscal year 1991. Of such funds, $10,000,000 shall be used only for supporting heavy-lift launch vehicle studies, which shall include study of commercially developed variants as well as other appropriate concepts, rather than studying Shuttle-derived heavy-lift launch vehicles alone.

(C) Physics and astronomy, $985,000,000 for fiscal year 1991.

(D) Life sciences, $168,400,000 for fiscal year 1991. Of the amounts authorized for such purposes, by this or any other Act, for fiscal year 1991—

(i) $5,000,000 shall be used for the development of payloads for the Lifesat program; and

(ii) not less than $400,000 shall be used for space food processing studies and bioregenerative modeling assessments.

(E) Planetary exploration, $337,200,000 for fiscal year 1991.

(F) Earth sciences:

(i) $542,500,000 for fiscal year 1991, of which $5,000,000 shall be made available for the conduct of an advanced sensor technology demonstration program, $35,000,000 shall be made available for Earth Probes, including the development of the Total Ozone Mapping Spectrometer, and $44,300,000 shall be made available for Modeling and Data Analysis, including the development of Earth Science Data Directories and remote sensing data conversion.

(ii) Notwithstanding section 201(a)(1)(A) of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989, not more than $132,000,000 may be made available for the Earth Observing System Platform for fiscal year 1991.

(G) Materials processing in space, $97,300,000 for fiscal year 1991.

(H) Communications, $52,800,000 for fiscal year 1991, including not more than $2,000,000 for experimenter ground stations for the Advanced Communications Technology Satellite, but only if the experimenter receiving funds obtains at least an equal amount of funds from sources other than the National Aeronautics and Space Administration.

(I) Information systems, $36,800,000 for fiscal year 1991.

(J) Technology utilization, $24,400,000 for fiscal year 1991.

(K) Commercial use of space, $76,600,000 for fiscal year 1991.

(L) Aeronautical research and technology, $537,000,000 for fiscal year 1991.

(M) Transatmospheric research and technology, $119,000,000 for fiscal year 1991.

(N) Space research and technology, $412,900,000 for fiscal year 1991. Of the amounts authorized for the Exploration Technology program, by this or any other Act, for fiscal year 1991, at least 10 percent shall be for university contracts and grants.

(O) Exploration mission studies, $21,000,000 for fiscal year 1991, which is authorized for studies conducted by the National Aeronautics and Space Administration. The Administrator shall provide to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, by March 15, 1991, a report setting forth the goals for academic participation and enhancement of the educational infrastructure with regard to the human exploration initiative. Reports.

(P) Safety, reliability, and quality assurance, $33,000,000 for fiscal year 1991.

(Q) Tracking and data advanced systems, $20,000,000 for fiscal year 1991.

(R) University Space Science and Technology Academic Program, $50,100,000 for fiscal year 1991.

Reports.

(S) Comet Rendezvous Asteroid Flyby/Cassini mission, not to exceed $1,600,000,000, for development, launch, and 30 days of operations thereof, to remain available until expended, of which—

(i) $490,000,000 shall be available for obligation after October 1, 1989;

(ii) an additional $370,000,000 shall be available for obligation 30 days after the submission of a report summarizing the results of a preliminary design review to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate;

(iii) an additional $640,000,000 shall be available for obligation 30 days after the submission of a report summarizing the results of a critical design review 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

(iv) an additional $100,000,000 shall be available for obligation 30 days after the submission of a report summarizing the results of a spacecraft integration and systems test to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

A cost containment plan shall be submitted to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate by January 31, 1991, and updated on July 31 and January 31 of each succeeding year until such funds are expended.

(2) For "space flight, control, and data communications", for the following programs:

(A) Shuttle production and operational capability, $1,364,000,000 for fiscal year 1991. Of such funds, $45,000,000 shall be used only for carrying out the safety modifications recommended by the Aerospace Safety Advisory Panel and for such other safety related elements of an Assured Shuttle Availability Program as the Administrator considers necessary. By September 30, 1991, the Administrator shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a full report on the completion of planned safety enhancements.

Reports.

(B) Shuttle transportation operations, $2,831,400,000 for fiscal year 1991, of which $4,000,000 shall be made available for the provision of launch services for eligible satellites in accordance with section 6 of the Commercial Space Launch Act Amendments of 1988.

(C) Expendable launch vehicle services, $229,200,000 for fiscal year 1991.

(D) Space and ground network, communications, and data systems, $868,800,000 for fiscal year 1991.

(E) Tracking and data relay satellite system, $1,209,732,000 for fiscal year 1991, which shall be used only for the purpose of reducing all outstanding debt to the Federal Financing Bank.

(3) For "construction of facilities" for fiscal year 1991 as follows:

(A) Construction of Neutral Buoyancy Laboratory, Johnson Space Center, $15,000,000.

