

**Calendar No. 174**109<sup>TH</sup> CONGRESS  
1<sup>ST</sup> SESSION**S. 1281****[Report No. 109-108]**

To authorize appropriations for the National Aeronautics and Space Administration for science, aeronautics, exploration, exploration capabilities, and the Inspector General, and for other purposes, for fiscal years 2006, 2007, 2008, 2009, and 2010.

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**IN THE SENATE OF THE UNITED STATES**

JUNE 21, 2005

Mrs. HUTCHISON (for herself, Mr. NELSON of Florida, Mr. STEVENS, Mr. INOUE, and Mr. LOTT) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

JULY 26, 2005

Reported by Mr. STEVENS, with amendments

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**A BILL**

To authorize appropriations for the National Aeronautics and Space Administration for science, aeronautics, exploration, exploration capabilities, and the Inspector General, and for other purposes, for fiscal years 2006, 2007, 2008, 2009, and 2010.

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 “Na-  
 5 tional Aeronautics and Space Administration Authoriza-  
 6 tion Act of 2005”.

7 (b) TABLE OF CONTENTS.—The table of contents for  
 8 this Act is as follows:

Sec. 1. Short title; table of contents.

Sec. 2. Findings.

Sec. 3. Definitions.

TITLE I—AUTHORIZATION OF APPROPRIATIONS

SUBTITLE A—AUTHORIZATIONS

Sec. 101. Fiscal year 2006.

Sec. 102. Fiscal year 2007.

Sec. 103. Fiscal year 2008.

Sec. 104. Fiscal year 2009.

Sec. 105. Fiscal year 2010.

Sec. 106. Evaluation criteria for budget request.

SUBTITLE B—GENERAL PROVISIONS

Sec. 131. Implementation of a science program that extends human knowledge  
 and understanding of the Earth, sun, solar system, and the  
 universe.

Sec. 132. Biennial reports to Congress on science programs.

Sec. 133. Status report on Hubble Space Telescope servicing mission.

Sec. 134. Develop expanded permanent human presence beyond low-Earth  
 orbit.

Sec. 135. Ground-based analog capabilities.

Sec. 136. Space launch and transportation transition, capabilities, and develop-  
 ment.

Sec. 137. National policy for aeronautics research and development.

Sec. 138. Identification of unique NASA core aeronautics research.

Sec. 139. Lessons learned and best practices.

Sec. 140. Safety management.

Sec. 141. Creation of a budget structure that aids effective oversight and man-  
 agement.

Sec. 142. Earth observing system.

*Sec. 143. NASA healthcare program.*

*Sec. 144. Assessment of extension of data collection from Ulysses and Voyager  
 spacecraft.*

*Sec. 145. Program to expand distance learning in rural underserved areas.*

*Sec. 146. Institutions in NASA'S minority institutions program.*

- Sec. 147. Aviation safety program.*  
*Sec. 148. Atmospheric, geophysical, and rocket research authorization.*  
*Sec. 149. Orbital debris.*  
*Sec. 150. Continuation of certain educational programs.*  
*Sec. 151. Establishment of the Charles "Pete" Conrad Astronomy Awards Program.*  
*Sec. 152. GAO assessment of feasibility of Moon and Mars exploration missions.*

SUBTITLE C—LIMITATIONS AND SPECIAL AUTHORITY

- Sec. 161. Official representational fund.  
 Sec. 161. Facilities management.

TITLE II—INTERNATIONAL SPACE STATION

- Sec. 201. International Space Station completion.  
 Sec. 202. Research and support capabilities on international Space Station.  
 Sec. 20d. National laboratory status for International Space Station.  
 Sec. 204. Commercial support of International Space Station operations and utilization.  
 Sec. 205. Use of the International Space Station and annual report.

TITLE III—NATIONAL SPACE TRANSPORTATION POLICY

- Sec. 301. United States human-rated launch capacity assessment.  
 Sec. 302. Space Shuttle transition.  
 Sec. 303. Commercial launch vehicles.  
 Sec. 304. Secondary payload capability.

TITLE IV—ENABLING COMMERCIAL ACTIVITY

- Sec. 401. Commercialization plan.  
 Sec. 402. Authority for competitive prize program to encourage development of advanced space and aeronautical technologies.  
 Sec. 403. Commercial goods and services.

TITLE V—MISCELLANEOUS ADMINISTRATIVE IMPROVEMENTS

- Sec. 501. Extension of indemnification authority.  
 Sec. 502. Intellectual property provisions.  
 Sec. 503. Retrocession of jurisdiction.  
 Sec. 504. Recovery and disposition authority.  
 Sec. 505. Requirement for independent cost analysis.  
 Sec. 506. Electronic access to business opportunities.  
 Sec. 507. Reports elimination.

**1 SEC. 2. FINDINGS.**

**2** The Congress finds the following:

- 3** (1) It is the policy of the United States to ad-  
**4** vance United States scientific, security, and eco-

1        nomic interests through a healthy and active space  
2        exploration program.

3            (2) Basic and applied research in space science,  
4        Earth science, and aeronautics remain a significant  
5        part of the Nation's goals for the use and develop-  
6        ment of space. Basic research and development is an  
7        important component of NASA's program of explo-  
8        ration and discovery.

9            (3) Maintaining the capability to safely send  
10        humans into space is essential to United States na-  
11        tional and economic security, United States pre-  
12        eminence in space, and inspiring the next generation  
13        of explorers. Thus, a gap in United States human  
14        space flight capability is harmful to the national in-  
15        terest.

16            (4) The exploration, development, and perma-  
17        nent habitation of the Moon will—

18                    (A) inspire the Nation;

19                    (B) spur commerce, imagination, and ex-  
20        citement around the world; and

21                    (C) open the possibility of further explo-  
22        ration of Mars.

23            (5) The establishment of the capability for con-  
24        sistent access to and stewardship of the region be-

1       tween the Moon and Earth is in the national secu-  
2       rity and commercial interests of the United States.

3           (6) Commercial development of space, including  
4       exploration and other lawful uses, is in the interest  
5       of the United States and the international commu-  
6       nity at large.

7           (7) Research and access to capabilities to sup-  
8       port a national laboratory facility within the United  
9       States segment of the ISS in low-Earth orbit are in  
10      the national policy interests of the United States, in-  
11      cluding maintenance and development of an active  
12      and healthy stream of research from ground to space  
13      in areas that can uniquely benefit from access to  
14      this facility.

15          (8) NASA should develop vehicles to replace the  
16      Shuttle orbiter's capabilities for transporting crew  
17      and heavy cargo while utilizing the current pro-  
18      gram's resources, including human capital, capabili-  
19      ties, and infrastructure. Using these resources can  
20      ease the transition to a new space transportation  
21      system, maintain an essential industrial base, and  
22      minimize technology and safety risks.

23          (9) ~~The United States should remain the world~~  
24      ~~leader in aeronautics and aviation. NASA should~~  
25      ~~align its aerospace research to ensure United States~~

1 leadership. A national effort is needed to assess  
2 NASA's aeronautics programs and infrastructure to  
3 allow a consolidated national approach that ensures  
4 efficiency and national preeminence in aeronautics  
5 and aviation.

6 *(9) The United States must remain the leader in*  
7 *aeronautics and aviation. Any erosion of this pre-*  
8 *eminence is not in the Nation's economic or security*  
9 *interest. NASA should align its aerospace leadership*  
10 *to ensure United States leadership. A national effort*  
11 *is needed to ensure that NASA's aeronautics pro-*  
12 *grams are leading contributors to the Nation's civil*  
13 *and military aviation needs, as well as to its explo-*  
14 *ration capabilities.*

15 **SEC. 3. DEFINITIONS.**

16 In this Act:

17 (1) ADMINISTRATOR.—The term “Adminis-  
18 trator” means the Administrator of the National  
19 Aeronautics and Space Administration.

20 (2) ISS.—The term “ISS” means the Inter-  
21 national Space Station.

22 (3) NASA.—The term “NASA” means the Na-  
23 tional Aeronautics and Space Administration.

1           (4) SHUTTLE-DERIVED VEHICLE.—The term  
2           “shuttle-derived vehicle” means any new space  
3           transportation vehicle, piloted or unpiloted, that—

4                   (A) is capable of supporting crew or cargo  
5           missions; and

6                   (B) uses a major component of NASA’s  
7           Space Transportation System, such as the solid  
8           rocket booster, external tank, engine, and or-  
9           biter.

10          (5) IN-SITU RESOURCE UTILIZATION.—The  
11          term “in-situ resource utilization” means the tech-  
12          nology or systems that can convert indigenous or lo-  
13          cally-situated substances into useful materials and  
14          products.

