

Union Calendar No. 82

106<sup>TH</sup> CONGRESS  
1<sup>ST</sup> Session

**H. R. 1654**

[Report No. 106-145]

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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.

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MAY 18, 1999

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

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### IN THE HOUSE OF REPRESENTATIVES

MAY 3, 1999

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

MAY 18, 1999

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

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

MAY 18, 1999

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

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

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

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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 “Na-*  
 5 *tional Aeronautics and Space Administration Authoriza-*  
 6 *tion Act of 1999”.*

7 (b) *TABLE OF CONTENTS.*—

*Sec. 1. Short title; table of contents.*

*Sec. 2. Findings.*

*Sec. 3. Definitions.*

**TITLE I—AUTHORIZATION OF APPROPRIATIONS**

*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.*

*Sec. 130. Triana funding prohibition.*

**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.*  
Sec. 215. *Life in the universe.*  
Sec. 216. *Research on International Space Station.*  
Sec. 217. *Remote sensing for agricultural and resource management.*  
Sec. 218. *Integrated safety research plan.*  
Sec. 219. *100th anniversary of flight educational initiative.*  
Sec. 220. *Internet availability of information.*

1 **SEC. 2. FINDINGS.**

2 *The Congress makes the following findings:*

3 *(1) The National Aeronautics and Space Admin-*  
4 *istration should continue to pursue actions and re-*  
5 *forms directed at reducing institutional costs, includ-*  
6 *ing management restructuring, facility consolidation,*  
7 *procurement reform, and convergence with defense*  
8 *and commercial sector systems.*

9 *(2) The National Aeronautics and Space Admin-*  
10 *istration must continue on its current course of re-*  
11 *turning to its proud history as the Nation's leader in*  
12 *basic scientific, air, and space research.*

13 *(3) The overwhelming preponderance of the Fed-*  
14 *eral Government's requirements for routine, un-*  
15 *manned space transportation can be met most effec-*  
16 *tively, efficiently, and economically by a free and*  
17 *competitive market in privately developed and oper-*  
18 *ated space transportation services.*

19 *(4) In formulating a national space transpor-*  
20 *tation service policy, the National Aeronautics and*

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

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

10           *(6) International cooperation in space explo-*  
11        *ration and science activities serves the United States*  
12        *national interest—*

13            *(A) when it—*

14                *(i) reduces the cost of undertaking mis-*  
15        *sions the United States Government would*  
16        *pursue unilaterally;*

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

20                *(iii) enhances United States capabili-*  
21        *ties to use and develop space for the benefit*  
22        *of United States citizens; and*

23            *(B) when it—*

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

1            *mercial providers to develop or explore*  
2            *space commercially;*

3            *(ii) is consistent with the need for Fed-*  
4            *eral agencies to use space to complete their*  
5            *missions; and*

6            *(iii) is carried out in a manner con-*  
7            *sistent with United States export control*  
8            *laws.*

9            *(7) The National Aeronautics and Space Admin-*  
10          *istration and the Department of Defense can cooper-*  
11          *ate more effectively in leveraging their mutual capa-*  
12          *bilities to conduct joint space missions that improve*  
13          *United States space capabilities and reduce the cost*  
14          *of conducting space missions.*

15          *(8) The Deep Space Network will continue to be*  
16          *a critically important part of the Nation's scientific*  
17          *and exploration infrastructure in the coming decades,*  
18          *and the National Aeronautics and Space Administra-*  
19          *tion should ensure that the Network is adequately*  
20          *maintained and that upgrades required to support fu-*  
21          *ture missions are undertaken in a timely manner.*

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

1 *ties should be maintained and enhanced as appro-*  
2 *priate to serve as a scientific bridge to the next gen-*  
3 *eration of space-based observatories.*

4 **SEC. 3. DEFINITIONS.**

5 *For purposes of this Act—*

6 *(1) the term “Administrator” means the Admin-*  
7 *istrator of the National Aeronautics and Space Ad-*  
8 *ministration;*

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

14 *(3) the term “institution of higher education”*  
15 *has the meaning given such term in section 1201(a)*  
16 *of the Higher Education Act of 1965 (20 U.S.C.*  
17 *1141(a));*

18 *(4) the term “State” means each of the several*  
19 *States of the Union, the District of Columbia, the*  
20 *Commonwealth of Puerto Rico, the Virgin Islands,*  
21 *Guam, American Samoa, the Commonwealth of the*  
22 *Northern Mariana Islands, and any other common-*  
23 *wealth, territory, or possession of the United States;*  
24 *and*

1           (5) the term “United States commercial pro-  
2           vider” means a commercial provider, organized under  
3           the laws of the United States or of a State, which is—