(B) Construction of Space Station Processing Facility, Kennedy Space Center, $25,000,000.

(C) Construction of Addition for Flight Training and Operations, Johnson Space Center, $12,000,000.

(D) Rehabilitation of Mission Control Center Power and Control Systems, Johnson Space Center, $8,500,000.

(E) Construction of Transporter/Canister Facility, Kennedy Space Center, $5,500,000.

(F) Construction of Processing Control Center, Kennedy Space Center, $9,400,000.

(G) Replacement of Heating, Ventilating, and Air Conditioning System, Hypergolic Maintenance Facility, Kennedy Space Center, $2,100,000.

(H) Replacement of Operations and Checkout Building, West Cooling Tower, Kennedy Space Center, $1,000,000.

(I) Restoration of Heavy Equipment Area, Kennedy Space Center, $900,000.

(J) Upgrade of Orbiter Processing Facility High Bay Heating, Ventilating, and Air Conditioning System, Kennedy Space Center, $3,300,000.

(K) Upgrade of Yundum International Airport to Full Transoceanic Abort Landing Site, Banjul, The Gambia, $3,400,000.

(L) Repair of Condensate System, Main Manufacturing Building, Michoud Assembly Facility, $900,000.

(M) Construction of Project Engineering Facility, Marshall Space Flight Center, $17,000,000.

(N) Restoration of Information and Electronic Systems Laboratory, Marshall Space Flight Center, $4,000,000.

(O) Rehabilitation of Hydrogen Transfer Facility, Stennis Space Center, $2,700,000.

(P) Restoration of Space Shuttle Main Engine Test Complex "A", Stennis Space Center, $2,800,000.

(Q) Construction of Advanced Solid Rocket Motor Program Facilities, including land acquisition, various locations, $92,000,000.

(R) Construction of Addition to Site Electrical Substation, Johnson Space Center, $11,000,000.

(S) Addition to Administration and Engineering Building, Stennis Space Center, $3,800,000.

(T) Construction of Earth Observing System Data Information System Facility, Goddard Space Flight Center, $8,000,000.

(U) Construction of Detector Development Laboratory, Goddard Space Flight Center, $3,100,000.

(V) Replacement of Chillers, Central Heating/Refrigeration Plant, Goddard Space Flight Center, $4,000,000.

(W) Replacement/Modernization of Electrical Power Feeders, Goddard Space Flight Center, $1,500,000.

(X) Construction of Observational Instruments Laboratory, Jet Propulsion Laboratory, $14,000,000.

(Y) Refurbishment of 25-Foot Space Simulator, Jet Propulsion Laboratory, $13,200,000.

(Z) Restoration of Utilities, Wallops Flight Facility, $5,200,000.

(AA) Modifications to the High Pressure Air System, Langley Research Center, $12,000,000.

(BB) Modifications to Upgrade the 30 x 60-Foot Wind Tunnel, Langley Research Center, $4,000,000.

(CC) Repairs to the Tunnel Shell, Unitary Plan Wind Tunnel, Langley Research Center, $2,700,000.

(DD) Rehabilitation of Central Air System, Lewis Research Center, $7,900,000.

(EE) Rehabilitation of Propulsion Systems Laboratory, Lewis Research Center, $6,000,000.

(FF) Construction of Liquid Hydrogen Structural Test Facility, Dryden Flight Research Facility, $18,800,000.

(GG) Rehabilitation and Modification of the Electrical Distribution System, Dryden Flight Research Facility, $4,000,000.

(HH) Construction of Addition for Light-Alloy Research Laboratory, Langley Research Center, $4,600,000.

(II) Construction of Space Experiments Laboratory, Lewis Research Center, $7,100,000.

(JJ) Refurbishment of Electric Power Laboratory, Lewis Research Center, $8,900,000.

(KK) Construction of 34-Meter Multifrequency Antenna at Goldstone, CA, Jet Propulsion Laboratory, $13,200,000.

(LL) Rehabilitation of 70-Meter Antenna Drive Gear Boxes in Australia, Spain, and Goldstone, CA, Jet Propulsion Laboratory, $4,400,000.

(MM) Repair of facilities at various locations, not to exceed $1,000,000 per project, $30,000,000.

(NN) Rehabilitation and modification of facilities at various locations, not to exceed $1,000,000 per project, $34,000,000.

(OO) Minor construction of new facilities and additions to existing facilities at various locations, not to exceed $750,000 per project, $11,000,000.

(PP) Environmental compliance and restoration, $32,000,000.

(QQ) Facility planning and design not otherwise provided for, $28,000,000.

(4) For "research and program management", for fiscal year 1991, $2,252,900,000.

(5) For "Inspector General", $11,000,000 for fiscal year 1991.