15           **TITLE I—AUTHORIZATION OF**  
16           **APPROPRIATIONS**  
17           **Subtitle A—Authorizations**

18          **SEC. 101. FISCAL YEAR 2006.**

19          There are authorized to be appropriated to the Na-  
20          tional Aeronautics and Space Administration, for fiscal  
21          year 2006, \$16,556,400,000, as follows:

22                   (1) For science, aeronautics and exploration,  
23           \$9,661,000,000 for the following programs (includ-  
24           ing amounts for construction of facilities).

1           (2)       For       exploration       capabilities,  
2       \$6,863,000,000, (including amounts for construction  
3       of facilities), which shall be used for space oper-  
4       ations, and out of which \$100,000,000 shall be used  
5       for the purposes of section 202 of this Act.

6           (3)       For the Office of Inspector General,  
7       \$32,400,000.

8   **SEC. 102. FISCAL YEAR 2007.**

9       There are authorized to be appropriated to the Na-  
10      tional Aeronautics and Space Administration, for fiscal  
11      year 2007, \$17,052,900,000, as follows:

12           (1)      \$10,549,800,000 for science, aeronautics  
13      and exploration (including amounts for construction  
14      of facilities).

15           (2)      For       exploration       capabilities,  
16      \$6,469,600,000, for the following programs (includ-  
17      ing amounts for construction of facilities), of which  
18      \$6,469,600,000 shall be for space operations.

19           (3)      For the Office of Inspector General,  
20      \$33,500,000.

21   **SEC. 103. FISCAL YEAR 2008.**

22      There are authorized to be appropriated to the Na-  
23      tional Aeronautics and Space Administration, for fiscal  
24      year 2008, \$17,470,900,000.

1 **SEC. 104. FISCAL YEAR 2009.**

2 There are authorized to be appropriated to the Na-  
3 tional Aeronautics and Space Administration, for fiscal  
4 year 2009, \$17,995,000,000.

5 **SEC. 105. FISCAL YEAR 2010.**

6 There are authorized to be appropriated to the Na-  
7 tional Aeronautics and Space Administration, for fiscal  
8 year 2010, \$18,534,900,000.

9 **SEC. 106. EVALUATION CRITERIA FOR BUDGET REQUEST.**

10 It is the sense of the Congress that each budget of  
11 the United States submitted to the Congress after the date  
12 of enactment of this Act should be evaluated for compli-  
13 ance with the findings and priorities established by this  
14 Act and the amendments made by this Act.

15 **Subtitle B—General Provisions**

16 **SEC. 131. IMPLEMENTATION OF A SCIENCE PROGRAM THAT**  
17 **EXTENDS HUMAN KNOWLEDGE AND UNDER-**  
18 **STANDING OF THE EARTH, SUN, SOLAR SYS-**  
19 **TEM, AND THE UNIVERSE.**

20 The Administrator shall—

21 (1) conduct a rich and vigorous set of science  
22 activities aimed at better comprehension of the uni-  
23 verse, solar system, and Earth, and ensure that the  
24 various areas within NASA's science portfolio are  
25 developed and maintained in a balanced and healthy  
26 ~~manner;~~ *manner, and, as part of this balanced*

1 *science research program, provide, to the maximum*  
2 *extent feasible, continued support and funding for the*  
3 *Magnetospheric Multiscale Mission, SIM-Planet*  
4 *Quest, and Future Explorers programs, including de-*  
5 *termining whether these delayed missions and*  
6 *planned missions can be expedited to meet previous*  
7 *schedules;*

8 (2) plan projected Mars exploration activities in  
9 the context of planned lunar robotic precursor mis-  
10 sions, ensuring the ability to conduct a broad set of  
11 scientific investigations and research around and on  
12 the Moon's surface;

13 (3) upon successful completion of the planned  
14 return-to-flight schedule of the Space Shuttle, deter-  
15 mine the schedule for a Shuttle servicing mission to  
16 the Hubble Space Telescope, unless such a mission  
17 would compromise astronaut or safety or the integ-  
18 rity of NASA's other missions;

19 (4) ensure that, in implementing the provisions  
20 of this section, appropriate inter-agency and com-  
21 mercial collaboration opportunities are sought and  
22 utilized to the maximum feasible extent;

23 (5) seek opportunities to diversify the flight op-  
24 portunities for scientific Earth science instruments

1 and seek innovation in the development of instru-  
2 ments that would enable greater flight opportunities;

3 (6) develop a long term sustainable relationship  
4 with the United States commercial remote sensing  
5 industry, and, consistent with applicable policies and  
6 law, to the maximum practical extent, rely on their  
7 services;

8 (7) in conjunction with United States industry  
9 and universities, develop Earth science applications  
10 to enhance Federal, State, ~~local, regional, and tribal~~  
11 ~~agencies~~ *local, and tribal governments* that use gov-  
12 ernment and commercial remote sensing capabilities  
13 and other sources of geospatial information to ad-  
14 dress their needs; ~~and~~

15 (8) plan, develop, and implement a near-Earth  
16 object survey program to detect, track, catalogue,  
17 and characterize the physical characteristics of near-  
18 Earth asteroids and comets in order to assess the  
19 threat of such near-Earth objects in impacting the  
20 ~~Earth.~~ *Earth; and*

21 (9) *ensure that, of the amount expended for aéro-*  
22 *nautics, a significant portion is directed toward the*  
23 *Vehicle System Program, as much of the basic, long-*  
24 *term, high-risk, and innovative research in aéro-*

1       *nautical disciplines is performed within that pro-*  
2       *gram.*

3       **SEC. 132. BIENNIAL REPORTS TO CONGRESS ON SCIENCE**  
4                               **PROGRAMS.**

5           (a) IN GENERAL.—Within 180 days after the date  
6 of enactment of this Act and every 2 years thereafter, the  
7 Administrator shall transmit a report to the Senate Com-  
8 mittee on Commerce, Science, and Transportation and the  
9 House of Representatives Committee on Science setting  
10 forth in detail—

11               (1) the findings and actions taken on NASA’s  
12 assessment of the balance within its science portfolio  
13 and any efforts to adjust that balance among the  
14 major program areas, including the areas referred to  
15 in section 131;

16               (2) any activities undertaken by the Adminis-  
17 tration to conform with the Sun-Earth science and  
18 applications direction provided in section 131; and

19               (3) efforts to enhance near-Earth object detec-  
20 tion and observation.

21           (b) EXTERNAL REVIEW FINDINGS.—The Adminis-  
22 trator shall include in each report submitted under this  
23 section a summary of findings and recommendations from  
24 any external reviews of the Administration’s science mis-  
25 sion priorities and programs.

1 **SEC. 133. STATUS REPORT ON HUBBLE SPACE TELESCOPE**  
2 **SERVICING MISSION.**

3 Within 60 days after the landing of the second Space  
4 Shuttle mission for return-to-flight certification, the Ad-  
5 ministrator shall transmit to the Senate Committee on  
6 Commerce, Science, and Transportation and the House of  
7 Representatives Committee on Science a one-time status  
8 report on a Hubble Space Telescope servicing mission.

9 **SEC. 134. DEVELOP EXPANDED PERMANENT HUMAN PRES-**  
10 **ENCE BEYOND LOW-EARTH ORBIT.**

11 (a) IN GENERAL.—As part of the programs author-  
12 ized under the National Aeronautics and Space Act of  
13 1958 (42 U.S.C. 2451 et seq.), the Administrator shall  
14 establish a program to develop a permanently sustained  
15 human presence on the Moon, in tandem with an extensive  
16 precursor program, to support security, commerce, and  
17 scientific pursuits, and as a stepping-stone to future explo-  
18 ration of Mars. The Administrator is further authorized  
19 to develop and conduct international collaborations in pur-  
20 suit of these goals, as appropriate.

21 (b) REQUIREMENTS.—In carrying out this section,  
22 the Administrator shall—

23 (1) implement an effective exploration tech-  
24 nology program that is focused around the key needs  
25 to support lunar human and robotic operations;

1           (2) as part of NASA’s annual budget submis-  
2           sion, submit to the Congress the detailed mission,  
3           schedule, and budget for key lunar mission-enabling  
4           technology areas, including areas for possible innova-  
5           tive governmental and commercial activities and  
6           partnerships;

7           (3) as part of NASA’s annual budget submis-  
8           sion, submit to the Congress a plan for NASA’s  
9           lunar robotic precursor and technology programs, in-  
10          cluding current and planned technology investments  
11          and scientific research that support the lunar pro-  
12          gram; and

13          (4) conduct an intensive in-situ resource utiliza-  
14          tion technology program in order to develop the ca-  
15          pability to use space resources to increase independ-  
16          ence from Earth, and sustain exploration beyond  
17          low-Earth orbit.