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

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

8                           (i) such subsidiary has in the past evi-  
9                           denced a substantial commitment to the  
10                           United States market through—

11                                   (I) investments in the United  
12                                   States in long-term research, develop-  
13                                   ment, and manufacturing (including  
14                                   the manufacture of major components  
15                                   and subassemblies); and

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

18                                   (ii) the country or countries in which  
19                                   such foreign company is incorporated or or-  
20                                   ganized, and, if appropriate, in which it  
21                                   principally conducts its business, affords re-  
22                                   ciprocal treatment to companies described  
23                                   in subparagraph (A) comparable to that af-  
24                                   forded to such foreign company’s subsidiary  
25                                   in the United States, as evidenced by—



1                   (I) providing comparable oppor-  
2                   tunities for companies described in  
3                   subparagraph (A) to participate in  
4                   Government sponsored research and de-  
5                   velopment similar to that authorized  
6                   under this Act;

7                   (II) providing no barriers to com-  
8                   panies described in subparagraph (A)  
9                   with respect to local investment oppor-  
10                  tunities that are not provided to for-  
11                  eign companies in the United States;  
12                  and

13                  (III) providing adequate and ef-  
14                  fective protection for the intellectual  
15                  property rights of companies described  
16                  in subparagraph (A).

17                   **TITLE I—AUTHORIZATION OF**  
18                   **APPROPRIATIONS**

19                   **Subtitle A—Authorizations**

20                   **SEC. 101. INTERNATIONAL SPACE STATION.**

21                   There are authorized to be appropriated to the Na-  
22                   tional Aeronautics and Space Administration for Inter-  
23                   national Space Station—

24                   (1) for fiscal year 2000, \$2,482,700,000, of which  
25                   \$394,400,000, notwithstanding section 121(a)—

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

4           (B) shall be administered by the Office of  
5           Life and Microgravity Sciences and Applica-  
6           tions;

7           (2) for fiscal year 2001, \$2,328,000,000, of which  
8           \$465,400,000, notwithstanding section 121(a)—

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

12          (B) shall be administered by the Office of  
13          Life and Microgravity Sciences and Applica-  
14          tions; and

15          (3) for fiscal year 2002, \$2,091,000,000, of which  
16          \$469,200,000, notwithstanding section 121(a)—

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

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

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

2 *There are authorized to be appropriated to the Na-*  
3 *tional Aeronautics and Space Administration for Launch*  
4 *Vehicle and Payload Operations the following amounts:*

5 (1) *For Space Shuttle Operations—*

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

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

8 *and*

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

10 (2) *For Space Shuttle Safety and Performance*  
11 *Upgrades—*

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

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

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

18 (3) *For Payload and Utilization Operations—*

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

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

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

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

23 *There are authorized to be appropriated to the Na-*  
24 *tional Aeronautics and Space Administration for Science,*  
25 *Aeronautics, and Technology the following amounts:*

26 (1) *For Space Science—*

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5                   (2) *For Life and Microgravity Sciences and*  
6                   *Applications—*

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

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

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

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

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

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

24                  and

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

1           (4) *For Aero-Space Technology—*

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

4                           (i) *\$532,800,000 shall be for Aero-*  
5 *nautical Research and Technology, with no*  
6 *funds to be used for the Ultra-Efficient En-*  
7 *gine, and with \$412,800,000 to be for the*  
8 *Research and Technology Base;*

9                           (ii) *\$334,000,000 shall be for Advanced*  
10 *Space Transportation Technology,*  
11 *including—*

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

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

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

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

20                           (i) *\$524,000,000 shall be for Aero-*  
21 *nautical Research and Technology, with no*  
22 *funds to be used for the Ultra-Efficient En-*  
23 *gine, and with \$399,800,000 to be for the*  
24 *Research and Technology Base, and with*

1           \$54,200,000 to be for Aviation System Ca-  
2           pacity;

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

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

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

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

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

14                     (i) \$519,200,000 shall be for Aero-  
15                     nautical Research and Technology, with no  
16                     funds to be used for the Ultra-Efficient En-  
17                     gine, and with \$381,600,000 to be for the  
18                     Research and Technology Base, and with  
19                     \$67,600,000 to be for Aviation System Ca-  
20                     pacity;

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

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

25           (5) For Mission Communication Services—

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

2           (B) for fiscal year 2001, \$382,100,000; 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 Education  
7           within the Teacher/Faculty Preparation and En-  
8           hancement Programs, of which \$20,000,000 shall  
9           be for the National Space Grant College and Fel-  
10          lowship Program, and of which \$62,100,000  
11          shall be for minority university research and  
12          education, including \$33,600,000 for Histori-  
13          cally Black Colleges and Universities;

14          (B) for fiscal year 2001, \$128,600,000, of  
15          which \$62,100,000 shall be for minority univer-  
16          sity research and education, including  
17          \$33,600,000 for Historically Black Colleges and  
18          Universities; and

19          (C) for fiscal year 2002, \$130,600,000, of  
20          which \$62,800,000 shall be for minority univer-  
21          sity research and education, including  
22          \$34,000,000 for Historically Black Colleges and  
23          Universities.