(b) LIMITATIONS.—(1)(A) Notwithstanding paragraph (4), appropriations authorized under this section for "research and development" and "space flight, control, and data communications" may be used—

(i) for 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

(ii) for grants to nonprofit 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. Grant programs.

Title to facilities described in clause (ii) 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 any such 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 benefit adequate to justify the making of that grant. Grant programs.

(B) None of the funds appropriated for "research and development" and "space flight, control, and data communications" pursuant to this title may be used in accordance with this paragraph for the construction of any facility, the estimated cost of which, including collateral equipment, exceeds $750,000, unless the Administrator has notified the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, of the nature, location, and estimated cost of such facility.

(2) Any amount appropriated pursuant to this title for "research and development", for "space flight, control and data communications", or for "construction of facilities" may remain available until expended. Any amount appropriated pursuant to this title for "research and program management" for maintenance and operation of facilities, and for other services, shall remain available through the next fiscal year after the fiscal year for which such amount is appropriated. 42 USC 2459a.

(3) Appropriations made pursuant to subsection (a)(4) may be used, but not to exceed $35,000, for scientific consultations or extraordinary expenses upon the approval or authority of the Administrator, and his determination shall be final and conclusive upon the accounting officers of the Government.

(4)(A) Funds appropriated pursuant to subsection (a) (1), (2), and (4) may be used for the construction of new facilities and additions to, or repair, rehabilitation, or modification of existing facilities, but only if the cost of each such project, including collateral equipment, does not exceed $200,000.

(B) Funds appropriated pursuant to subsection (a) (1) and (2) may be used for unforeseen programmatic facility project needs, but only if the cost of each such project, including collateral equipment, does not exceed $750,000.

(C) Funds appropriated pursuant to subsection (a)(4) may be used for repair, rehabilitation, or modification of facilities controlled by the General Services Administration, but only if the cost of each project, including collateral equipment, does not exceed $500,000.

SEC. 104. CONSTRUCTION OF FACILITIES REPROGRAMMING.

Authorization is hereby granted whereby any of the amounts prescribed in section 103(a)(3)(A) through (QQ)—

(1) may be varied upward 10 percent, in the discretion of the Administrator or the Administrator's designee, or

(2) following a report by the Administrator or the Administrator's designee to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, on the Reports.

circumstances of such, may be varied upward 25 percent to meet unusual cost variations.

The total cost of all work authorized under paragraphs (1) and (2) shall not exceed the total of amounts specified in section 103(a)(3) (A) through (QQ).

SEC. 105. 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 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 1 percent of the funds appropriated pursuant to section 103(a) (1) or (2) to the "construction of facilities" appropriation for such purposes. The Administrator may also use up to $10,000,000 of the amounts authorized under section 103(a)(3) 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.

Reports.

No such funds may be obligated until a period of 30 days has passed after the Administrator or the Administrator's designee has transmitted to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a written report describing the nature of the construction, its cost, and the reasons therefor.

SEC. 106. CONSIDERATION BY COMMITTEES.

Notwithstanding any other provision of this title—

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

(2) no amount appropriated pursuant to this title may be used for any program in excess of the amount actually authorized for that particular program by section 103(a) (1), (2), and (4); and

(3) no amount appropriated pursuant to this title 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 Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate 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. 107. AMENDMENTS TO THE NATIONAL AERONAUTICS AND SPACE ACT OF 1958.

Section 203(a) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2473(a)) is amended by—

(1) striking "and" at the end of paragraph (2);

(2) striking the period at the end of paragraph (3) and inserting in lieu thereof a semicolon; and

(3) adding at the end the following new paragraphs:

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

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

SEC. 108. NATIONAL SPACE COUNCIL AUTHORIZATION.

42 USC 2471 note.

(a) There are authorized to be appropriated to carry out the activities of the National Space Council established by section 501 of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989 (42 U.S.C. 2471), $1,363,000 for fiscal year 1991, of which not more than $1,000 shall be available for official reception and representation expenses. The National Space Council shall reimburse other agencies for not less than one-half of the personnel compensation costs of individuals detailed to it.

(b) It is the sense of Congress that the National Space Council should, by October 1, 1991, establish guidelines and policy recommendations, including the need for licensing, for the conduct of expendable launch vehicle operations in which a Federal agency assumes substantial responsibility for public safety, indemnification, and administrative oversight.

SEC. 109. GEOGRAPHICAL DISTRIBUTION.

42 USC 2459 note.

The Administrator shall distribute research and development funds geographically in order to provide the broadest practicable participation in the programs of the National Aeronautics and Space Administration.

SEC. 110. BUY AMERICAN.

Government contracts.