18 **SEC. 135. GROUND-BASED ANALOG CAPABILITIES.**

19          (a) IN GENERAL.—The Administrator shall establish  
20          a ground-based analog capability in remote United States  
21          locations in order to assist in the development of lunar  
22          operations, life support, and in-situ resource utilization ex-  
23          perience and capabilities.

24          (b) LOCATIONS.—The Administrator shall select loca-  
25          tions for subsection (a) in places that—

- 1 (1) are regularly accessible;
- 2 (2) have significant temperature extremes and  
3 range; and
- 4 (3) have access to energy and natural resources  
5 (including geothermal, permafrost, volcanic, and  
6 other potential resources).

7 (c) INVOLVEMENT OF LOCAL POPULATIONS; PRI-  
8 VATE SECTOR PARTNERS.—In carrying out this section,  
9 the Administrator shall involve local populations, aca-  
10 demia, and industrial partners as much as possible to en-  
11 sure that ground-based benefits and applications are en-  
12 couraged and developed.

13 **SEC. 136. SPACE LAUNCH AND TRANSPORTATION TRANSI-**  
14 **TION, CAPABILITIES, AND DEVELOPMENT.**

15 (a) POST-ORBITER TRANSITION.—The Adminis-  
16 trator shall develop an implementation plan for the transi-  
17 tion to a new crew exploration vehicle and heavy-lift  
18 launch vehicle that uses the personnel, capabilities, assets,  
19 and infrastructure of the Space Shuttle to the fullest ex-  
20 tent possible and addresses how NASA will accommodate  
21 the docking of the crew exploration vehicle to the ISS.

22 (b) AUTOMATED RENDEZVOUS AND DOCKING.—The  
23 Administrator is directed to pursue aggressively auto-  
24 mated rendezvous and docking capabilities that can sup-  
25 port ISS and other mission requirements and include

1 these activities, progress reports, and plans in the imple-  
2 mentation plan.

3 (c) CONGRESSIONAL SUBMISSION.—Within 120 days  
4 after the date of enactment of this Act the Administrator  
5 shall submit a copy of the implementation plan to the Sen-  
6 ate Committee on Commerce, Science, and Transportation  
7 and the House of Representatives Committee on Science.

8 **SEC. 137. NATIONAL POLICY FOR AERONAUTICS RESEARCH**  
9 **AND DEVELOPMENT.**

10 (a) IN GENERAL.—The President, through the Direc-  
11 tor of the Office of Science and Technology Policy, shall  
12 develop, in consultation with NASA and other relevant  
13 Federal agencies, a national aeronautics policy to guide  
14 the aeronautics programs of the United States through the  
15 year 2020. *The development of this policy shall utilize ex-*  
16 *ternal studies that have been conducted on the state of*  
17 *United States aeronautics and aviation research and have*  
18 *suggested policies to ensure continued competitiveness.*

19 (b) CONTENT.—At a minimum the national aero-  
20 nautics policy shall describe—

21 (1) national goals for aeronautics research;

22 (2) the priority areas of research for aero-  
23 nautics through fiscal year 2011;

1           (3) the basis of which and the process by which  
2           priorities for ensuing fiscal years will be selected;  
3           and

4           (4) respective roles and responsibilities of var-  
5           ious Federal agencies in aeronautics research.

6           ~~(c) NATIONAL ASSESSMENT OF AERONAUTICS IN-~~  
7           ~~FRASTRUCTURE AND CAPABILITIES.—~~In developing the  
8           national aeronautics policy, the President, through the Di-  
9           rector of the Office of Science and Technology Policy, shall  
10          conduct a national study of government-owned aeronautics  
11          research infrastructure to assess—

12           ~~(1) uniqueness, mission dependency, and indus-~~  
13          ~~try need; and~~

14           ~~(2) the development or initiation of a consoli-~~  
15          ~~dated national aviation research, development, and~~  
16          ~~support organization.~~

17          ~~(d) (c) SCHEDULE.—~~No later than 1 year after the  
18          date of enactment of this Act, the President's Science Ad-  
19          visor and the Administrator shall submit the national aer-  
20          onautics policy to the Appropriations Committees of the  
21          House of Representatives and the Senate, the House Com-  
22          mittee on Science, and the Senate Committee on Com-  
23          merce, Science, and Transportation.

1 **SEC. 138. IDENTIFICATION OF UNIQUE NASA CORE AERO-**  
2 **NAUTICS RESEARCH.**

3       Within 180 days after the date of enactment of this  
4 Act, the Administrator shall submit a report to the Senate  
5 Committee on Commerce, Science, and Transportation  
6 and the House of Representatives Committee on Science  
7 that assesses the aeronautics research program for its cur-  
8 rent and potential application to new aeronautic and space  
9 vehicles and the unique aeronautical research and associ-  
10 ated capabilities that must be retained and supported by  
11 NASA to further space exploration and support United  
12 States economic competitiveness.

13 **SEC 139. LESSONS LEARNED AND BEST PRACTICES**

14       (a) IN GENERAL.—The Administrator shall provide  
15 an implementation plan describing NASA’s approach for  
16 obtaining, implementing, and sharing lessons learned and  
17 best practices for its major programs and projects within  
18 180 days after the date of enactment of this Act. The im-  
19 plementation plan shall be updated and maintained to as-  
20 sure that it is current and consistent with the burgeoning  
21 culture of learning and safety that is emerging at NASA.

22       (b) REQUIRED CONTENT.—The implementation plan  
23 shall contain as a minimum the lessons learned and best  
24 practices requirements for NASA, the organizations or po-  
25 sitions responsible for enforcement of the requirements,

1 the reporting structure, and the objective performance  
2 measures indicating the effectiveness of the activity.

3 (c) INCENTIVES.—The Administrator shall provide  
4 incentives to encourage sharing and implementation of les-  
5 sons learned and best practices by employees, projects,  
6 and programs; as well as penalties for programs and  
7 projects that are determined not to have demonstrated use  
8 of those resources.

9 **SEC. 140. SAFETY MANAGEMENT.**

10 Section 6 of the National Aeronautics and Space Ad-  
11 ministration Authorization Act, 1968 (42 U.S.C. 2477) is  
12 amended—

13 (1) by inserting “(a) IN GENERAL.—” before  
14 “There”;

15 (2) by striking “to it” and inserting “to it, in-  
16 cluding evaluating NASA’s compliance with the re-  
17 turn-to-flight and continue-to-fly recommendations  
18 of the Columbia Accident Investigation Board,”;

19 (3) by inserting “and the Congress” after “ad-  
20 vise the Administrator”;

21 (4) by striking “and with respect to the ade-  
22 quacy of proposed or existing safety standards and  
23 shall” and inserting “with respect to the adequacy  
24 of proposed or existing safety standards, and with

1 respect to management and culture. The Panel shall  
2 also”; and

3 (5) by adding at the end the following:

4 “(b) ANNUAL REPORT.—The Panel shall submit an  
5 annual report to the Administrator and to the Congress.  
6 In the first annual report submitted after the date of en-  
7 actment of the National Aeronautics and Space Adminis-  
8 tration Authorization Act of 2005, the Panel shall include  
9 an evaluation of NASA’s safety management culture.

10 “(c) SENSE OF THE CONGRESS.—It is the sense of  
11 the Congress that the Administrator should—

12 “(1) ensure that NASA employees can raise  
13 safety concerns without fear of reprisal;

14 “(2) continue to follow the recommendations of  
15 the Columbia Accident Investigation Board for safe-  
16 ly returning and continuing to fly; and

17 “(3) continue to inform the Congress from time  
18 to time of NASA’s progress in meeting those rec-  
19 ommendations.”.

20 **SEC. 141. CREATION OF A BUDGET STRUCTURE THAT AIDS**  
21 **EFFECTIVE OVERSIGHT AND MANAGEMENT.**

22 In developing NASA’s budget request for inclusion in  
23 the Budget of the United States for fiscal year 2007 and  
24 thereafter, the Administrator shall—

25 (1) include line items for—

1 (A) science, aeronautics, and exploration;

2 (B) exploration capabilities; and

3 (C) the Office of the Inspector General;

4 (2) enumerate separately, within the science,  
5 aeronautics, and exploration account, the requests  
6 for—

7 (A) space science;

8 (B) Earth science; and

9 (C) aeronautics;

10 (3) include, within the exploration capabilities  
11 account, the requests for—

12 (A) the Space Shuttle; and

13 (B) the ISS; and

14 (4) enumerate separately the specific request  
15 for the independent technical authority within the  
16 appropriate account.

