

106TH CONGRESS  
1ST SESSION

# H. R. 1654

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

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## IN THE HOUSE OF REPRESENTATIVES

MAY 3, 1999

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

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## A BILL

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

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

3       **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4       (a) SHORT TITLE.—This Act may be cited as the  
5       “National Aeronautics and Space Administration Author-  
6       ization Act of 1999”.

7       (b) TABLE OF CONTENTS.—

- Sec. 1. Short title; table of contents.
- Sec. 2. Findings.
- Sec. 3. Definitions.

## Subtitle A—Authorizations

- Sec. 101. International Space Station.
- Sec. 102. Launch Vehicle and Payload Operations.
- Sec. 103. Science, Aeronautics, and Technology.
- Sec. 104. Mission Support.
- Sec. 105. Inspector General.
- Sec. 106. Total authorization.
- Sec. 107. Aviation systems capacity.

## Subtitle B—Limitations and Special Authority

- Sec. 121. Use of funds for construction.
- Sec. 122. Availability of appropriated amounts.
- Sec. 123. Reprogramming for construction of facilities.
- Sec. 124. Limitation on obligation of unauthorized appropriations.
- Sec. 125. Use of funds for scientific consultations or extraordinary expenses.
- Sec. 126. Earth science limitation.
- Sec. 127. Competitiveness and international cooperation.
- Sec. 128. Trans-hab.
- Sec. 129. Consolidated Space Operations Contract.

## TITLE II—MISCELLANEOUS PROVISIONS

- Sec. 201. Requirement for independent cost analysis.
- Sec. 202. National Aeronautics and Space Act of 1958 amendments.
- Sec. 203. Commercial space goods and services.
- Sec. 204. Cost effectiveness calculations.
- Sec. 205. Foreign contract limitation.
- Sec. 206. Authority to reduce or suspend contract payments based on substantial evidence of fraud.
- Sec. 207. Space Shuttle upgrade study.
- Sec. 208. Aero-space transportation technology integration.
- Sec. 209. Definitions of commercial space policy terms.
- Sec. 210. External tank opportunities study.
- Sec. 211. Eligibility for awards.
- Sec. 212. Notice.
- Sec. 213. Unitary Wind Tunnel Plan Act of 1949 amendments.
- Sec. 214. Innovative technologies for human space flight.

**1 SEC. 2. FINDINGS.**

2       The Congress makes the following findings:

- 3           (1) The National Aeronautics and Space Ad-
- 4       ministration should continue to pursue actions and
- 5       reforms directed at reducing institutional costs, in-
- 6       cluding management restructuring, facility consoli-
- 7       dation, procurement reform, and convergence with
- 8       defense and commercial sector systems.

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

5           (3) The overwhelming preponderance of the  
6           Federal Government's requirements for routine, un-  
7           manned space transportation can be met most effec-  
8           tively, efficiently, and economically by a free and  
9           competitive market in privately developed and oper-  
10          ated space transportation services.

11          (4) In formulating a national space transpor-  
12          tation service policy, the National Aeronautics and  
13          Space Administration should aggressively promote  
14          the pursuit by commercial providers of development  
15          of advanced space transportation technologies in-  
16          cluding reusable space vehicles, and human space  
17          systems.

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

23          (6) International cooperation in space explo-  
24          ration and science activities serves the United States  
25          national interest—

1 (A) when it—

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

5 (ii) enables the United States to pur-  
6 sue missions that it could not otherwise af-  
7 ford to pursue unilaterally; or

8 (iii) enhances United States capabili-  
9 ties to use and develop space for the ben-  
10 efit of United States citizens; and

11 (B) when it—

12 (i) is undertaken in a manner that is  
13 sensitive to the desire of United States  
14 commercial providers to develop or explore  
15 space commercially;

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

19 (iii) is carried out in a manner con-  
20 sistent with United States export control  
21 laws.

22 (7) The National Aeronautics and Space Ad-  
23 ministration and the Department of Defense can co-  
24 operate more effectively in leveraging their mutual  
25 capabilities to conduct joint space missions that im-

1 prove United States space capabilities and reduce  
2 the cost of conducting space missions.