(a) GENERAL RULE.—The Administrator shall award to a domestic firm a contract that, under the use of competitive procedures, would be awarded to a foreign firm, if—

(1) the final product of the domestic firm will be completely assembled in the United States;

(2) when completely assembled, not less than 51 percent of the final product of the domestic firm will be domestically produced; and

(3) the difference between the bids submitted by the foreign and domestic firms is not more than 6 percent.

(b) EXCEPTIONS.—This section shall not apply to the extent to which—

(1) such applicability would not be in the public interest;

(2) compelling national security considerations require otherwise; or

(3) the United States Trade Representative determines that such an award would be in violation of the General Agreement on Tariffs and Trade or an international agreement to which the United States is a party.

(c) DEFINITIONS.—For purposes of this section—

(1) the term "domestic firm" means a business entity that is incorporated in the United States and that conducts business operations in the United States;

(2) the term "foreign firm" means a business entity not described in paragraph (1).

(d) LIMITATION.—This section shall apply only to contracts for which—

(1) amounts are made available pursuant to this title; and

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

Reports.

SEC. 111. ADVANCED SOLID ROCKET MOTOR.

The Administrator shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate the following:

(1) A report on the projected cost to complete the design, development, and qualification of the Advanced Solid Rocket Motor. The first report shall be submitted by March 1, 1991, and thereafter with the National Aeronautics and Space Administration's annual budget request.

(2) An annual report on the projected unit cost of the flight motors.

(3) An annual report on the increase in space shuttle payload capability provided by the Advanced Solid Rocket Motor. The report shall include the original baseline payload capability, adjustments to that baseline capability, and the projected payload capability.

(4) An assessment by the National Research Council by July 1, 1991, of the quality assurance and testing program that will ensure the achievement of safety and reliability for the Advanced Solid Rocket Motor.

42 USC 2465a.

SEC. 112. SPACE SHUTTLE USE POLICY.

(a)(1) It shall be the policy of the United States to use the Space Shuttle for purposes that (i) require the presence of man, (ii) require the unique capabilities of the Space Shuttle or (iii) when other compelling circumstances exist.

(2) The term "compelling circumstances" includes, but is not limited to, occasions when the Administrator determines, in consultation with the Secretary of Defense and the Secretary of State, that important national security or foreign policy interests would be served by a Shuttle launch.

(3) The policy stated in subsection (a)(1) shall not preclude the use of available cargo space, on a Space Shuttle mission otherwise consistent with the policy described under subsection (a)(1), for the purpose of carrying secondary payloads (as defined by the Administrator) that do not require the presence of man if such payloads are consistent with the requirements of research, development, demonstration, scientific, commercial, and educational programs authorized by the Administrator.

Reports.

(b) The Administrator shall, within six months after the date of enactment of this Act, submit a report to the Congress setting forth a plan for the implementation of the policy described in subsection (a)(1). Such plan shall include—

(1) details of the implementation plan;

(2) a list of purposes that meet such policy;

(3) a proposed schedule for the implementation of such policy;

(4) an estimate of the costs to the United States of implementing such policy; and

(5) a process for informing the Congress in a timely and regular manner of how the plan is being implemented.

(c) At least annually, the Administrator shall submit to the Congress a report certifying that the payloads scheduled to be launched on the space shuttle for the next four years are consistent with the policy set forth in subsection (a)(1). For each payload scheduled to be launched from the space shuttle, which do not require the presence of man, the Administrator shall, in the certified report to Congress, state the specific circumstances which justified the use of the space shuttle. If, during the period between scheduled reports to the Congress, any additions are made to the list of certified payloads intended to be launched from the Shuttle, the Administrator shall inform the Congress of the additions and the reasons therefor within 45 days of the change. Reports.

(d) The report described in subsection (c) shall also include those National Aeronautics and Space Administration payloads designed solely to fly on the space shuttle which have begun the phase C/D of its development cycle.

SEC. 113. LIFE SCIENCES STRATEGIC PLAN. 42 USC 2451 note.

"(a) FINDINGS.—The Congress finds that—

(1) the current knowledge base in life sciences is not compatible with the National Aeronautics and Space Administration's current objectives in space, and the National Aeronautics and Space Administration lacks an adequate strategic plan to acquire a knowledge base;

(2) it is critical to the success of manned missions in space, be they commercial operations of microgravity laboratories or manned missions to Mars, that a realistic appraisal of the influences of the space environment on biological systems is completed and appropriate protective countermeasures developed;

(3) the space station is rapidly approaching design maturity without a corresponding development of the physiological and other human factors knowledge base necessary for long-term manned operations in space; and

(4) space station laboratory hardware specifications are being fixed before fully establishing the objectives and requirements for life sciences research.