17 **SEC. 142. EARTH OBSERVING SYSTEM.**

18 (a) IN GENERAL.—Within 6 months after the date  
19 of enactment of this Act, the Administrator, in consulta-  
20 tion with the Administrator of the National Oceanic and  
21 Atmospheric Administration and the Director of the  
22 United States Geological Survey, shall submit a plan to  
23 the Senate Committee on Commerce, Science, and Trans-  
24 portation and the House of Representatives Committee on

1 Science to ensure the long-term vitality of the earth ob-  
2 serving system at NASA.

3 (b) PLAN REQUIREMENTS.—The plan shall—

4 (1) address such issues as—

5 (A) out-year budgetary projections;

6 (B) technical requirements for the system;

7 and

8 (C) integration into the Global Earth Ob-  
9 serving System of Systems; and

10 (2) evaluate—

11 (A) the need to proceed with any NASA  
12 missions that have been delayed or canceled;

13 (B) plans for transferring needed capabili-  
14 ties from some canceled or de-scoped missions  
15 to the National Polar-orbiting Environmental  
16 Satellite System;

17 (C) the technical base for exploratory earth  
18 observing ~~systems~~; *systems, including new sat-*  
19 *ellite architectures and instruments that enable*  
20 *global coverage, all-weather, day and night im-*  
21 *aging of the Earth's surface features;*

22 (D) the need to strengthen research and  
23 analysis programs; and

1 (E) the need to strengthen the approach to  
 2 obtaining important climate observations and  
 3 data records.

4 (c) EARTH OBSERVING SYSTEM DEFINED.—In this  
 5 section, the term “earth observing system” means the se-  
 6 ries of satellites, a science component, and a data system  
 7 for long-term global observations of the land surface, bio-  
 8 sphere, solid Earth, atmosphere, and oceans.

9 **SEC. 143. NASA HEALTHCARE PROGRAM.**

10 *The Administrator shall develop policies, procedures,*  
 11 *and plans necessary for—*

12 (1) *the establishment of a lifetime healthcare pro-*  
 13 *gram for NASA astronauts and their families; and*

14 (2) *the study and analysis of the healthcare data*  
 15 *obtained in order to understand the longitudinal*  
 16 *health effects of space flight on humans better.*

17 **SEC. 144. ASSESSMENT OF EXTENSION OF DATA COLLEC-**  
 18 **TION FROM ULYSSES AND VOYAGER SPACE-**  
 19 **CRAFT.**

20 (a) *ASSESSMENT.*—*Not later than 60 days after the*  
 21 *date of the enactment of this Act, the Administrator shall*  
 22 *carry out an assessment of the costs and benefits of extend-*  
 23 *ing, to such date as the Administrator considers appro-*  
 24 *priate for purposes of the assessment, the date of the termi-*



1           (4) with a special emphasis on increasing the  
2           number of women and minorities in the science and  
3           engineering professions.

4 **SEC. 146. INSTITUTIONS IN NASA'S MINORITY INSTITU-**  
5 **TIONS PROGRAM.**

6           The matter appearing under the heading "SMALL AND  
7 *DISADVANTAGED BUSINESS*" in title III of the Departments  
8 *of Veterans Affairs and House and Urban Development,*  
9 *and Independent Agencies Appropriations Act, 1990 (42*  
10 *U.S.C. 2473b; 103 Stat. 863) is amended by striking "His-*  
11 *torically Black Colleges and Universities and"* and insert-  
12 *ing "Historically Black Colleges and Universities that are*  
13 *part B institutions (as defined in section 322(2) of the*  
14 *Higher Education Act of 1965 (20 U.S.C. 1061(2))), His-*  
15 *panic-serving institutions (as defined in section 502(a)(5)*  
16 *of that Act (20 U.S.C. 1101a(a)(5)), Tribal Colleges or Uni-*  
17 *versities (as defined in section 316(b)(3) of that Act (20*  
18 *U.S.C. 1059c(b)(3)), Alaskan Native-serving institutions*  
19 *(as defined in section 317(b)(2) of that Act (20 U.S.C.*  
20 *1059d)(b)(2)), Native Hawaiian-serving institutions (as de-*  
21 *finied in section 317(b)(4) of that Act (20 U.S.C.*  
22 *1059d)(b)(4)), and".*

23 **SEC. 147. AVIATION SAFETY PROGRAM.**

24           The Administrator shall make available upon request  
25 satellite imagery of remote terrain to the Administrator of

1 *the Federal Aviation Administration, or the Director of the*  
2 *Five Star Medallion Program, for aviation safety and aer-*  
3 *ial photography programs to assist and train pilots in*  
4 *navigating challenging topographical features of such ter-*  
5 *rain.*

6 **SEC. 148. ATMOSPHERIC, GEOPHYSICAL, AND ROCKET RE-**  
7 **SEARCH AUTHORIZATION.**

8 *There are authorized to be appropriated to the Admin-*  
9 *istrator for atmospheric, geophysical, or rocket research at*  
10 *the Poker Flat Research Range and the Kodiak Launch*  
11 *Complex, not more than \$1,000,000 for each of fiscal years*  
12 *2006 through 2010.*

13 **SEC. 149. ORBITAL DEBRIS.**

14 *The Administrator, in conjunction with the heads of*  
15 *other Federal agencies, shall take steps to develop or acquire*  
16 *technologies that will enable NASA to decrease the risks as-*  
17 *sociated with orbital debris.*

18 **SEC. 150. CONTINUATION OF CERTAIN EDUCATIONAL PRO-**  
19 **GRAMS.**

20 *From amounts appropriated to NASA for educational*  
21 *programs, the Administrator shall ensure continuation of*  
22 *the Space Grant Program, the Experimental Program to*  
23 *Stimulate Competitive Research, and the NASA Explorer*  
24 *School to motivate and develop the next generation of ex-*  
25 *plorers.*

1 **SEC. 151. ESTABLISHMENT OF THE CHARLES “PETE”**  
2 **CONRAD ASTRONOMY AWARDS PROGRAM.**

3 (a) *IN GENERAL.*—*The Administrator shall establish*  
4 *a program to be known as the Charles “Pete” Conrad As-*  
5 *tronomy Awards Program.*

6 (b) *AWARDS.*—*The Administrator shall make an an-*  
7 *nual award under the program of—*

8 (1) *\$3,000 to the amateur astronomer or group*  
9 *of amateur astronomers who in the preceding cal-*  
10 *endar year discovered the intrinsically brightest near-*  
11 *Earth asteroid among the near-Earth asteroids that*  
12 *were discovered during that year by amateur astron-*  
13 *omers or groups of amateur astronomers; and*

14 (2) *\$3,000 to the amateur astronomer or group*  
15 *of amateur astronomers who made the greatest con-*  
16 *tribution to the Minor Planet Center’s mission of cat-*  
17 *aloging near-Earth asteroids during the preceding*  
18 *year.*

19 (c) *QUALIFICATION FOR AWARD.*—

20 (1) *RECOMMENDATION.*—*These awards shall be*  
21 *made based on the recommendation of the Minor*  
22 *Planet Center of the Smithsonian Astrophysical Ob-*  
23 *servatory.*

24 (2) *LIMITATION.*—*No individual who is not a*  
25 *citizen or permanent resident of the United States at*



1 therein, and retain the net proceeds of such dispositions  
2 in an account within NASA's working capital fund to be  
3 used for NASA's real property capital needs. All net pro-  
4 ceeds realized under this section shall be obligated or ex-  
5 pended only as authorized by appropriations Acts. To aid  
6 in the use of this authority, NASA shall develop a facilities  
7 investment plan that takes into account uniqueness, mis-  
8 sion dependency, and other studies required by this Act.

9 (b) APPLICATION OF OTHER LAW.—Sales trans-  
10 actions under this section are subject to section 501 of  
11 the McKinney-Vento Homeless Assistance Act (42 U.S.C.  
12 11411).

13 (c) NOTICE OF REPROGRAMMING.—If any funds au-  
14 thorized by this Act are subject to a reprogramming action  
15 that requires notice to be provided to the Appropriations  
16 Committees of the House of Representatives and the Sen-  
17 ate, notice of such action shall concurrently be provided  
18 to the House of Representatives Committee on Science  
19 and the Senate Committee on Commerce, Science, and  
20 Transportation.

21 (d) DEFINITIONS.—In this section:

22 (1) NET PROCEEDS.—The term “net proceeds”  
23 means the rental and other sums received less the  
24 costs of the disposition.

1           (2) REAL PROPERTY CAPITAL NEEDS.—The  
2 term “real property capital needs” means any ex-  
3 penses necessary and incident to the agency’s real  
4 property capital acquisitions, improvements, and dis-  
5 positions.