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

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



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

2 **SEC. 104. MISSION SUPPORT.**

3           There are authorized to be appropriated to the Na-  
4 tional Aeronautics and Space Administration for Mission  
5 Support the following amounts:

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

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

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

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

11           (2) For Space Communication Services—

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

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

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

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

17                   (A) for fiscal year 2000, \$181,000,000,

18 including—

19                           (i) Restore Electrical Distribution Sys-  
20 tem (ARC), \$2,700,000;

21                           (ii) Rehabilitate Main Hangar Build-  
22 ing 4802 (Dryden Flight Research Center  
23 (DFRC)), \$2,900,000;

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

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

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

5                   (vi) *Rehabilitate Hydrostatic Bearing*  
6                   Runner, 70 meter Antenna, Goldstone  
7                   (JPL), \$1,700,000;

8                   (vii) *Upgrade 70 meter Antenna Servo*  
9                   Drive, 70 meter Antenna Subnet (JPL),  
10                  \$3,400,000;

11                  (viii) *Rehabilitate Utility Tunnel*  
12                  Structure and Systems (Johnson Space  
13                  Center (JSC)), \$5,600,000;

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

16                  (x) *Repair and Modernize HVAC Sys-*  
17                  *tem, Central Instrument Facility (KSC),*  
18                  \$3,000,000;

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

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

24                  (xiii) *Repair Roofs, Vehicle Component*  
25                  Supply buildings (MAF), \$2,000,000;

1                   *(xiv) Minor Revitalization of Facilities*  
2                   *at Various Locations, not in excess of*  
3                   *\$1,500,000 per project, \$65,500,000;*

4                   *(xv) Minor Construction of New Facili-*  
5                   *ties and Additions to Existing Facilities at*  
6                   *Various Locations, not in excess of*  
7                   *\$1,500,000 per project, \$5,000,000;*

8                   *(xvi) Facility Planning and Design,*  
9                   *\$19,200,000;*

10                  *(xvii) Deferred Major Maintenance,*  
11                  *\$8,000,000;*

12                  *(xviii) Environmental Compliance and*  
13                  *Restoration, \$40,100,000;*

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

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

16                  *(4) For Research and Program Management, in-*  
17                  *cluding personnel and related costs, travel, and re-*  
18                  *search operations support—*

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

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

21                         *and*

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

1 **SEC. 105. INSPECTOR GENERAL.**

2 *There are authorized to be appropriated to the Na-*  
3 *tional Aeronautics and Space Administration for Inspector*  
4 *General—*

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

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

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

8 **SEC. 106. TOTAL AUTHORIZATION.**

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

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

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

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

16 **SEC. 107. AVIATION SYSTEMS CAPACITY.**

17 *In addition to amounts otherwise authorized, there are*  
18 *authorized to be appropriated to the Administrator of the*  
19 *Federal Aviation Administration \$5,000,000 for fiscal year*  
20 *2001 for aviation systems capacity.*

21 ***Subtitle B—Limitations and***  
22 ***Special Authority***

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

24 *(a) AUTHORIZED USES.—Funds appropriated under*  
25 *sections 101, 102, 103, and 104(1) and (2), and funds ap-*  
26 *propriated for research operations support under section*

1 104(4), may be used for the construction of new facilities  
2 and additions to, repair of, rehabilitation of, or modifica-  
3 tion of existing facilities at any location in support of the  
4 purposes for which such funds are authorized.

5 (b) *LIMITATION.*—No funds may be expended pursuant  
6 to subsection (a) for a project, the estimated cost of which  
7 to the National Aeronautics and Space Administration, in-  
8 cluding collateral equipment, exceeds \$1,000,000, until 30  
9 days have passed after the Administrator has notified the  
10 Committee on Science of the House of Representatives and  
11 the Committee on Commerce, Science, and Transportation  
12 of the Senate of the nature, location, and estimated cost to  
13 the National Aeronautics and Space Administration of such  
14 project.