3 (8) The Deep Space Network will continue to  
4 be a critically important part of the Nation’s sci-  
5 entific and exploration infrastructure in the coming  
6 decades, and the National Aeronautics and Space  
7 Administration should ensure that the Network is  
8 adequately maintained and that upgrades required  
9 to support future missions are undertaken in a time-  
10 ly manner.

11 (9) The Hubble Space Telescope has proven to  
12 be an important national astronomical research facil-  
13 ity that is revolutionizing our understanding of the  
14 universe and should be kept productive, and its ca-  
15 pabilities should be maintained and enhanced as ap-  
16 propriate to serve as a scientific bridge to the next  
17 generation of space-based observatories.

18 **SEC. 3. DEFINITIONS.**

19 For purposes of this Act—

20 (1) the term “Administrator” means the Ad-  
21 ministrator of the National Aeronautics and Space  
22 Administration;

23 (2) the term “commercial provider” means any  
24 person providing space transportation services or  
25 other space-related activities, primary control of

1 which is held by persons other than Federal, State,  
2 local, and foreign governments;

3 (3) the term “institution of higher education”  
4 has the meaning given such term in section 1201(a)  
5 of the Higher Education Act of 1965 (20 U.S.C.  
6 1141(a));

7 (4) the term “State” means each of the several  
8 States of the Union, the District of Columbia, the  
9 Commonwealth of Puerto Rico, the Virgin Islands,  
10 Guam, American Samoa, the Commonwealth of the  
11 Northern Mariana Islands, and any other common-  
12 wealth, territory, or possession of the United States;  
13 and

14 (5) the term “United States commercial pro-  
15 vider” means a commercial provider, organized  
16 under the laws of the United States or of a State,  
17 which is—

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

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

22 (i) such subsidiary has in the past evi-  
23 denced a substantial commitment to the  
24 United States market through—

1 (I) investments in the United  
2 States in long-term research, develop-  
3 ment, and manufacturing (including  
4 the manufacture of major components  
5 and subassemblies); and

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

8 (ii) the country or countries in which  
9 such foreign company is incorporated or  
10 organized, and, if appropriate, in which it  
11 principally conducts its business, affords  
12 reciprocal treatment to companies de-  
13 scribed in subparagraph (A) comparable to  
14 that afforded to such foreign company's  
15 subsidiary in the United States, as evi-  
16 denced by—

17 (I) providing comparable oppor-  
18 tunities for companies described in  
19 subparagraph (A) to participate in  
20 Government sponsored research and  
21 development similar to that authorized  
22 under this Act;

23 (II) providing no barriers to com-  
24 panies described in subparagraph (A)  
25 with respect to local investment op-

1 opportunities that are not provided to  
2 foreign companies in the United  
3 States; and

4 (III) providing adequate and ef-  
5 fective protection for the intellectual  
6 property rights of companies de-  
7 scribed in subparagraph (A).

8 **TITLE I—AUTHORIZATION OF**  
9 **APPROPRIATIONS**

10 **Subtitle A—Authorizations**

11 **SEC. 101. INTERNATIONAL SPACE STATION.**

12 There are authorized to be appropriated to the Na-  
13 tional Aeronautics and Space Administration for Inter-  
14 national Space Station—

15 (1) for fiscal year 2000, \$2,482,700,000, of  
16 which \$394,400,000, notwithstanding section  
17 121(a)—

18 (A) shall only be for Space Station re-  
19 search or for the purposes described in section  
20 103(2); and

21 (B) shall be administered by the Office of  
22 Life and Microgravity Sciences and Applica-  
23 tions;



1           (2) for fiscal year 2001, \$2,328,000,000, of  
2       which \$465,400,000, notwithstanding section  
3       121(a)—

4           (A) shall only be for Space Station re-  
5       search or for the purposes described in section  
6       103(2); and

7           (B) shall be administered by the Office of  
8       Life and Microgravity Sciences and Applica-  
9       tions; and

10          (3) for fiscal year 2002, \$2,091,000,000, of  
11       which \$469,200,000, notwithstanding section  
12       121(a)—

13          (A) shall only be for Space Station re-  
14       search or for the purposes described in section  
15       103(2); and

16          (B) shall be administered by the Office of  
17       Life and Microgravity Sciences and Applica-  
18       tions.