6           **TITLE II—INTERNATIONAL**  
7           **SPACE STATION**

8   **SEC. 201. INTERNATIONAL SPACE STATION COMPLETION.**

9           (a) ELEMENTS, CAPABILITIES, AND CONFIGURATION  
10 CRITERIA.—The Administrator shall ensure that the ISS  
11 will be able to—

12           (1) fulfill international partner agreements and  
13 provide a diverse range of research capacity, includ-  
14 ing a high rate of human biomedical research proto-  
15 cols, countermeasures, applied bio-technologies, tech-  
16 nology and exploration research, and other priority  
17 areas;

18           (2) have an ability to support crew size of at  
19 least 6 persons;

20           (3) support crew exploration vehicle docking  
21 and automated docking of cargo vehicles or modules  
22 launched by either heavy-lift or commercially-devel-  
23 oped launch vehicles; and

24           (4) be operated at an appropriate risk level.

1           (b) CONTINGENCY PLAN.—The transportation plan  
2 to support ISS shall include contingency options to ensure  
3 sufficient logistics and on-orbit capabilities to support any  
4 potential hiatus between Space Shuttle availability and fol-  
5 low-on crew and cargo systems, and provide sufficient pre-  
6 positioning of spares and other supplies needed to accom-  
7 modate any such hiatus.

8           (c) CERTIFICATION.—Within ~~180~~ 60 days after the  
9 date of enactment of this Act, and before making any  
10 change in the ISS assembly sequence in effect on the date  
11 of enactment of this Act, the Administrator shall certify  
12 in writing to the Senate Committee on Commerce, Science,  
13 and Transportation and the House of Representatives  
14 Committee on Science NASA's plan to meet the require-  
15 ments of subsections (a) and (b).

16           (d) COST LIMITATION FOR THE ISS.—Within 6  
17 months after the date of enactment of this Act, the Ad-  
18 ministrator shall submit to the Congress information per-  
19 taining to the impact of the Columbia accident and the  
20 implementation of full cost accounting on the development  
21 costs of the International Space Station. The Adminis-  
22 trator shall also identify any statutory changes needed to  
23 section 202 of the NASA Authorization Act of 2000 to  
24 address those impacts.

1 **SEC. 202. RESEARCH AND SUPPORT CAPABILITIES ON**  
2 **INTERNATIONAL SPACE STATION.**

3 (a) IN GENERAL.—The Administrator shall—

4 (1) within 60 days after the date of enactment  
5 of this Act, provide an assessment of biomedical and  
6 life science research planned for implementation  
7 aboard the ISS that includes the identification of re-  
8 search which can be performed in ground-based fa-  
9 cilities and then, if appropriate, validated in space to  
10 the Senate Committee on Commerce, Science, and  
11 Transportation and the House of Representatives  
12 Committee on Science;

13 (2) ensure the capacity to support ground-based  
14 research leading to spaceflight of scientific research  
15 in a variety of disciplines with potential direct na-  
16 tional benefits and applications that can advance  
17 significantly from the uniqueness of micro-gravity;

18 (3) restore and protect such potential ISS re-  
19 search activities as molecular crystal growth, animal  
20 research, basic fluid physics, combustion research,  
21 cellular biotechnology, low temperature physics, and  
22 cellular research at a level which will sustain the ex-  
23 isting scientific expertise and research capabilities  
24 until such time as additional funding or resources  
25 from sources other than NASA can be identified to  
26 support these activities within the framework of the

1 National Laboratory provided for in section 203 of  
2 this Act; and

3 (4) within 1 year after the date of enactment  
4 of this Act, develop a research plan that will dem-  
5 onstrate the process by which NASA will evolve the  
6 ISS research portfolio in a manner consistent with  
7 the planned growth and evolution of ISS on-orbit  
8 and transportation capabilities.

9 (b) MAINTENANCE OF ON-ORBIT ANALYTICAL CAPA-  
10 BILITIES.—The Administrator shall ensure that on-orbit  
11 analytical capabilities to support diagnostic human re-  
12 search, as well as on-orbit characterization of molecular  
13 crystal growth, cellular research, and other research prod-  
14 ucts and results are developed and maintained, as an al-  
15 ternative to Earth-based analysis requiring the capability  
16 of returning research products to Earth.

17 (c) ASSESSMENT OF POTENTIAL SCIENTIFIC  
18 USES.—The Administrator shall assess further potential  
19 possible scientific uses of the ISS for other applications,  
20 such as technology development, development of manufac-  
21 turing processes, Earth observation and characterization,  
22 and astronomical observations.

23 (d) TRANSITION TO PUBLIC-PRIVATE RESEARCH OP-  
24 ERATIONS.—By no later than the date on which the as-  
25 sembly of the ISS is complete (as determined by the Ad-

1 administrator), the Administrator shall initiate steps to tran-  
2 sition research operations on the ISS to a greater private-  
3 public operating relationship pursuant to section 203 of  
4 this Act.

5 **SEC. 203. NATIONAL LABORATORY STATUS FOR INTER-**  
6 **NATIONAL SPACE STATION.**

7 (a) IN GENERAL.—In order to accomplish the objec-  
8 tives listed in section 202, the United States segment of  
9 the ISS is hereby designated a national laboratory facility.  
10 The Administrator, after consultation with the Director  
11 of the Office of Science and Technology Policy, shall de-  
12 velop the national laboratory facility to oversee scientific  
13 utilization of an ISS national laboratory within the organi-  
14 zational structure of NASA.

15 (b) NATIONAL LABORATORY FUNCTIONS.—The Ad-  
16 ministrator shall seek to use the national laboratory to in-  
17 crease the utilization of the ISS by other national and  
18 commercial users and to maximize available NASA fund-  
19 ing for research through partnerships, cost-sharing agree-  
20 ments, and arrangements with non-NASA entities.

21 (c) IMPLEMENTATION PLAN.—Within 1 year after  
22 the date of enactment of this Act, the Administrator shall  
23 provide an implementation plan to the Senate Committee  
24 on Commerce, Science, and Transportation and the House  
25 of Representatives Committee on Science for establish-

1 ment of the ISS national laboratory facility which, at a  
2 minimum, shall include—

- 3 (1) proposed on-orbit laboratory functions;
- 4 (2) proposed ground-based laboratory facilities;
- 5 (3) detailed laboratory management structure,  
6 concept of operations, and operational feasibility;
- 7 (4) detailed plans for integration and conduct  
8 of ground and space-based research operations;
- 9 (5) description of funding and workforce re-  
10 source requirements necessary to establish and oper-  
11 ate the laboratory;
- 12 (6) plans for accommodation of existing inter-  
13 national partner research obligations and commit-  
14 ments; and
- 15 (7) detailed outline of actions and timeline nec-  
16 essary to implement and initiate operations of the  
17 laboratory.

18 (d) U.S. SEGMENT DEFINED.—In this section the  
19 term “United States Segment of the ISS” means those  
20 elements of the ISS manufactured—

- 21 (1) by the United States; or
- 22 (2) for the United States by other nations in  
23 exchange for funds or launch services.

1 **SEC. 204. COMMERCIAL SUPPORT OF INTERNATIONAL**  
2 **SPACE STATION OPERATIONS AND UTILIZA-**  
3 **TION.**

4 The Administrator shall purchase commercial serv-  
5 ices for support of the ISS for cargo and other ~~needs~~  
6 *needs, and for enhancement of the capabilities of the ISS,*  
7 to the maximum extent possible, in accordance with Fed-  
8 eral procurement law.

9 **SEC. 205. USE OF THE INTERNATIONAL SPACE STATION**  
10 **AND ANNUAL REPORT.**

11 (a) POLICY.—It is the policy of the United States—

12 (1) to ensure diverse and growing utilization of  
13 benefits from the ISS; and

14 (2) to increase commercial operations in low-  
15 Earth orbit and beyond that are supported by na-  
16 tional and commercial space transportation capabili-  
17 ties.

18 (b) USE OF INTERNATIONAL SPACE STATION.—The  
19 Administrator shall conduct broadly focused scientific and  
20 exploration research and development activities using the  
21 ISS in a manner consistent with the provisions of this  
22 title, and advance the Nation’s exploration of the Moon  
23 and beyond, using the ISS as a test-bed and outpost for  
24 operations, engineering, and scientific research.

25 (c) REPORTS.—No later than March 31 of each year  
26 the Administrator shall submit a report to the Senate

1 Committee on Commerce, Science, and Transportation  
2 and the House of Representatives Committee on Science  
3 on the use of the ISS for these purposes, with implementa-  
4 tion milestones and associated results.