15 (c) *TITLE TO FACILITIES.*—If funds are used pursuant  
16 to subsection (a) for grants to institutions of higher edu-  
17 cation, or to nonprofit organizations whose primary pur-  
18 pose is the conduct of scientific research, for purchase or  
19 construction of additional research facilities, title to such  
20 facilities shall be vested in the United States unless the Ad-  
21 ministrator determines that the national program of aero-  
22 nautical and space activities will best be served by vesting  
23 title in the grantee institution or organization. Each such  
24 grant shall be made under such conditions as the Adminis-  
25 trator shall determine to be required to ensure that the

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

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

4 *To the extent provided in appropriations Acts, appro-*  
5 *priations authorized under subtitle A may remain available*  
6 *without fiscal year limitation.*

7 **SEC. 123. REPROGRAMMING FOR CONSTRUCTION OF FA-**  
8 **CILITIES.**

9 *(a) IN GENERAL.—Appropriations authorized for con-*  
10 *struction of facilities under section 104(3)—*

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

13 *(2) may be varied upward by 25 percent, to meet*  
14 *unusual cost variations, after the expiration of 15*  
15 *days following a report on the circumstances of such*  
16 *action by the Administrator to the Committee on*  
17 *Science of the House of Representatives and the Com-*  
18 *mittee on Commerce, Science, and Transportation of*  
19 *the Senate.*

20 *The aggregate amount authorized to be appropriated for*  
21 *construction of facilities under section 104(3) shall not be*  
22 *increased as a result of actions authorized under para-*  
23 *graphs (1) and (2) of this subsection.*

24 *(b) SPECIAL RULE.—Where the Administrator deter-*  
25 *mines that new developments in the national program of*

1 *aeronautical and space activities have occurred; and that*  
2 *such developments require the use of additional funds for*  
3 *the purposes of construction, expansion, or modification of*  
4 *facilities at any location; and that deferral of such action*  
5 *until the enactment of the next National Aeronautics and*  
6 *Space Administration authorization Act would be incon-*  
7 *sistent with the interest of the Nation in aeronautical and*  
8 *space activities, the Administrator may use up to*  
9 *\$10,000,000 of the amounts authorized under section 104(3)*  
10 *for each fiscal year for such purposes. No such funds may*  
11 *be obligated until a period of 30 days has passed after the*  
12 *Administrator has transmitted to the Committee on Com-*  
13 *merce, Science, and Transportation of the Senate and the*  
14 *Committee on Science of the House of Representatives a*  
15 *written report describing the nature of the construction, its*  
16 *costs, and the reasons therefor.*

17 **SEC. 124. LIMITATION ON OBLIGATION OF UNAUTHORIZED**  
18 **APPROPRIATIONS.**

19 (a) *REPORTS TO CONGRESS.—*

20 (1) *REQUIREMENT.—Not later than—*

21 (A) *30 days after the later of the date of the*  
22 *enactment of an Act making appropriations to*  
23 *the National Aeronautics and Space Administra-*  
24 *tion for fiscal year 2000 and the date of the en-*  
25 *actment of this Act; and*

1                   (B) 30 days after the date of the enactment  
2                   of an Act making appropriations to the National  
3                   Aeronautics and Space Administration for fiscal  
4                   year 2001 or 2002,  
5                   the Administrator shall submit a report to Congress  
6                   and to the Comptroller General.

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

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

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

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



1           (c) *LIMITATION.*—*Notwithstanding any other provi-*  
2 *sion of law, no funds may be obligated for any programs,*  
3 *projects, or activities of the National Aeronautics and Space*  
4 *Administration for fiscal year 2000, 2001, or 2002 not au-*  
5 *thorized under this Act until 30 days have passed after the*  
6 *close of the public comment period contained in a notice*  
7 *required by subsection (b).*

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

10           *Not more than \$30,000 of the funds appropriated*  
11 *under section 103 may be used for scientific consultations*  
12 *or extraordinary expenses, upon the authority of the Ad-*  
13 *ministrator.*

14   **SEC. 126. EARTH SCIENCE LIMITATION.**

15           *Of the funds authorized to be appropriated for Earth*  
16 *Science under section 103(3) for each of fiscal years 2001*  
17 *and 2002, \$50,000,000 shall be for the Commercial Remote*  
18 *Sensing Program at Stennis Space Center for commercial*  
19 *data purchases, unless the National Aeronautics and Space*  
20 *Administration has integrated data purchases into the pro-*  
21 *curement process for Earth science research by obligating*  
22 *at least 5 percent of the aggregate amount appropriated for*  
23 *that fiscal year for Earth Observing System and Earth*  
24 *Probes for the purchase of Earth science data from the pri-*  
25 *vate sector.*

1 **SEC. 127. COMPETITIVENESS AND INTERNATIONAL CO-**  
2 **OPERATION.**

3 (a) *LIMITATION.*—As part of the evaluation of the costs  
4 and benefits of entering into an obligation to conduct a  
5 space mission in which a foreign entity will participate as  
6 a supplier of the spacecraft, spacecraft system, or launch  
7 system, the Administrator shall solicit comment on the po-  
8 tential impact of such participation through notice pub-  
9 lished in *Commerce Business Daily* at least 45 days before  
10 entering into such an obligation.