19       **SEC. 102. LAUNCH VEHICLE AND PAYLOAD OPERATIONS.**

20       There are authorized to be appropriated to the Na-  
21       tional Aeronautics and Space Administration for Launch  
22       Vehicle and Payload Operations the following amounts:

23           (1) For Space Shuttle Operations—

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

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

2 and

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

4 (2) For Space Shuttle Safety and Performance  
5 Upgrades—

6 (A) for fiscal year 2000, \$456,800,000, of  
7 which \$18,000,000 shall not be obligated until  
8 45 days after the report required by section 207  
9 has been submitted to the Congress;

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

11 and

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

13 (3) For Payload and Utilization Operations—

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

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

16 and

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

18 **SEC. 103. SCIENCE, AERONAUTICS, AND TECHNOLOGY.**

19 There are authorized to be appropriated to the Na-  
20 tional Aeronautics and Space Administration for Science,  
21 Aeronautics, and Technology the following amounts:

22 (1) For Space Science—

23 (A) for fiscal year 2000, \$2,202,400,000,

24 of which—

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

3 (ii) \$472,000,000 shall be for the Re-  
4 search Program;

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

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

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

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

13 (ii) \$475,800,000 shall be for the Re-  
14 search Program; and

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

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

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

21 (ii) \$511,100,000 shall be for the Re-  
22 search Program;

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

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

3 (2) For Life and Microgravity Sciences and  
4 Applications—

5 (A) for fiscal year 2000, \$301,000,000, of  
6 which \$2,000,000 shall be for research and  
7 early detection systems for breast and ovarian  
8 cancer and other women's health issues, and  
9 \$5,000,000 shall be for sounding rocket vouch-  
10 ers;

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

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

19 (3) For Earth Science, subject to the limita-  
20 tions set forth in section 126—

21 (A) for fiscal year 2000, \$1,415,100,000;

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

23 and

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

25 (4) For Aero-Space Technology—

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

3 (i) \$532,800,000 shall be for Aero-  
4 nautical Research and Technology, with no  
5 funds to be used for the Ultra-Efficient  
6 Engine, and with \$475,800,000 to be for  
7 the Research and Technology Base;

8 (ii) \$334,000,000 shall be for Ad-  
9 vanced Space Transportation Technology,  
10 including—

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

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

15 (iii) \$132,500,000 shall be for Com-  
16 mercial Technology;

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

19 (i) \$524,000,000 shall be for Aero-  
20 nautical Research and Technology, with no  
21 funds to be used for the Ultra-Efficient  
22 Engine, and with \$484,000,000 to be for  
23 the Research and Technology Base, and  
24 with \$54,200,000 to be for Aviation Sys-  
25 tem Capacity;

1 (ii) \$249,400,000 shall be for Ad-  
2 vanced Space Transportation Technology,  
3 including—

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

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

8 (iii) \$135,000,000 shall be for Com-  
9 mercial Technology; and

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

12 (i) \$519,200,000 shall be for Aero-  
13 nautical Research and Technology, with no  
14 funds to be used for the Ultra-Efficient  
15 Engine, and with \$466,900,000 to be for  
16 the Research and Technology Base, and  
17 with \$67,600,000 to be for Aviation Sys-  
18 tem Capacity;

19 (ii) \$340,000,000 shall be for Ad-  
20 vanced Space Transportation Technology;  
21 and

22 (iii) \$135,600,000 shall be for Com-  
23 mercial Technology.

24 (5) For Mission Communication Services—

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

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

2 and

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

4 (6) For Academic Programs—

5 (A) for fiscal year 2000, \$128,600,000, of  
6 which \$11,600,000 shall be for Higher Edu-  
7 cation within the Teacher/Faculty Preparation  
8 and Enhancement Programs;

9 (B) for fiscal year 2001, \$128,600,000;

10 and

11 (C) for fiscal year 2002, \$130,600,000.