5 **TITLE III—NATIONAL SPACE**  
6 **TRANSPORTATION POLICY**

7 **SEC. 301. UNITED STATES HUMAN-RATED LAUNCH CAPAC-**  
8 **ITY ASSESSMENT.**

9 Notwithstanding any other provision of law, the Ad-  
10 ministrator shall, within 60 days after the date of enact-  
11 ment of this Act, provide to the Senate Committee on  
12 Commerce, Science, and Transportation and the House of  
13 Representatives Committee on Science, a full description  
14 of the transportation requirements needed to support the  
15 space launch and transportation transition implementa-  
16 tion plan required by section 136 of this Act, as well as  
17 for the ISS, including—

18 (1) the manner in which the capabilities of any  
19 proposed human-rated crew and launch vehicles  
20 meet the requirements of the implementation plan  
21 under section 136 of this Act;

22 (2) a retention plan of skilled personnel from  
23 the legacy Shuttle program which will sustain the  
24 level of safety for that program through the final  
25 flight and transition plan that will ensure that any

1 NASA programs can utilize the human capital re-  
2 sources of the Shuttle program, to the maximum ex-  
3 tent practicable;

4 (3) the implications for and impact on the Na-  
5 tion's aerospace industrial base;

6 (4) the manner in which the proposed vehicles  
7 contribute to a national mixed fleet launch and flight  
8 capacity;

9 (5) the nature and timing of the transition from  
10 the Space Shuttle to the workforce, the proposed ve-  
11 hicles, and any related infrastructure;

12 (6) support for ISS crew transportation, ISS  
13 utilization, and lunar exploration architecture;

14 (7) for any human rated vehicle, a crew escape  
15 system, as well as substantial protection against or-  
16 bital debris strikes that offers a high level of safety;

17 (8) development risk areas;

18 (9) the schedule and cost;

19 (10) the relationship between crew and cargo  
20 capabilities; and

21 (11) the ability to reduce risk through the use  
22 of currently qualified hardware.

23 **SEC. 302. SPACE SHUTTLE TRANSITION.**

24 (a) IN GENERAL.—In order to ensure continuous  
25 human access to space, the Administrator may not retire

1 the Space Shuttle orbiter until a replacement human-rated  
2 spacecraft system has demonstrated that it can take hu-  
3 mans into Earth orbit and return them safely, except as  
4 may be provided by law enacted after the date of enact-  
5 ment of this Act. The Administrator shall conduct the  
6 transition from the Space Shuttle orbiter to a replacement  
7 capability in a manner that uses the personnel, capabili-  
8 ties, assets, and infrastructure of the current Space Shut-  
9 tle program to the maximum extent feasible.

10 (b) REPORT.—After providing the information re-  
11 quired by section 301 to the Committees, the Adminis-  
12 trator shall transmit a report to the Senate Committee  
13 on Commerce, Science, and Transportation and the House  
14 of Representatives Committee on Science containing a de-  
15 tailed and comprehensive Space Shuttle transition plan  
16 that includes any necessary recertification, including re-  
17 quirements, assumptions, and milestones, in order to uti-  
18 lize the Space Shuttle orbiter beyond calendar year 2010.

19 (c) CONTRACT TERMINATIONS; VENDOR REPLACE-  
20 MENTS.—The Administrator may not terminate any con-  
21 tracts nor replace any vendors associated with the Space  
22 Shuttle until the Administrator transmits the report re-  
23 quired by subsection (b) to the Committees.

1 **SEC. 303. COMMERCIAL LAUNCH VEHICLES.**

2 It is the sense of Congress that the Administrator  
3 should use current and emerging commercial launch vehi-  
4 cles to fulfill appropriate mission needs, including the sup-  
5 port of low-Earth orbit and lunar exploration operations.

6 **SEC. 304. SECONDARY PAYLOAD CAPABILITY.**

7 In order to help develop a cadre of experienced engi-  
8 neers and to provide more routine and affordable access  
9 to space, the Administrator shall provide the capabilities  
10 to support secondary payloads on United States launch  
11 vehicles, including free flyers, for satellites or scientific  
12 payloads weighing less than 500 kilograms.

13 **TITLE IV—ENABLING**  
14 **COMMERCIAL ACTIVITY**

15 **SEC. 401. COMMERCIALIZATION PLAN.**

16 (a) IN GENERAL.—The Administrator, in consulta-  
17 tion with the Associate Administrator for Space Transpor-  
18 tation of the Federal Aviation Administration, the Direc-  
19 tor of the Office of Space Commercialization of the De-  
20 partment of Commerce, and any other relevant agencies,  
21 shall develop a commercialization plan to support the  
22 human missions to the Moon and Mars, to support Low-  
23 Earth Orbit activities and Earth science mission and ap-  
24 plications, and to transfer science research and technology  
25 to society. The plan shall identify opportunities for the pri-  
26 vate sector to participate in the future missions and activi-

1 ties, including opportunities for partnership between  
2 NASA and the private sector in the development of tech-  
3 nologies and ~~services~~ *services, shall emphasize the utiliza-*  
4 *tion by NASA of advancements made by the private sector*  
5 *in space launch and orbital hardware, and shall include*  
6 *opportunities for innovative collaborations between NASA*  
7 *and the private sector under existing authorities of NASA*  
8 *for reimbursable and non-reimbursable agreements under*  
9 *the National Aeronautics and Space Act of 1958 (42 U.S.C.*  
10 *2451 et seq.).*

11 (b) REPORT.—Within 180 days after the date of en-  
12 actment of this Act, the Administrator shall submit a copy  
13 of the plan to the Senate Committee on Commerce,  
14 Science, and Transportation and the House of Represent-  
15 atives Committee on Science.

16 **SEC. 402. AUTHORITY FOR COMPETITIVE PRIZE PROGRAM**  
17 **TO ENCOURAGE DEVELOPMENT OF AD-**  
18 **VANCED SPACE AND AERONAUTICAL TECH-**  
19 **NOLOGIES.**

20 Title III of the National Aeronautics and Space Act  
21 of 1958 (42 U.S.C. 2451 et seq.) is amended by adding  
22 at the end the following:

1 **“SEC. 316. PROGRAM ON COMPETITIVE AWARD OF PRIZES**  
2 **TO ENCOURAGE DEVELOPMENT OF AD-**  
3 **VANCED SPACE AND AERONAUTICAL TECH-**  
4 **NOLOGIES.**

5 “(a) PROGRAM AUTHORIZED.—

6 “(1) IN GENERAL.—The Administrator may  
7 carry out a program to award prizes to stimulate in-  
8 novation in basic and applied research, technology  
9 development, and prototype demonstration that have  
10 the potential for application to the performance of  
11 the space and aeronautical activities of the Adminis-  
12 tration.

13 “(2) USE OF PRIZE AUTHORITY.—In carrying  
14 out the program, the Administrator shall seek to de-  
15 velop and support technologies and areas identified  
16 in section 134 of this Act or other areas that the  
17 Administrator determines to be providing impetus to  
18 NASA’s overall exploration and science architecture  
19 and plans, such as private efforts to detect near  
20 Earth objects and, where practicable, utilize the  
21 prize winner’s technologies in fulfilling NASA’s mis-  
22 sions. The Administrator shall widely advertise any  
23 competitions conducted under the program and must  
24 include advertising to research universities.

25 “(3) COORDINATION.—The program shall be  
26 implemented in compliance with section 138 of the

1 National Aeronautics and Space Administration Au-  
2 thorization Act of 2005.

3 “(b) PROGRAM REQUIREMENTS.—

4 “(1) COMPETITIVE PROCESS.—Recipients of  
5 prizes under the program under this section shall be  
6 selected through one or more competitions conducted  
7 by the Administrator.

8 “(2) ADVERTISING.—The Administrator shall  
9 widely advertise any competitions conducted under  
10 the program.

11 “(c) REGISTRATION; ASSUMPTION OF RISK.—

12 “(1) REGISTRATION.—Each potential recipient  
13 of a prize in a competition under the program under  
14 this section shall register for the competition.

15 “(2) ASSUMPTION OF RISK.—In registering for  
16 a competition under paragraph (1), a potential re-  
17 cipient of a prize shall assume any and all risks, and  
18 waive claims against the United States Government  
19 and its related entities, for any injury, death, dam-  
20 age, or loss of property, revenue, or profits, whether  
21 direct, indirect, or consequential, arising from par-  
22 ticipation in the competition, whether such injury,  
23 death, damage, or loss arises through negligence or  
24 otherwise, except in the case of willful misconduct.

1           “(3) RELATED ENTITY DEFINED.—In this sub-  
2           section, the term ‘related entity’ includes a con-  
3           tractor or subcontractor at any tier, a supplier, user,  
4           customer, cooperating party, grantee, investigator,  
5           or detailee.