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

15 **SEC. 128. TRANS-HAB.**

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

23 (b) *GENERAL LIMITATION.*—No funds authorized by  
24 this Act for fiscal year 2000 shall be obligated for the defini-  
25 tion, design, or development of an inflatable space structure  
26 capable of accommodating humans in space.

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

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

6 **SEC. 130. TRIANA FUNDING PROHIBITION.**

7 *None of the funds authorized by this Act may be used*  
8 *for the Triana program, except that \$2,500,000 of the*  
9 *amount authorized under section 103(3)(A) for fiscal year*  
10 *2000 shall be available for termination costs.*

11 **TITLE II—MISCELLANEOUS**  
12 **PROVISIONS**

13 **SEC. 201. REQUIREMENT FOR INDEPENDENT COST ANAL-**  
14 **YSIS.**

15 *Before any funds may be obligated for Phase B of a*  
16 *project that is projected to cost more than \$100,000,000 in*  
17 *total project costs, the Chief Financial Officer for the Na-*  
18 *tional Aeronautics and Space Administration shall conduct*  
19 *an independent cost analysis of such project and shall re-*  
20 *port the results to Congress. In developing cost accounting*  
21 *and reporting standards for carrying out this section, the*  
22 *Chief Financial Officer shall, to the extent practicable and*  
23 *consistent with other laws, solicit the advice of expertise out-*  
24 *side of the National Aeronautics and Space Administration.*

1 **SEC. 202. NATIONAL AERONAUTICS AND SPACE ACT OF 1958**

2 **AMENDMENTS.**

3 (a) *DECLARATION OF POLICY AND PURPOSE.*—Section  
4 102 of the National Aeronautics and Space Act of 1958 (42  
5 U.S.C. 2451) is amended—

6 (1) by striking subsection (f) and redesignating  
7 subsections (g) and (h) as subsections (f) and (g), re-  
8 spectively; and

9 (2) in subsection (g), as so redesignated by para-  
10 graph (1) of this subsection, by striking “(f), and (g)”  
11 and inserting in lieu thereof “and (f)”.

12 (b) *REPORTS TO THE CONGRESS.*—Section 206(a) of  
13 the National Aeronautics and Space Act of 1958 (42 U.S.C.  
14 2476(a)) is amended—

15 (1) by striking “January” and inserting in lieu  
16 thereof “May”; and

17 (2) by striking “calendar” and inserting in lieu  
18 thereof “fiscal”.

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

20 *The National Aeronautics and Space Administration*  
21 *shall purchase commercially available space goods and serv-*  
22 *ices to the fullest extent feasible, and shall not conduct ac-*  
23 *tivities that preclude or deter commercial space activities*  
24 *except for reasons of national security or public safety. A*  
25 *space good or service shall be deemed commercially avail-*  
26 *able if it is offered by a United States commercial provider,*

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

5 **SEC. 204. COST EFFECTIVENESS CALCULATIONS.**

6 *In calculating the cost effectiveness of the cost of the*  
7 *National Aeronautics and Space Administration engaging*  
8 *in an activity as compared to a commercial provider, the*  
9 *Administrator shall compare the cost of the National Aero-*  
10 *nautics and Space Administration engaging in the activity*  
11 *using full cost accounting principles with the price the com-*  
12 *mercial provider will charge for such activity.*

13 **SEC. 205. FOREIGN CONTRACT LIMITATION.**

14 *The National Aeronautics and Space Administration*  
15 *shall not enter into any agreement or contract with a for-*  
16 *ign government that grants the foreign government the*  
17 *right to recover profit in the event that the agreement or*  
18 *contract is terminated.*

19 **SEC. 206. AUTHORITY TO REDUCE OR SUSPEND CONTRACT**  
20 **PAYMENTS BASED ON SUBSTANTIAL EVI-**  
21 **DENCE OF FRAUD.**

22 *Section 2307(i)(8) of title 10, United States Code, is*  
23 *amended by striking “and (4)” and inserting in lieu thereof*  
24 *“(4), and (6)”.*