(b) STRATEGIC PLAN.—The Administration shall—

(1) review currently proposed manned space flight missions in order to—

(A) identify the physiological and other human factors knowledge base necessary to determine the human capacity to adapt to and perform effectively in the space environment according to mission requirements, including identifying which life sciences parameters must be measured and which technologies, processes, and procedures must be developed; and

(B) develop a schedule indicating when specific components of information, technologies, processes, or procedures identified under subparagraph (A) will need to be acquired or developed in order to verify that human adaptability

requirements of manned space flight missions can be achieved;

(2) develop a strategy plan for life sciences research and technology development sufficient to accomplish the life sciences knowledge base acquisition schedule developed under paragraph (1)(B), including—

(A) a crew certification plan setting acceptable crew conditioning standards for Extended Duration Orbiter operations and verifying countermeasures sufficient to meet those standards before actual Extended Duration Orbiter operations; and

(B) a life sciences implementation plan for the design and development of the space station, to be provided as part of the Preliminary Design Review for the space station, and to include crew adaptability standards; and

(3) verify the physiological and technical feasibility of the life sciences implementation plan developed under paragraph (2)(B), as part of the Critical Design Review for the space station.

42 USC 2471 note.

SEC. 114. STUDY ON INTERNATIONAL COOPERATION IN PLANETARY EXPLORATION.

(a) FINDINGS.—The Congress finds that—

(1) the President on July 20, 1989, established the long-range goal of establishing a lunar base, followed by manned exploration of Mars in the early twenty-first century;

(2) the United States and the Soviet Union, in cooperation with other countries, are currently planning further unmanned missions to the Moon and to Mars with the possible goal of landing a human on Mars;

(3) a series of international missions to expand human presence beyond Earth orbit would further a spirit of, and follow through on the commitment made in, the 1987 agreement between the Soviet Union and the United States for space cooperation, as well as the successful cooperative agreements the United States has pursued with over one hundred countries since its inception, including the agreement with Japan, Canada, and the European countries for Space Station Freedom;

(4) international manned missions beyond Earth orbit could further encourage a cooperative approach in world affairs unrelated to activities in space;

(5) international manned missions beyond Earth orbit could save the individual nations involved tens of billions of dollars over national missions; and

(6) a multilateral effort for manned missions to establish a lunar colony, a Mars mission, and any other missions that have the goal of establishing human presence beyond Earth's orbit and possibly landing a human on Mars would lead to greater understanding of our universe and greater sensitivity to our own planet.

(b) STUDY.—The National Space Council shall conduct a study on International Cooperation in Planetary Exploration (hereafter in this section referred to as the "study").

(c) PURPOSE OF STUDY.—The purpose of the study is—

(1) to develop an inventory of technologies and intentions of all national space agencies with regard to lunar and planetary exploration, both manned and unmanned;

United States. Union of Soviet Socialist Republics. Canada. Japan. European countries.

(2) to seek ways, through direct communication with appropriate officials of other nations or otherwise, to enhance the planning and exchange of information and data among the United States, the Soviet Union, European countries, Canada, Japan, and other interested countries with respect to unmanned projects beyond Earth orbit, in anticipation of later international manned missions to the Moon and to other bodies, including the possible goal of an international manned mission to Mars;

(3) to prepare a detailed proposal that most efficiently uses the resources of the national space agencies in cooperative endeavors to establish human presence beyond Earth orbit;

(4) to develop priority goals that accomplish unmet needs that could not be achieved by any individual country;

(5) to explore the possibilities of international unmanned probes to the Moon and Mars, and the possibilities for international manned missions beyond Earth's orbit; and

(6) to devise strategies for such cooperation that would prevent the unwanted transfer of technology.

In developing the inventory under paragraph (1), and in preparing the detailed proposal under paragraph (3), consideration shall be given to the potential contributions of commercial providers of space goods and services.

(d) REPORT.—The National Space Council shall, within one year after the date of the enactment of this Act, prepare and submit to Congress a report—

(1) outlining a preliminary strategy for cooperation among the United States, the Soviet Union, European countries, Canada, Japan, and other interested countries, based on their respective national strengths, with respect to unmanned projects beyond Earth orbit, in anticipation of later international manned missions to the Moon and to other bodies, including the possible goal of an international manned mission to Mars;

(2) including a conceptual design of a possible international manned mission, in coordination with the preliminary strategy referred to in paragraph (1), with target dates and a breakdown of responsibilities by nation;

(3) containing an inventory of planned and anticipated missions, manned and unmanned, that are being considered by national space agencies and commercial providers of space goods and services; and

(4) containing an inventory of space exploration technologies that either—

(A) are not immediately available in the United States but are available from other nations; or

(B) are available in the United States but are available from other nations in equal or superior form.

SEC. 115. OFFICE OF SPACE COMMERCE.

(a) AUTHORIZATION.—There are authorized to be appropriated to the Secretary of Commerce for the Office of Space Commerce, $487,000 for fiscal year 1991.