12 (7) For Future Planning (Space Launch)—

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

14 and

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

16 **SEC. 104. MISSION SUPPORT.**

17 There are authorized to be appropriated to the Na-  
18 tional Aeronautics and Space Administration for Mission  
19 Support the following amounts:

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

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

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

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

25 (2) For Space Communication Services—

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

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

3 and

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

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

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

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

11 (ii) Rehabilitate Main Hangar Build-  
12 ing 4802 (Dryden Flight Research Center  
13 (DFRC)), \$2,900,000;

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

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

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

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

23 (vii) Upgrade 70 meter Antenna Servo  
24 Drive, 70 meter Antenna Subnet (JPL),  
25 \$3,400,000;



- 1 (viii) Rehabilitate Utility Tunnel  
2 Structure and Systems (Johnson Space  
3 Center (JSC)), \$5,600,000;
- 4 (ix) Connect KSC to CCAS Waste-  
5 water Treatment Plant (KSC),  
6 \$2,500,000;
- 7 (x) Repair and Modernize HVAC Sys-  
8 tem, Central Instrument Facility (KSC),  
9 \$3,000,000;
- 10 (xi) Replace High Voltage Load  
11 Break Switches (KSC), \$2,700,000;
- 12 (xii) Repair and Modernize HVAC  
13 and Electrical systems, Building 4201  
14 (Marshall Space Flight Center (MSFC)),  
15 \$2,300,000;
- 16 (xiii) Repair Roofs, Vehicle Compo-  
17 nent Supply buildings (MAF), \$2,000,000;
- 18 (xiv) Minor Revitalization of Facilities  
19 at Various Locations, not in excess of  
20 \$1,500,000 per project, \$65,500,000;
- 21 (xv) Minor Construction of New Fa-  
22 cilities and Additions to Existing Facilities  
23 at Various Locations, not in excess of  
24 \$1,500,000 per project, \$5,000,000;

1 (xvi) Facility Planning and Design,  
2 \$19,200,000;

3 (xvii) Deferred Major Maintenance,  
4 \$8,000,000;

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

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

8 and

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

10 (4) For Research and Program Management,  
11 including personnel and related costs, travel, and re-  
12 search operations support—

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

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

15 and

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

17 **SEC. 105. INSPECTOR GENERAL.**

18 There are authorized to be appropriated to the Na-  
19 tional Aeronautics and Space Administration for Inspector  
20 General—

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

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

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

1 **SEC. 106. TOTAL AUTHORIZATION.**

2 Notwithstanding any other provision of this title, the  
3 total amount authorized to be appropriated to the Na-  
4 tional Aeronautics and Space Administration under this  
5 Act shall not exceed—

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

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

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

9 **SEC. 107. AVIATION SYSTEMS CAPACITY.**

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

14 **Subtitle B—Limitations and**  
15 **Special Authority**

16 **SEC. 121. USE OF FUNDS FOR CONSTRUCTION.**

17 (a) **AUTHORIZED USES.**—Funds appropriated under  
18 sections 101, 102, 103, and 104(1) and (2), and funds  
19 appropriated for research operations support under sec-  
20 tion 104(4), may be used for the construction of new fa-  
21 cilities and additions to, repair of, rehabilitation of, or  
22 modification of existing facilities at any location in support  
23 of the purposes for which such funds are authorized.

24 (b) **LIMITATION.**—No funds may be expended pursu-  
25 ant to subsection (a) for a project, the estimated cost of  
26 which to the National Aeronautics and Space Administra-

1 tion, including collateral equipment, exceeds \$1,000,000,  
2 until 30 days have passed after the Administrator has no-  
3 tified the Committee on Science of the House of Rep-  
4 resentatives and the Committee on Commerce, Science,  
5 and Transportation of the Senate of the nature, location,  
6 and estimated cost to the National Aeronautics and Space  
7 Administration of such project.

8       (c) TITLE TO FACILITIES.—If funds are used pursu-  
9 ant to subsection (a) for grants to institutions of higher  
10 education, or to nonprofit organizations whose primary  
11 purpose is the conduct of scientific research, for purchase  
12 or construction of additional research facilities, title to  
13 such facilities shall be vested in the United States unless  
14 the Administrator determines that the national program  
15 of aeronautical and space activities will best be served by  
16 vesting title in the grantee institution or organization.  
17 Each such grant shall be made under such conditions as  
18 the Administrator shall determine to be required to ensure  
19 that the United States will receive therefrom benefits ade-  
20 quate to justify the making of that grant.

21 **SEC. 122. AVAILABILITY OF APPROPRIATED AMOUNTS.**

22       To the extent provided in appropriations Acts, appro-  
23 priations authorized under subtitle A may remain avail-  
24 able without fiscal year limitation.