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

2 (a) *STUDY.*—*The Administrator shall enter into ap-*  
3 *propriate arrangements for the conduct of an independent*  
4 *study to reassess the priority of all Phase III and Phase*  
5 *IV Space Shuttle upgrades.*

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

9 (1) *Upgrades that are safety related.*

10 (2) *Upgrades that may have functional or tech-*  
11 *nological applicability to reusable launch vehicles.*

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

14 (c) *COMPLETION DATE.*—*The results of the study de-*  
15 *scribed in subsection (a) shall be transmitted to the Con-*  
16 *gress not later than 180 days after the date of the enactment*  
17 *of this Act.*

18 **SEC. 208. AERO-SPACE TRANSPORTATION TECHNOLOGY IN-**  
19 **TEGRATION.**

20 (a) *INTEGRATION PLAN.*—*The Administrator shall de-*  
21 *velop a plan for the integration of research, development,*  
22 *and experimental demonstration activities in the aero-*  
23 *nautics transportation technology and space transportation*  
24 *technology areas. The plan shall ensure that integration is*  
25 *accomplished without losing unique capabilities which sup-*  
26 *port the National Aeronautics and Space Administration's*

1 *defined missions. The plan shall also include appropriate*  
2 *strategies for using aeronautics centers in integration ef-*  
3 *forts.*

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

11 **SEC. 209. DEFINITIONS OF COMMERCIAL SPACE POLICY**

12                   **TERMS.**

13       *The Administrator shall ensure that the usage of termi-*  
14 *nology in National Aeronautics and Space Administration*  
15 *policies and programs is consistent with the following defi-*  
16 *nitions:*

17               (1) *The term “commercialization” means the*  
18 *process of private entities conducting privatized space*  
19 *activities to expand their customer base beyond the*  
20 *Federal Government to address existing or potential*  
21 *commercial markets, investing private resources to*  
22 *meet those commercial market requirements.*

23               (2) *The term “commercial purchase” means a*  
24 *purchase by the Federal Government of space goods*  
25 *and services at a market price from a private entity*

1       *which has invested private resources to meet commer-*  
2       *cial requirements.*

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

8           (4) *The term “contract consolidation” means the*  
9       *combining of two or more Government service con-*  
10      *tracts for related space activities into one larger Gov-*  
11      *ernment service contract.*

12          (5) *The term “privatization” means the process*  
13      *of transferring—*

14           (A) *control and ownership of Federal space-*  
15      *related assets, along with the responsibility for*  
16      *operating, maintaining, and upgrading those as-*  
17      *sets; or*

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

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

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



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

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

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

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

16 *A final report on the results of such study shall be delivered*  
17 *to the Congress not later than 90 days after the date of en-*  
18 *actment of this Act. Such report shall include recommenda-*  
19 *tions as to Government and industry-funded improvements*  
20 *to the external tank which would maximize its cost-effective-*  
21 *ness for the scientific and commercial applications identi-*  
22 *fied.*

23           (b) *REQUIRED IMPROVEMENTS.—The Administrator*  
24 *shall conduct an internal agency study, based on the conclu-*  
25 *sions 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), a*  
8 *report on which shall be delivered to Congress not later than*  
9 *45 days after receipt of the final report required by sub-*  
10 *section (a).*

11       (c) *CHANGES IN LAW OR POLICY.—Upon receipt of the*  
12 *final report required by subsection (a), the Administrator*  
13 *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 Administrator*  
17 *shall transmit to the Congress the comments received along*  
18 *with the recommendations of the Administrator as to*  
19 *changes in law or policy that may be required for those*  
20 *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 subjected*  
4 *to a competitive, merit-based award process, except as spe-*  
5 *cifically authorized by this Act. Any exclusion from consid-*  
6 *eration pursuant to this section shall be effective for a pe-*  
7 *riod of 5 years after the person receives such Federal funds.*

8       **(b) EXCEPTION.**—*Subsection (a) shall not apply to the*  
9 *receipt of Federal funds by a person due to the membership*  
10 *of that person in a class specified by law for which assist-*  
11 *ance is awarded to members of the class according to a for-*  
12 *mula provided by law.*

13       **(c) DEFINITION.**—*For purposes of this section, the*  
14 *term “grant agreement” means a legal instrument whose*  
15 *principal purpose is to transfer a thing of value to the re-*  
16 *cipient to carry out a public purpose of support or stimula-*  
17 *tion authorized by a law of the United States, and does*  
18 *not include the acquisition (by purchase, lease, or barter)*  
19 *of property or services for the direct benefit or use of the*  
20 *United States Government. Such term does not include a*  
21 *cooperative agreement (as such term is used in section 6305*  
22 *of title 31, United States Code) or a cooperative research*  
23 *and development agreement (as such term is defined in sec-*  
24 *tion 12(d)(1) of the Stevenson-Wydler Technology Innova-*  
25 *tion Act of 1980 (15 U.S.C. 3710a(d)(1))).*