6           “(d) LIMITATIONS.—

7           “(1) TOTAL AMOUNT.—The total amount of  
8           cash prizes available for award in competitions  
9           under the program under this section in any fiscal  
10          year may not exceed \$50,000,000.

11          “(2) APPROVAL REQUIRED FOR LARGE  
12          PRIZES.—No competition under the program may  
13          result in the award of more than \$1,000,000 in cash  
14          prizes without the approval of the Administrator or  
15          a designee of the Administrator.

16          “(e) RELATIONSHIP TO OTHER AUTHORITY.—The  
17          Administrator may utilize the authority in this section in  
18          conjunction with or in addition to the utilization of any  
19          other authority of the Administrator to acquire, support,  
20          or stimulate basic and applied research, technology devel-  
21          opment, or prototype demonstration projects.

22          “(f) AVAILABILITY OF FUNDS.—Funds appropriated  
23          for the program authorized by this section shall remain  
24          available until expended.”.

1 **SEC. 403. COMMERCIAL GOODS AND SERVICES.**

2 It is the sense of the Congress that NASA should  
 3 purchase commercially available space goods and services  
 4 to the fullest extent feasible in support of the human mis-  
 5 sions beyond Earth and should encourage commercial use  
 6 and development of space to the greatest extent prac-  
 7 ticable.

8 **TITLE V—MISCELLANEOUS AD-**  
 9 **MINISTRATIVE IMPROVE-**  
 10 **MENTS**

11 **SEC. 501. EXTENSION OF INDEMNIFICATION AUTHORITY.**

12 Section 309 of the National Aeronautics and Space  
 13 Act of 1958 (42 U.S.C. 2458c) is amended by striking  
 14 “December 31, 2002” and inserting “December 31,  
 15 2007”, and by striking “September 30, 2005” and insert-  
 16 ing “December 31, 2009”.

17 **SEC. 502. INTELLECTUAL PROPERTY PROVISIONS.**

18 Section 305 of the National Aeronautics and Space  
 19 Act of 1958, as amended (~~42 U.S.C. 2457 et seq.~~), 1958  
 20 (*42 U.S.C. 2457*) is amended by inserting after subsection  
 21 (f) the following:

22 “(g) ASSIGNMENT OF PATENT RIGHTS, ETC.—

23 “(1) IN GENERAL.—Under agreements entered  
 24 into pursuant to paragraph (5) or (6) of section  
 25 203(c) of this Act (42 U.S.C. 2473(c)(5) or (6)), the  
 26 Administrator may—

1           “(A) grant or agree to grant in advance to  
2           a participating party, patent licenses or assign-  
3           ments, or options thereto, in any invention  
4           made in whole or in part by an Administration  
5           employee under the agreement; or

6           “(B) subject to section 209 of title 35,  
7           grant a license to an invention which is Feder-  
8           ally owned, for which a patent application was  
9           filed before the signing of the agreement, and  
10          directly within the scope of the work under the  
11          agreement, for reasonable compensation when  
12          appropriate.

13          “(2) EXCLUSIVITY.—The Administrator shall  
14          ensure, through such agreement, that the partici-  
15          pating party has the option to choose an exclusive  
16          license for a pre-negotiated field of use for any such  
17          invention under the agreement or, if there is more  
18          than 1 participating party, that the participating  
19          parties are offered the option to hold licensing rights  
20          that collectively encompass the rights that would be  
21          held under such an exclusive license by one party.

22          “(3) CONDITIONS.—In consideration for the  
23          Government’s contribution under the agreement,  
24          grants under this subsection shall be subject to the  
25          following explicit conditions:

1           “(A) A nonexclusive, nontransferable, ir-  
2           revocable, paid-up license from the participating  
3           party to the Administration to practice the in-  
4           vention or have the invention practiced through-  
5           out the world by or on behalf of the Govern-  
6           ment. In the exercise of such license, the Gov-  
7           ernment shall not publicly disclose trade secrets  
8           or commercial or financial information that is  
9           privileged or confidential within the meaning of  
10          section 552 (b)(4) of title 5, United States  
11          Code, or which would be considered as such if  
12          it had been obtained from a non-Federal party.

13          “(B) If the Administration assigns title or  
14          grants an exclusive license to such an invention,  
15          the Government shall retain the right—

16                 “(i) to require the participating party  
17                 to grant to a responsible applicant a non-  
18                 exclusive, partially exclusive, or exclusive  
19                 license to use the invention in the appli-  
20                 cant’s licensed field of use, on terms that  
21                 are reasonable under the circumstances; or

22                 “(ii) if the participating party fails to  
23                 grant such a license, to grant the license  
24                 itself.

1           “(C) The Government may exercise its  
2 right retained under subparagraph (B) only in  
3 exceptional circumstances and only if the Gov-  
4 ernment determines that—

5                   “(i) the action is necessary to meet  
6 health or safety needs that are not reason-  
7 ably satisfied by the participating party;

8                   “(ii) the action is necessary to meet  
9 requirements for public use specified by  
10 Federal regulations, and such requirements  
11 are not reasonably satisfied by the partici-  
12 pating party; or

13                   “(iii) the action is necessary to comply  
14 with an agreement containing provisions  
15 described in section 12(c)(4)(B) of the Ste-  
16 venson-Wydler Technology Innovation Act  
17 of 1980 (15 U.S.C. 3710a(c)(4)(B)).

18           “(4) APPEAL AND REVIEW OF DETERMINA-  
19 TION.—A determination under paragraph  
20 (3)(C) is subject to administrative appeal and  
21 judicial review under section 203(b) of title 35,  
22 United States Code.”.

1 **SEC. 503. RETROCESSION OF JURISDICTION.**

2 Title III of the National Aeronautics and Space Act  
3 of 1958, as amended by section 502 of this Act, is further  
4 amended by adding at the end the following:

5 **“SEC. 317. RETROCESSION OF JURISDICTION.**

6 “Notwithstanding any other provision of law, the Ad-  
7 ministrator may, whenever the Administrator considers it  
8 desirable, relinquish to a State all or part of the legislative  
9 jurisdiction of the United States over lands or interests  
10 under the Administrator’s control in that State. Relin-  
11 quishment of legislative jurisdiction under this section  
12 may be accomplished (1) by filing with the Governor of  
13 the State concerned a notice of relinquishment to take ef-  
14 fect upon acceptance thereof, or (2) as the laws of the  
15 State may otherwise provide.”.

16 **SEC. 504. RECOVERY AND DISPOSITION AUTHORITY.**

17 Title III of the National Aeronautics and Space Act  
18 of 1958, as amended by section 603 of this Act, is further  
19 amended by adding at the end the following:

20 **“SEC. 318. RECOVERY AND DISPOSITION AUTHORITY.**

21 “(a) IN GENERAL.—

22 “(1) CONTROL OF REMAINS.—Subject to para-  
23 graph (2), when there is an accident or mishap re-  
24 sulting in the death of a crewmember of a NASA  
25 human space flight vehicle, the Administrator may  
26 take control over the remains of the crewmember

1 and order autopsies and other scientific or medical  
2 tests.

3 “(2) TREATMENT.—Each crewmember shall  
4 provide the Administrator with his or her pref-  
5 erences regarding the treatment accorded to his or  
6 her remains and the Administrator shall, to the ex-  
7 tent possible, respect those stated preferences.

8 “(b) DEFINITIONS.—In this section:

9 “(1) CREWMEMBER.—The term ‘crewmember’  
10 means an astronaut or other person assigned to a  
11 NASA human space flight vehicle.

12 “(2) NASA HUMAN SPACE FLIGHT VEHICLE.—  
13 The term ‘NASA human space flight vehicle’ means  
14 a space vehicle, as defined in section 308(f)(1),  
15 that—

16 “(A) is intended to transport 1 or more  
17 persons;

18 “(B) designed to operate in outer space;  
19 and

20 “(C) is either owned by NASA, or owned  
21 by a NASA contractor or cooperating party and  
22 operated as part of a NASA mission or a joint  
23 mission with NASA.”.

1 **SEC. 505. REQUIREMENT FOR INDEPENDENT COST ANAL-**  
2 **YSIS.**

3 Section 301 of the National Aeronautics and Space  
4 Administration Authorization Act of 2000 (42 U.S.C.  
5 2459g) amended—

6 (1) by striking “Phase B” in subsection (a) and  
7 inserting “implementation”;

8 ~~(2) by striking “\$150,000,000” in subsection~~  
9 ~~(a) and inserting “\$250,000,000”;~~

10 ~~(3) (2) by striking “Chief Financial Officer”~~  
11 ~~each place it appears in subsection (a) and inserting~~  
12 ~~“Administrator”;~~

13 ~~(4) (3) by inserting “and consider” in sub-~~  
14 ~~section (a) after “shall conduct”; and~~

15 ~~(5) (4) by striking subsection (b) and inserting~~  
16 ~~the following:~~

17 “(b) IMPLEMENTATION DEFINED.—In this section,  
18 the term ‘implementation’ means all activity in the life  
19 cycle of a program or project after preliminary design,  
20 independent assessment of the preliminary design, and ap-  
21 proval to proceed into implementation, including critical  
22 design, development, certification, launch, operations, dis-  
23 posal of assets, and, for technology programs, develop-  
24 ment, testing, analysis and communication of the results  
25 to the customers.”.