(b) REPORT TO CONGRESS.—Commencing in fiscal year 1992, and every fiscal year thereafter, the Secretary of Commerce shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the

15 USC 1535.

House of Representatives a report of the activities of the Office of Space Commerce, including planned programs and expenditures.

42 USC 2451 note.

SEC. 116. NATIONAL AERO-SPACE PLANE PROGRAM.

(a) NATIONAL AERO-SPACE PLANE PROGRAM.—The Secretary of Defense (hereafter in this section referred to as the "Secretary") and the Administrator shall jointly pursue on a high priority basis a National Aero-Space Plane program whose objective shall be the development and demonstration, by 1997, of a primarily air breathing single-stage-to-orbit and long range hypersonic cruise research flight vehicle. The program shall be a research program, and to the extent practicable technological information developed shall be transferred to the military and to the domestic civil aviation and other private industries.

(b) MANAGEMENT PLAN.—

(1) The Secretary and the Adminstrator shall jointly develop a management plan for the program established under subsection (a), which shall include goals, major tasks, anticipated schedules, organizational structure, funding profiles, details of the respective responsibilities of the Secretary and the Administrator, and resource procurement strategies.

(2) The management plan developed pursuant to paragraph (1) shall be submitted to the Congress within 120 days after the date of enactment of this Act.

SEC. 117. COMMERCIAL SPACE LAUNCH ACT AMENDMENTS.

(a) AUTHORIZATION.—Section 24 of the Commercial Space Launch Act (49 U.S.C. App. 2623) is amended by adding at the end thereof the following: "There are authorized to be appropriated to the Secretary to carry out this Act $4,517,000 for fiscal year 1991, of which $250,000 shall be made available for the provision of launch services for eligible satellites in accordance with section 6 of the Commercial Space Launch Act Amendments of 1988.".

(b) ACQUISITION BY STATE GOVERNMENTS.—Section 15(a) of the Commercial Space Launch Act (49 U.S.C. App. 2614(a)) is amended by inserting "and State governments" after "by the private sector".

(c) CONGRESSIONAL FINDINGS.—Section 2 of the Commercial Space Launch Act (49 U.S.C. App. 2601) is amended—

(1) by striking "and" at the end of paragraph (6);

(2) by striking the period at the end of paragraph (7) and inserting in lieu thereof a semicolon; and

(3) by adding at the end the following new paragraphs;

"(8) space transportation, including the establishment and operation of launch sites and complementary facilities, the provision of launch services, the establishment of support facilities, and the provision of support services, is an important element of the Nation's transportation system, and in connection with the commerce of the United States there is a need to develop a strong space transportation infrastructure with significant private sector involvement; and

Intergovernmental relations.

"(9) the participation of State governments in encouraging and facilitating private sector involvement in space-related activity, particularly through the establishment of space transportation-related infrastructure, including launch sites, complementary facilities, and launch site support facilities, is in the national interest and is of significant public benefit.".

(d) CONGRESSIONAL STATEMENT OF PURPOSE.—Section 3 of the Commercial Space Launch Act (49 U.S.C. App. 2602) is amended—

(1) by striking "and" at the end of paragraph (2);

(2) by striking the period at the end of paragraph (3) and inserting in lieu thereof "; and"; and

(3) by inserting at the end the following new paragraph:

"(4) to facilitate the strengthening and expansion of the United States space transportation infrastructure, including the enhancement of United States launch sites, as well as launch site support facilities, with Federal, State, and private sector involvement, to support the full range of United States space-related activities.".

Intergovernmental relations.

(e) GENERAL RESPONSIBILITIES OF SECRETARY.—Section 5(a) of the Commercial Space Launch Act (49 U.S.C. App. 2604(a)) is amended—

(1) by striking "and" at the end of paragraph (1);

(2) by striking the period at the end of paragraph (2) and inserting in lieu thereof "; and";

(3) by adding at the end the following new paragraph:

"(3) work to facilitate private sector involvement in commercial space transportation activity, and to promote public-private partnerships involving the Federal Government, State governments, and the private sector to build, expand, modernize, or operate space launch infrastructure.".

Intergovernmental relations.

SEC. 118. SPACE DEBRIS.

(a) FINDINGS.—The Congress finds that—

(1) if space users fail to act soon to reduce their contribution to debris in space, orbital debris could severely restrict the use of some orbits within a decade;

(2) the lack of adequate data on the orbital distribution and size of debris will continue to hamper efforts to reduce the threat that debris poses to spacecraft; and

(3) existing international treaties and agreements are inadequate for minimizing the generation of orbital debris or controlling its effects.

(b) SENSE OF CONGRESS.—It is the sense of Congress that the goal of United States policy should be that—

(1) the space related activities of the United States should be conducted in a manner that does not increase the amount of orbital space debris; and

(2) the United States should engage other spacefaring Nations to develop an agreement on the conduct of space activities that ensures that the amount of orbital space debris is not increased.