1 **SEC. 212. NOTICE.**

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

10       (b) *NOTICE OF REORGANIZATION.*—*The Administrator*  
 11 *shall provide notice to the Committees on Science and Ap-*  
 12 *propriations of the House of Representatives, and the Com-*  
 13 *mittees on Commerce, Science, and Transportation and Ap-*  
 14 *propriations of the Senate, not later than 15 days before*  
 15 *any major reorganization of any program, project, or activ-*  
 16 *ity of the National Aeronautics and Space Administration.*

17 **SEC. 213. UNITARY WIND TUNNEL PLAN ACT OF 1949**

18                   **AMENDMENTS.**

19       *The Unitary Wind Tunnel Plan Act of 1949 is*  
 20 *amended—*

21               (1) *in section 101 (50 U.S.C. 511) by striking*  
 22               *“transsonic and supersonic” and inserting in lieu*  
 23               *thereof “transsonic, supersonic, and hypersonic”; and*

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

1           (A) by striking “laboratories” in subsection  
2           (a) and inserting in lieu thereof “laboratories  
3           and centers”;

4           (B) by striking “supersonic” in subsection  
5           (a) and inserting in lieu thereof “transsonic, su-  
6           personic, and hypersonic”; and

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

9   **SEC. 214. INNOVATIVE TECHNOLOGIES FOR HUMAN SPACE**

10                           **FLIGHT.**

11           (a) *ESTABLISHMENT OF PROGRAM.*—In order to pro-  
12           mote a “faster, cheaper, better” approach to the human ex-  
13           ploration and development of space, the Administrator shall  
14           establish a Human Space Flight Commercialization/Tech-  
15           nology program of ground-based and space-based research  
16           and development in innovative technologies.

17           (b) *AWARDS.*—At least 75 percent of the amount ap-  
18           propriated for the program established under subsection (a)  
19           for any fiscal year shall be awarded through broadly dis-  
20           tributed announcements of opportunity that solicit pro-  
21           posals from educational institutions, industry, nonprofit  
22           institutions, National Aeronautics and Space Administra-  
23           tion Centers, the Jet Propulsion Laboratory, other Federal  
24           agencies, and other interested organizations, and that allow  
25           partnerships among any combination of those entities, with

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

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

8 **SEC. 215. LIFE IN THE UNIVERSE.**

9 (a) *REVIEW.*—*The Administrator shall enter into ap-*  
10 *propriate arrangements with the National Academy of*  
11 *Sciences for the conduct of a review of—*

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

14 (2) *enhancements that can be made to the Na-*  
15 *tional Aeronautics and Space Administration’s efforts*  
16 *to determine the extent of life in the universe.*

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

19 (1) *an assessment of the direction of the National*  
20 *Aeronautics and Space Administration’s astrobiology*  
21 *initiatives within the Origins program;*

22 (2) *an assessment of the direction of other initia-*  
23 *tives carried out by entities other than the National*  
24 *Aeronautics and Space Administration to determine*  
25 *the extent of life in the universe, including other Fed-*

1        *eral agencies, foreign space agencies, and private*  
2        *groups such as the Search for Extraterrestrial Intel-*  
3        *ligence Institute;*

4            *(3) recommendations about scientific and techno-*  
5        *logical enhancements that could be made to the Na-*  
6        *tional Aeronautics and Space Administration's*  
7        *astrobiology initiatives to effectively utilize the initia-*  
8        *tives of the scientific and technical communities; and*

9            *(4) recommendations for possible coordination or*  
10        *integration of National Aeronautics and Space Ad-*  
11        *ministration initiatives with initiatives of other enti-*  
12        *ties described in paragraph (2).*

13        *(c) REPORT TO CONGRESS.—Not later than 18 months*  
14        *after the date of the enactment of this Act, the Adminis-*  
15        *trator shall transmit to the Congress a report on the results*  
16        *of the review carried out under this section.*

17        **SEC. 216. RESEARCH ON INTERNATIONAL SPACE STATION.**

18        *(a) STUDY.—The Administrator shall enter into a con-*  
19        *tract with the National Research Council and the National*  
20        *Academy of Public Administration to jointly conduct a*  
21        *study of the status of life and microgravity research as it*  
22        *relates to the International Space Station. The study shall*  
23        *include—*