1 **SEC. 506. ELECTRONIC ACCESS TO BUSINESS OPPORTUNI-**  
2 **TIES.**

3 Title III of the National Aeronautics and Space Act  
4 of 1958, as amended by section 604 of this Act, is further  
5 amended by adding at the end the following:

6 **“SEC. 319. ELECTRONIC ACCESS TO BUSINESS OPPORTUNI-**  
7 **TIES.**

8 “(a) IN GENERAL.—The Administrator may imple-  
9 ment a pilot program providing for reduction in the wait-  
10 ing period between publication of notice of a proposed con-  
11 tract action and release of the solicitation for procure-  
12 ments conducted by the National Aeronautics and Space  
13 Administration.

14 “(b) APPLICABILITY.—The program implemented  
15 under subsection (a) shall apply to non-commercial acqui-  
16 sitions—

17 “(1) with a total value in excess of \$100,000  
18 but not more than \$5,000,000, including options;

19 “(2) that do not involve bundling of contract re-  
20 quirements as defined in section 3(o) of the Small  
21 Business Act (15 U.S.C. 632(o)); and

22 “(3) for which a notice is required by section  
23 8(e) of the Small Business Act (15 U.S.C. 637(e))  
24 and section 18(a) of the Office of Federal Procure-  
25 ment Policy Act (41 U.S.C. 416(a)).

26 “(c) NOTICE.—

1           “(1) Notice of acquisitions subject to the pro-  
2           gram authorized by this section shall be made acces-  
3           sible through the single Government-wide point of  
4           entry designated in the Federal Acquisition Regula-  
5           tion, consistent with section 30(c)(4) of the Office of  
6           Federal Procurement Policy Act (41 U.S.C.  
7           426(c)(4)).

8           “(2) Providing access to notice in accordance  
9           with paragraph (1) satisfies the publication require-  
10          ments of section 8(e) of the Small Business Act (15  
11          U.S.C. 637(e)) and section 18(a) of the Office of  
12          Federal Procurement Policy Act (41 U.S.C. 416(a)).

13          “(d) SOLICITATION.—Solicitations subject to the pro-  
14          gram authorized by this section shall be made accessible  
15          through the Government-wide point of entry, consistent  
16          with requirements set forth in the Federal Acquisition  
17          Regulation, except for adjustments to the wait periods as  
18          provided in subsection (e).

19          “(e) WAIT PERIOD.—

20                 “(1) Whenever a notice required by section  
21                 8(e)(1)(A) of the Small Business Act (15 U.S.C.  
22                 637(e)(1)(A)) and section 18(a) of the Office of  
23                 Federal Procurement Policy Act (41 U.S.C. 416(a))  
24                 is made accessible in accordance with subsection (c)  
25                 of this section, the wait period set forth in section

1 8(e)(3)(A) of the Small Business Act (15 U.S.C.  
2 637(e)(3)(A)) and section 18(a)(3)(A) of the Office  
3 of Federal Procurement Policy Act (41 U.S.C.  
4 416(a)(3)(A)), shall be reduced by 5 days. If the so-  
5 licitation applying to that notice is accessible elec-  
6 tronically in accordance with subsection (d) simulta-  
7 neously with issuance of the notice, the wait period  
8 set forth in section 8(e)(3)(A) of the Small Business  
9 Act (15 U.S.C. 637(e)(3)(A)) and section  
10 18(a)(3)(A) of the Office of Federal Procurement  
11 Policy Act (41 U.S.C. 416(a)(3)(A)) shall not apply  
12 and the period specified in section 8(e)(3)(B) of the  
13 Small Business Act and section 18(a)(3)(B) of the  
14 Office of Federal Procurement Policy Act for sub-  
15 mission of bids or proposals shall begin to run from  
16 the date the solicitation is electronically accessible.

17 “(2) When a notice and solicitation are made  
18 accessible simultaneously and the wait period is  
19 waived pursuant to paragraph (1), the deadline for  
20 the submission of bids or proposals shall be not less  
21 than 5 days greater than the minimum deadline set  
22 forth in section 8(e)(3)(B) of the Small Business  
23 Act (15 U.S.C. 637(e)(3)(B)) and section  
24 18(a)(3)(B) of the Office of Federal Procurement  
25 Policy Act (41 U.S.C. 416(a)(3)(B)).

1 “(f) IMPLEMENTATION.—

2 “(1) Nothing in this section shall be construed  
3 as modifying regulatory requirements set forth in  
4 the Federal Acquisition Regulation, except with re-  
5 spect to—

6 “(A) the applicable wait period between  
7 publication of notice of a proposed contract ac-  
8 tion and release of the solicitation; and

9 “(B) the deadline for submission of bids or  
10 proposals for procurements conducted in ac-  
11 cordance with the terms of this pilot program.

12 “(2) This section shall not apply to the extent  
13 the President determines it is inconsistent with any  
14 international agreement to which the United States  
15 is a party.

16 “(g) STUDY.—Within 18 months after the effective  
17 date of the program, NASA, in coordination with the  
18 Small Business Administration, the General Services Ad-  
19 ministration, and the Office of Management and Budget,  
20 shall evaluate the impact of the pilot program and submit  
21 to Congress a report that—

22 “(1) sets forth in detail the results of the test,  
23 including the impact on competition and small busi-  
24 ness participation; and

1           “(2) addresses whether the pilot program  
2           should be made permanent, continued as a test pro-  
3           gram, or allowed to expire.

4           “(h) REGULATIONS.—The Administrator shall pub-  
5           lish proposed revisions to the NASA Federal Acquisition  
6           Regulation Supplement necessary to implement this sec-  
7           tion in the Federal Register not later than 120 days after  
8           the date of enactment of the National Aeronautics and  
9           Space Administration Authorization Act of 2005. The Ad-  
10          ministrators shall—

11           “(1) make the proposed regulations available  
12           for public comment for a period of not less than 60  
13           days; and

14           “(2) publish final regulations in the Federal  
15           Register not later than 240 days after the date of  
16           enactment of that Act.

17          “(i) EFFECTIVE DATE.—

18           “(1) IN GENERAL.—The pilot program author-  
19           ized by this section shall take effect on the date  
20           specified in the final regulations promulgated pursu-  
21           ant to subsection (h)(2).

22           “(2) LIMITATION.—The date so specified shall  
23           be no less than 30 days after the date on which the  
24           final regulation is published.

1       “(j) EXPIRATION OF AUTHORITY.—The authority to  
2 conduct the pilot program under subsection (a) and to  
3 award contracts under such program shall expire 2 years  
4 after the effective date established in the final regulations  
5 published in the Federal Register under subsection  
6 (h)(2).”.

7 **SEC. 507. REPORTS ELIMINATION.**

8       (a) REPEALS.—The following provisions of law are  
9 repealed:

10           (1) Section 201 of the National Aeronautics  
11 and Space Administration Authorization Act of 2000  
12 (42 U.S.C. 2451 note).

13           (2) Section 304(d) of the Federal Aviation Ad-  
14 ministration Research, Engineering, and Develop-  
15 ment Authorization Act of 1992 (49 U.S.C. 47508  
16 note).

17           (3) Section 323 of the National Aeronautics  
18 and Space Administration Authorization Act of  
19 2000.

20       (b) AMENDMENTS.—

21           (1) Section 315 of the National Aeronautics  
22 and Space Administration Act of 1958 (42 U.S.C.  
23 2459j) is amended by striking subsection (a) and re-  
24 designating subsections (b) through (f) as sub-  
25 sections (a) through (e).

1           (2) Section 315(a) of the National Aeronautics  
2           and Space Administration Authorization Act, Fiscal  
3           Year 1993 (42 U.S.C. 2487a(c)) is amended by  
4           striking subsection (c) and redesignating subsection  
5           (d) as subsection (c).



Calendar No. 174

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

**S. 1281**

[Report No. 109-108]

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## **A BILL**

To authorize appropriations for the National Aeronautics and Space Administration for science, aeronautics, exploration, exploration capabilities, and the Inspector General, and for other purposes, for fiscal years 2006, 2007, 2008, 2009, and 2010.

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JULY 26, 2005

Reported with amendments