SEC. 119. SUPPORT FOR SPACE SHUTTLE ORBITER PRODUCTION LINE.

The Administrator is authorized to expend excess funds appropriated for orbiter production under section 101(g) of the joint resolution entitled "Joint Resolution making continuing appropriations for the fiscal year 1987, and for other purposes" (100 Stat. 3341-242) to maintain the space shuttle orbiter production line and related production lines of orbiter subcontractors.

SEC. 120. INDUSTRIAL APPLICATION CENTERS.

In any agreement entered into by the National Aeronautics and Space Administration for an Industrial Application Center, the center shall be allowed to retain all client income without any

deductions from appropriated funds received or to be received by that center.

SEC. 121. USERS' ADVISORY GROUP.

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

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

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

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

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

(b) EXEMPTION.—The Users' Advisory Group shall not be subject to section 14(a)(2) of the Federal Advisory Committee Act.

SEC. 122. SCIENTIFIC BALLOON LAUNCH SITE.

The Administrator may purchase approximately 8 acres within section 16, Township 3 North, Range 26 East, N.M.P.M., De Baca County, New Mexico, to use as a balloon launching facility.

SEC. 123. PEACEFUL USES OF SPACE STATION.

No civil space station authorized under section 103(a)(1) of this Act may be used to carry or place in orbit any nuclear weapon or any other weapon of mass destruction, to install any such weapon on any celestial body, or to station any such weapon in space in any other manner. This civil space station may be used only for peaceful purposes.

SEC. 124. SMALL BUSINESS INNOVATION RESEARCH PROGRAM.

The Administrator may utilize up to 5 percent of the funds provided for the Small Business Innovation Research Program for program management and promotional activities.

SEC. 125. PROPULSION STRATEGIC ASSESSMENT.

By July 1, 1991, the Administrator shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate an assessment by the National Research Council of the requirements, benefits, technological feasibility, and roles of Earth-to-orbit propulsion system options that could be developed in support of the national space program including the assembly and operation of the Space Station and potential space activities beyond the year 2000.

SEC. 126. NATIONAL CIVIL REMOTE-SENSING ADVISORY COMMITTEE.

Not later than 90 days after the date of enactment of this Act, the Director of the Office of Science and Technology Policy shall report to the Congress on the advisability of establishing a permanent National Civil Remote-Sensing Advisory Committee. The report should address concerns related to national security, conflict of interest, and duplication of existing authorities. In preparing the report, the Director shall assess the effectiveness of a National Civil

Remote-Sensing Advisory Committee comprised of interested private-sector persons (including remote-sensing data users, data vendors, technology developers, system operators, information management and telecommunications specialists, and social scientists) which would—

(1) provide advice and policy recommendations to the President, the President's Science Advisor, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, and relevant committees of the Congress on the development of a national civil remote-sensing policy that would be responsive to both user needs and global developments, in terms of—

(A) coordinating land, oceanic, and atmospheric remote-sensing systems, including ground stations;

(B) coordinating research and development, applications, and commercial remote-sensing activities;

(C) fostering effective integration of satellite, aerial, and in situ data; and

(D) assessing current institutional arrangements for the management, exploitation, and sharing of both real-time and archived data;

(2) provide recommendations on the conduct of cooperative test and applications demonstration projects designed to manage environmental pollution and the use of natural resources; and

(3) coordinate with the United States Global Change Research Program on issues of mutual concern.

SEC. 127. DEFINITION. 42 USC 2465a note.

For purposes of this title, the term "Administrator" means the Administrator of the National Aeronautics and Space Administration.

TITLE II—LAUNCH SERVICES PURCHASE

Launch Services Purchase Act of 1990.

SEC. 201. SHORT TITLE. 42 USC 2451 note.

This title may be cited as the "Launch Services Purchase Act of 1990".

SEC. 202. FINDINGS. 42 USC 2465b.

The Congress finds that—

(1) the United States commercial launch industry is technically capable of providing reliable and cost efficient access to space and is an essential component of national efforts to assure access to space for Government and commercial users;

(2) the Federal Government should encourage, facilitate, and promote the United States commercial launch industry, including the development and enhancement of commercial launch facilities, in order to ensure United States economic preeminence in space;

(3) the interests of the United States will be served if the commercial launch industry is competitive in the international marketplace;

(4) commercial vehicles are effective means to challenge foreign competition;

(5) the use by the Federal Government of performance specifically in lieu of detailed specifications relating to vehicle design, construction, and operation will facilitate the efficient operation of the United States commercial launch industry;

(6) the procurement of commercial launch services in a commercially reasonable manner permits a reduced level of Federal Government regulation and oversight and economies of scale which may result in significant cost savings to the commercial launch industry and to the United States.