1 **SEC. 123. REPROGRAMMING FOR CONSTRUCTION OF FA-**  
2 **CILITIES.**

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

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

7 (2) may be varied upward by 25 percent, to  
8 meet unusual cost variations, after the expiration of  
9 15 days following a report on the circumstances of  
10 such action by the Administrator to the Committee  
11 on Science of the House of Representatives and the  
12 Committee on Commerce, Science, and Transpor-  
13 tation of the Senate.

14 The aggregate amount authorized to be appropriated for  
15 construction of facilities under section 104(3) shall not be  
16 increased as a result of actions authorized under para-  
17 graphs (1) and (2) of this subsection.

18 (b) SPECIAL RULE.—Where the Administrator deter-  
19 mines that new developments in the national program of  
20 aeronautical and space activities have occurred; and that  
21 such developments require the use of additional funds for  
22 the purposes of construction, expansion, or modification  
23 of facilities at any location; and that deferral of such ac-  
24 tion until the enactment of the next National Aeronautics  
25 and Space Administration authorization Act would be in-  
26 consistent with the interest of the Nation in aeronautical

1 and space activities, the Administrator may use up to  
2 \$10,000,000 of the amounts authorized under section  
3 104(3) for each fiscal year for such purposes. No such  
4 funds may be obligated until a period of 30 days has  
5 passed after the Administrator has transmitted to the  
6 Committee on Commerce, Science, and Transportation of  
7 the Senate and the Committee on Science of the House  
8 of Representatives a written report describing the nature  
9 of the construction, its costs, and the reasons therefor.

10 **SEC. 124. LIMITATION ON OBLIGATION OF UNAUTHORIZED**  
11 **APPROPRIATIONS.**

12 (a) REPORTS TO CONGRESS.—

13 (1) REQUIREMENT.—Not later than—

14 (A) 30 days after the later of the date of  
15 the enactment of an Act making appropriations  
16 to the National Aeronautics and Space Admin-  
17 istration for fiscal year 2000 and the date of  
18 the enactment of this Act; and

19 (B) 30 days after the date of the enact-  
20 ment of an Act making appropriations to the  
21 National Aeronautics and Space Administration  
22 for fiscal year 2001 or 2002,

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

1           (2) CONTENTS.—The reports required by para-  
2           graph (1) shall specify—

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

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

11          (b) FEDERAL REGISTER NOTICE.—The Adminis-  
12          trator shall, coincident with the submission of each report  
13          required by subsection (a), publish in the Federal Register  
14          a notice of all programs, projects, or activities for which  
15          funds are appropriated but which were not authorized  
16          under this Act, and solicit public comment thereon regard-  
17          ing the impact of such programs, projects, or activities on  
18          the conduct and effectiveness of the national aeronautics  
19          and space program.

20          (c) LIMITATION.—Notwithstanding any other provi-  
21          sion of law, no funds may be obligated for any programs,  
22          projects, or activities of the National Aeronautics and  
23          Space Administration for fiscal year 2000, 2001, or 2002  
24          not authorized under this Act until 30 days have passed

1 after the close of the public comment period contained in  
2 a notice required by subsection (b).

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

5 Not more than \$30,000 of the funds appropriated  
6 under section 103 may be used for scientific consultations  
7 or extraordinary expenses, upon the authority of the Ad-  
8 ministrator.

9 **SEC. 126. EARTH SCIENCE LIMITATION.**

10 Of the funds authorized to be appropriated for Earth  
11 Science under section 103(3) for each of fiscal years 2001  
12 and 2002, \$50,000,000 shall be for the Commercial Re-  
13 mote Sensing Program at Stennis Space Center for com-  
14 mercial data purchases, unless the National Aeronautics  
15 and Space Administration has integrated data purchases  
16 into the procurement process for Earth science research  
17 by obligating at least 5 percent of the aggregate amount  
18 appropriated for that fiscal year for Earth Observing Sys-  
19 tem and Earth Probes for the purchase of Earth science  
20 data from the private sector.