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

4           (2) *an assessment of the current and projected*  
5           *factors limiting the United States scientific commu-*  
6           *nity's ability to maximize the research potential of*  
7           *the International Space Station, including, but not*  
8           *limited to, the past and present availability of re-*  
9           *sources in the life and microgravity research accounts*  
10          *within the Office of Human Spaceflight and the Of-*  
11          *fice of Life and Microgravity Sciences and Applica-*  
12          *tions, and the past, present, and projected access to*  
13          *space of the scientific community; and*

14          (3) *recommendations for improving the United*  
15          *States scientific community's ability to maximize the*  
16          *research potential of the International Space Station,*  
17          *including an assessment of the relative costs and bene-*  
18          *fits of—*

19                 (A) *dedicating an annual mission of the*  
20                 *Space Shuttle to life and microgravity research*  
21                 *during assembly of the International Space Sta-*  
22                 *tion; and*

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



1       (b) *REPORT.*—Not later than 1 year after the date of  
2 *the enactment of this Act, the Administrator shall transmit*  
3 *to the Committee on Science of the House of Representatives*  
4 *and the Committee on Commerce, Science, and Transpor-*  
5 *tation of the Senate a report on the results of the study*  
6 *conducted under this section.*

7 **SEC. 217. REMOTE SENSING FOR AGRICULTURAL AND RE-**  
8 **SOURCE MANAGEMENT.**

9       *The Administrator shall—*

10           (1) *consult with the Secretary of Agriculture to*  
11 *determine data product types that are of use to farm-*  
12 *ers which can be remotely sensed from air or space;*

13           (2) *consider useful commercial data products re-*  
14 *lated to agriculture as identified by the focused re-*  
15 *search program between the National Aeronautics and*  
16 *Space Administration’s Stennis Space Center and the*  
17 *Department of Agriculture; and*

18           (3) *examine other data sources, including com-*  
19 *mercial sources, LightSAR, RADARSAT I, and*  
20 *RADARSAT II, which can provide domestic and*  
21 *international agricultural information relating to*  
22 *crop conditions, fertilization and irrigation needs,*  
23 *pest infiltration, soil conditions, projected food, feed,*  
24 *and fiber production, and other related subjects.*

1 **SEC. 218. INTEGRATED SAFETY RESEARCH PLAN.**

2 (a) *REQUIREMENT.*—Not later than March 1, 2000, the  
3 Administrator and the Administrator of the Federal Avia-  
4 tion Administration shall jointly prepare and transmit to  
5 the Congress an integrated civil aviation safety research  
6 and development plan.

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

9 (1) an identification of the respective research  
10 and development requirements, roles, and responsibil-  
11 ities of the National Aeronautics and Space Adminis-  
12 tration and the Federal Aviation Administration;

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

19 (3) procedures for increased communication and  
20 coordination between the Federal Aviation Adminis-  
21 tration research advisory committee established under  
22 section 44508 of title 49, United States Code, and the  
23 NASA Aeronautics and Space Transportation Tech-  
24 nology Advisory Committee, including a proposal for  
25 greater cross-membership between those 2 advisory  
26 committees.

1 **SEC. 219. 100TH ANNIVERSARY OF FLIGHT EDUCATIONAL**  
2 **INITIATIVE.**

3 (a) *EDUCATION CURRICULUM.*—*In recognition of the*  
4 *100th anniversary of the first powered flight, the Adminis-*  
5 *trator, in coordination with the Secretary of Education,*  
6 *shall develop and provide for the distribution, for use in*  
7 *the 2000–2001 academic year and thereafter, of an age-ap-*  
8 *propriate educational curriculum, for use at the kinder-*  
9 *garten, elementary, and secondary levels, on the history of*  
10 *flight, the contribution of flight to global development in*  
11 *the 20th century, the practical benefits of aeronautics and*  
12 *space flight to society, the scientific and mathematical prin-*  
13 *ciples used in flight, and any other topics the Administrator*  
14 *considers appropriate. The Administrator shall integrate*  
15 *into the educational curriculum plans for the development*  
16 *and flight of the Mars plane.*

17 (b) *REPORT TO CONGRESS.*—*Not later than May 1,*  
18 *2000, the Administrator shall transmit a report to the Com-*  
19 *mittee on Science of the House of Representatives and the*  
20 *Committee on Commerce, Science, and Transportation of*  
21 *the Senate on activities undertaken pursuant to this section.*

22 **SEC. 220. INTERNET AVAILABILITY OF INFORMATION.**

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

1 *ing in this section shall be construed to require or permit*  
2 *the release of any information prohibited by law or regula-*  
3 *tion from being released to the public.*