(7) it is the general policy of the Federal Government to purchase needed goods and services, including launch services, from the private sector to the fullest extent feasible; and

(8) predictable access to National Aeronautics and Space Administration launch markets would encourage continuing United States private sector investment in space and related activities.

42 USC 2465c.

SEC. 203. DEFINITIONS.

For the purposes of this title—

(1) the term "commercial provider" means any person providing launch services, but does not include the Federal Government;

(2) the term "launch services" means activities involved in the preparation of a launch vehicle and its payload for space transport and the conduct of transporting a payload;

(3) the term "launch vehicle" means any vehicle constructed for the purpose of operating in, or placing a payload in, outer space; and

(4) the term "payload" means an object which a person undertakes to place in outer space by means of a launch vehicle, and includes subcomponents of the launch vehicle specifically designed or adapted for that object.

42 USC 2465d.

SEC. 204. REQUIREMENT TO PROCURE COMMERCIAL LAUNCH SERVICES.

(a) IN GENERAL.—Except as otherwise provided in this section, the National Aeronautics and Space Administration shall purchase launch services for its primary payloads from commercial providers whenever such services are required in the course of its activities.

(b) EXCEPTIONS.—The National Aeronautics and Space Administration shall not be required to purchase launch services as provided in subsection (a) if, on a case by case basis the Administrator of the National Aeronautics and Space Administration determines that—

(1) the payload requires the unique capabilities of the space shuttle;

(2) cost effective commercial launch services to meet specific mission requirements are not reasonably available and would not be available when required;

(3) the use of commercial launch services poses an unacceptable risk of loss of a unique scientific opportunity; or

(4) the payload serves national security or foreign policy purposes.

Upon any such determination, the Administrator shall, within 30 days, notify in writing the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate of the determination and its rationale.

(c) NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LAUNCH VEHICLES.—Launch vehicles shall be acquired or owned by the National Aeronautics and Space Administration only—

(1) as required under circumstances described in subsection (b); or

(2) by the National Aeronautics and Space Administration for conducting research and development on, and testing of, launch technology.

(d) PHASE-IN PERIOD.—Subsections (a) and (c) shall not apply to launch services and launch vehicles purchased by the National Aeronautics and Space Administration before the date of enactment of this Act.

(e) HISTORICAL PURPOSES.—This title shall not be interpreted to prohibit the National Aeronautics and Space Administration from acquiring, owning, or maintaining launch vehicles solely for historical display purposes.

SEC. 205. PURCHASE OF LAUNCH SERVICES.

42 USC 2465e.

Government contracts.

(a) FULL AND OPEN COMPETITION.—(1) Contracts to provide launch services to the National Aeronautics and Space Administration under section 204 shall be awarded on the basis of full, fair, and open competition, consistent with section 2304 of title 10, United States Code, and section 311 of the National Aeronautics and Space Act of 1958.

(2) The National Aeronautics and Space Administration shall limit its requirements for submission of cost or pricing data in support of a bid or proposal to that data which is reasonably required to protect the interests of the United States.

(b) SPECIFICATION SYSTEMS.—Reasonable performance specifications, not detailed Government design or construction specifications, shall be used to the maximum extent feasible to define requirements for a commercial provider bidding to provide launch services. This subsection shall not preclude the National Aeronautics and Space Administration from requiring compliance with applicable safety standards.

SEC. 206. OTHER ACTIVITIES OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.

42 USC 2465f.

(a) COMMERCIAL PAYLOADS ON THE SPACE SHUTTLE.—Commercial payloads may not be accepted for launch as primary payloads on the space shuttle unless the Administrator of the National Aeronautics and Space Administration determines that—

(1) the payload requires the unique capabilities of the space shuttle; or

(2) launching of the payload on the space shuttle is important for either national security or foreign policy purposes.

(b) REPORT.—By March 15, 1991, the Administrator, in consultation with the Office of Federal Procurement Policy, shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report outlining the minimal requirements for documentation and other administrative data needed to procure launch services in a commercially reasonable manner, including—

(1) the need for data to integrate a payload with a launch vehicle;

(2) the need for data to carry out mission-specific modifications to the launch vehicle;

(3) the need for notification to the National Aeronautics and Space Administration of changes, delays, or difficulties in the construction or preparation of a launch vehicle that may affect the delivery of its payload to its destination at the time and under the conditions provided for under the contract between the United States and its contractors;

(4) the need for data to protect public health and safety; and

(5) the need for cost or pricing data for the fulfillment of a contract.

Approved November 16, 1990.

LEGISLATIVE HISTORY—S. 2287:

SENATE REPORTS: No. 101-455 (Comm. on Commerce, Science, and Transportation).

CONGRESSIONAL RECORD, Vol. 136 (1990):

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