21 **SEC. 127. COMPETITIVENESS AND INTERNATIONAL CO-**  
22 **OPERATION.**

23 (a) LIMITATION.—As part of the evaluation of the  
24 costs and benefits of entering into an obligation to conduct  
25 a space mission in which a foreign entity will participate



1 as a supplier of the spacecraft, spacecraft system, or  
2 launch system, the Administrator shall solicit comment on  
3 the potential impact of such participation through notice  
4 published in Commerce Business Daily at least 45 days  
5 before entering into such an obligation.

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

10 **SEC. 128. TRANS-HAB.**

11 (a) REPLACEMENT STRUCTURE.—No funds author-  
12 ized by this Act shall be obligated for the definition, de-  
13 sign, or development of an inflatable space structure to  
14 replace any International Space Station components  
15 scheduled for launch in the Assembly Sequence released  
16 by the National Aeronautics and Space Administration on  
17 February 22, 1999.

18 (b) GENERAL LIMITATION.—No funds authorized by  
19 this Act for fiscal year 2000 shall be obligated for the defi-  
20 nition, design, or development of an inflatable space struc-  
21 ture capable of accommodating humans in space.

22 **SEC. 129. CONSOLIDATED SPACE OPERATIONS CONTRACT.**

23 No funds authorized by this Act shall be used to cre-  
24 ate a Government-owned corporation to perform the func-

1 tions that are the subject of the Consolidated Space Oper-  
 2 ations Contract.

3 **TITLE II—MISCELLANEOUS**  
 4 **PROVISIONS**

5 **SEC. 201. REQUIREMENT FOR INDEPENDENT COST ANAL-**  
 6 **YSIS.**

7 Before any funds may be obligated for Phase B of  
 8 a project that is projected to cost more than \$100,000,000  
 9 in total project costs, the Chief Financial Officer for the  
 10 National Aeronautics and Space Administration shall con-  
 11 duct an independent cost analysis of such project and shall  
 12 report the results to Congress. In developing cost account-  
 13 ing and reporting standards for carrying out this section,  
 14 the Chief Financial Officer shall, to the extent practicable  
 15 and consistent with other laws, solicit the advice of exper-  
 16 tise outside of the National Aeronautics and Space Admin-  
 17 istration.

18 **SEC. 202. NATIONAL AERONAUTICS AND SPACE ACT OF 1958**  
 19 **AMENDMENTS.**

20 (a) DECLARATION OF POLICY AND PURPOSE.—Sec-  
 21 tion 102 of the National Aeronautics and Space Act of  
 22 1958 (42 U.S.C. 2451) is amended—

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

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

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

7           (1) by striking “January” and inserting in lieu  
8           thereof “May”; and

9           (2) by striking “calendar” and inserting in lieu  
10          thereof “fiscal”.

11 **SEC. 203. COMMERCIAL SPACE GOODS AND SERVICES.**

12          The National Aeronautics and Space Administration  
13          shall purchase commercially available space goods and  
14          services to the fullest extent feasible, and shall not conduct  
15          activities that preclude or deter commercial space activi-  
16          ties except for reasons of national security or public safety.  
17          A space good or service shall be deemed commercially  
18          available if it is offered by a United States commercial  
19          provider, or if it could be supplied by a United States com-  
20          mercial provider in response to a Government procurement  
21          request. For purposes of this section, a purchase is fea-  
22          sible if it meets mission requirements in a cost-effective  
23          manner.

1 **SEC. 204. COST EFFECTIVENESS CALCULATIONS.**

2 In calculating the cost effectiveness of the cost of the  
3 National Aeronautics and Space Administration engaging  
4 in an activity as compared to a commercial provider, the  
5 Administrator shall compare the cost of the National Aer-  
6 onautics and Space Administration engaging in the activ-  
7 ity using full cost accounting principles with the price the  
8 commercial provider will charge for such activity.

9 **SEC. 205. FOREIGN CONTRACT LIMITATION.**

10 The National Aeronautics and Space Administration  
11 shall not enter into any agreement or contract with a for-  
12 eign government that grants the foreign government the  
13 right to recover profit in the event that the agreement or  
14 contract is terminated.

15 **SEC. 206. AUTHORITY TO REDUCE OR SUSPEND CONTRACT**  
16 **PAYMENTS BASED ON SUBSTANTIAL EVI-**  
17 **DENCE OF FRAUD.**

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

21 **SEC. 207. SPACE SHUTTLE UPGRADE STUDY.**

22 (a) STUDY.—The Administrator shall enter into ap-  
23 propriate arrangements for the conduct of an independent  
24 study to reassess the priority of all Phase III and Phase  
25 IV Space Shuttle upgrades.

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

4 (1) Upgrades that are safety related.

5 (2) Upgrades that may have functional or tech-  
6 nological applicability to reusable launch vehicles.

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

9 (c) COMPLETION DATE.—The results of the study de-  
10 scribed in subsection (a) shall be transmitted to the Con-  
11 gress not later than 180 days after the date of the enact-  
12 ment of this Act.

13 **SEC. 208. AERO-SPACE TRANSPORTATION TECHNOLOGY IN-**  
14 **TEGRATION.**

15 (a) INTEGRATION PLAN.—The Administrator shall  
16 develop a plan for the integration of research, develop-  
17 ment, and experimental demonstration activities in the  
18 aeronautics transportation technology and space transpor-  
19 tation technology areas. The plan shall ensure that inte-  
20 gration is accomplished without losing unique capabilities  
21 which support the National Aeronautics and Space Ad-  
22 ministration's defined missions. The plan shall also in-  
23 clude appropriate strategies for using aeronautics centers  
24 in integration efforts.

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

8 **SEC. 209. DEFINITIONS OF COMMERCIAL SPACE POLICY**  
9 **TERMS.**

10 The Administrator shall ensure that the usage of ter-  
11 minology in National Aeronautics and Space Administra-  
12 tion policies and programs is consistent with the following  
13 definitions:

14 (1) The term “commercialization” means the  
15 process of private entities conducting privatized  
16 space activities to expand their customer base be-  
17 yond the Federal Government to address existing or  
18 potential commercial markets, investing private re-  
19 sources to meet those commercial market require-  
20 ments.

21 (2) The term “commercial purchase” means a  
22 purchase by the Federal Government of space goods  
23 and services at a market price from a private entity  
24 which has invested private resources to meet com-  
25 mercial requirements.

1           (3) The term “commercial use of Federal as-  
2           sets” means the use by a service contractor or other  
3           private entity of the capability of Federal assets to  
4           deliver services to commercial customers, with or  
5           without putting private capital at risk.

6           (4) The term “contract consolidation” means  
7           the combining of two or more Government service  
8           contracts for related space activities into one larger  
9           Government service contract.

10          (5) The term “privatization” means the process  
11          of transferring—

12                 (A) control and ownership of Federal  
13                 space-related assets, along with the responsi-  
14                 bility for operating, maintaining, and upgrading  
15                 those assets; or

16                 (B) control and responsibility for space-re-  
17                 lated functions,  
18          from the Federal Government to the private sector.

19 **SEC. 210. EXTERNAL TANK OPPORTUNITIES STUDY.**

20          (a) APPLICATIONS.—the Administrator shall enter  
21          into appropriate arrangements for an independent study  
22          to identify, and evaluate the potential benefits and costs  
23          of, the broadest possible range of commercial and sci-  
24          entific applications which are enabled by the launch of

1 Space Shuttle external tanks into Earth orbit and reten-  
2 tion in space, including—

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

9           (2) the use of external tanks to achieve sci-  
10          entific or technology demonstration missions in  
11          Earth orbit, on the Moon, or elsewhere in space; and

12          (3) the use of external tanks as low-cost infra-  
13          structure in Earth orbit or on the Moon, including  
14          as an augmentation to the International Space Sta-  
15          tion.

16 A final report on the results of such study shall be deliv-  
17 ered to the Congress not later than 90 days after the date  
18 of enactment of this Act. Such report shall include rec-  
19 ommendations as to Government and industry-funded im-  
20 provements to the external tank which would maximize its  
21 cost-effectiveness for the scientific and commercial appli-  
22 cations identified.

23          (b) REQUIRED IMPROVEMENTS.—The Administrator  
24 shall conduct an internal agency study, based on the con-  
25 clusions of the study required by subsection (a), of what—



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

3           (2) other in-space transportation or infrastruc-  
4           ture capability developments,

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

11       (c) CHANGES IN LAW OR POLICY.—Upon receipt of  
12 the final report required by subsection (a), the Adminis-  
13 trator shall solicit comment from industry on what, if any,  
14 changes in law or policy would be required to achieve the  
15 applications identified in that final report. Not later than  
16 90 days after receipt of such final report, the Adminis-  
17 trator shall transmit to the Congress the comments re-  
18 ceived along with the recommendations of the Adminis-  
19 trator as to changes in law or policy that may be required  
20 for those purposes.

21 **SEC. 211. ELIGIBILITY FOR AWARDS.**

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

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

9 (b) EXCEPTION.—Subsection (a) shall not apply to  
10 the receipt of Federal funds by a person due to the mem-  
11 bership of that person in a class specified by law for which  
12 assistance is awarded to members of the class according  
13 to a formula provided by law.

14 (c) DEFINITION.—For purposes of this section, the  
15 term “grant agreement” means a legal instrument whose  
16 principal purpose is to transfer a thing of value to the  
17 recipient to carry out a public purpose of support or stim-  
18 ulation authorized by a law of the United States, and does  
19 not include the acquisition (by purchase, lease, or barter)  
20 of property or services for the direct benefit or use of the  
21 United States Government. Such term does not include  
22 a cooperative agreement (as such term is used in section  
23 6305 of title 31, United States Code) or a cooperative re-  
24 search and development agreement (as such term is de-

1 fined in section 12(d)(1) of the Stevenson-Wydler Tech-  
2 nology Innovation Act of 1980 (15 U.S.C. 3710a(d)(1))).

3 **SEC. 212. NOTICE.**

4 (a) NOTICE OF REPROGRAMMING.—If any funds au-  
5 thorized by this Act are subject to a reprogramming action  
6 that requires notice to be provided to the Appropriations  
7 Committees of the House of Representatives and the Sen-  
8 ate, notice of such action shall concurrently be provided  
9 to the Committee on Science of the House of Representa-  
10 tives and the Committee on Commerce, Science, and  
11 Transportation of the Senate.

12 (b) NOTICE OF REORGANIZATION.—The Adminis-  
13 trator shall provide notice to the Committees on Science  
14 and Appropriations of the House of Representatives, and  
15 the Committees on Commerce, Science, and Transpor-  
16 tation and Appropriations of the Senate, not later than  
17 15 days before any major reorganization of any program,  
18 project, or activity of the National Aeronautics and Space  
19 Administration.

20 **SEC. 213. UNITARY WIND TUNNEL PLAN ACT OF 1949**  
21 **AMENDMENTS.**

22 The Unitary Wind Tunnel Plan Act of 1949 is  
23 amended—

24 (1) in section 101 (50 U.S.C. 511) by striking  
25 “transsonic and supersonic” and inserting in lieu

1       thereof “transsonic, supersonic, and hypersonic”;  
2       and

3               (2) in section 103 (50 U.S.C. 513)—

4                       (A) by striking “laboratories” in sub-  
5                       section (a) and inserting in lieu thereof “labora-  
6                       tories and centers”;

7                       (B) by striking “supersonic” in subsection  
8                       (a) and inserting in lieu thereof “transsonic, su-  
9                       perersonic, and hypersonic”; and

10                      (C) by striking “laboratory” in subsection  
11                      (c) and inserting in lieu thereof “facility”.

12 **SEC. 214. INNOVATIVE TECHNOLOGIES FOR HUMAN SPACE**  
13 **FLIGHT.**

14       (a) ESTABLISHMENT OF PROGRAM.—In order to pro-  
15 mote a “faster, cheaper, better” approach to the human  
16 exploration and development of space, the Administrator  
17 shall establish a Human Space Flight Commercialization/  
18 Technology program of ground-based and space-based re-  
19 search and development in innovative technologies.

20       (b) AWARDS.—At least 75 percent of the amount ap-  
21 propriated for the program established under subsection  
22 (a) for any fiscal year shall be awarded through broadly  
23 distributed announcements of opportunity that solicit pro-  
24 posals from educational institutions, industry, nonprofit  
25 institutions, National Aeronautics and Space Administra-

1 tion Centers, the Jet Propulsion Laboratory, other Fed-  
2 eral agencies, and other interested organizations, and that  
3 allow partnerships among any combination of those enti-  
4 ties, with evaluation, prioritization, and recommendations  
5 made by external peer review panels.

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

○