

110TH CONGRESS
2D SESSION

H. R. 6063

IN THE SENATE OF THE UNITED STATES

JUNE 20 (legislative day, JUNE 19), 2008

Received; read twice and referred to the Committee on Commerce, Science,
and Transportation

AN ACT

To authorize the programs of the National Aeronautics and
Space Administration, 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,*

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

2 (a) SHORT TITLE.—This Act may be cited as the
 3 “National Aeronautics and Space Administration Author-
 4 ization Act of 2008”.

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

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

**TITLE I—AUTHORIZATION OF APPROPRIATIONS FOR FISCAL
 YEAR 2009**

Sec. 101. Fiscal year 2009.

TITLE II—EARTH SCIENCE

Sec. 201. Goal.
 Sec. 202. Governance of United States Earth Observations activities.
 Sec. 203. Decadal survey missions.
 Sec. 204. Transitioning experimental research into operational services.
 Sec. 205. Landsat thermal infrared data continuity.
 Sec. 206. Reauthorization of Glory Mission.
 Sec. 207. Plan for disposition of Deep Space Climate Observatory.
 Sec. 208. Tornadoes.
 Sec. 209. Sharing weather research.

TITLE III—AERONAUTICS

Sec. 301. Environmentally friendly aircraft research and development initiative.
 Sec. 302. Research alignment.
 Sec. 303. Research program to determine perceived impact of sonic booms.
 Sec. 304. External review of NASA’s aviation safety-related research programs.
 Sec. 305. Interagency research initiative on the impact of aviation on the cli-
 mate.
 Sec. 306. Research on design for certification.
 Sec. 307. Aviation weather research.
 Sec. 308. Joint Aeronautics Research and Development Advisory Committee.
 Sec. 309. Funding for research and development activities in support of other
 mission directorates.
 Sec. 310. University-based centers for research on aviation training.

TITLE IV—INTERNATIONAL EXPLORATION INITIATIVE

Sec. 401. Sense of Congress.
 Sec. 402. Stepping stone approach to exploration.
 Sec. 403. Lunar outpost.
 Sec. 404. Exploration technology development.
 Sec. 405. Exploration risk mitigation plan.
 Sec. 406. Exploration crew rescue.

- Sec. 407. Participatory exploration.
- Sec. 408. Science and exploration.
- Sec. 409. Congressional Budget Office report update.

TITLE V—SPACE SCIENCE

- Sec. 501. Technology development.
- Sec. 502. Provision for future servicing of observatory-class scientific spacecraft.
- Sec. 503. Mars exploration.
- Sec. 504. Importance of a balanced science program.
- Sec. 505. Restoration of radioisotope thermoelectric generator material production.
- Sec. 506. Assessment of impediments to interagency cooperation on space and Earth science missions.
- Sec. 507. Assessment of cost growth.
- Sec. 508. Outer planets exploration.

TITLE VI—SPACE OPERATIONS

Subtitle A—International Space Station

- Sec. 601. Utilization.
- Sec. 602. Research management plan.
- Sec. 603. Contingency plan for cargo resupply.

Subtitle B—Space Shuttle

- Sec. 611. Flight manifest.
- Sec. 612. Disposition of shuttle-related assets.
- Sec. 613. Space Shuttle transition liaison office.

Subtitle C—Launch Services

- Sec. 621. Launch services strategy.

TITLE VII—EDUCATION

- Sec. 701. Response to review.
- Sec. 702. External review of Explorer Schools program.
- Sec. 703. Sense of Congress.

TITLE VIII—NEAR-EARTH OBJECTS

- Sec. 801. In general.
- Sec. 802. Findings.
- Sec. 803. Requests for information.
- Sec. 804. Establishment of policy.
- Sec. 805. Planetary radar capability.
- Sec. 806. Arecibo Observatory.
- Sec. 807. International resources.

TITLE IX—COMMERCIAL INITIATIVES

- Sec. 901. Sense of Congress.
- Sec. 902. Commercial crew initiative.

TITLE X—REVITALIZATION OF NASA INSTITUTIONAL CAPABILITIES

- Sec. 1001. Review of information security controls.
- Sec. 1002. Maintenance and upgrade of Center facilities.
- Sec. 1003. Assessment of NASA laboratory capabilities.

TITLE XI—OTHER PROVISIONS

- Sec. 1101. Space weather.
- Sec. 1102. Space traffic management.
- Sec. 1103. Study of export control policies related to civil and commercial space activities.
- Sec. 1104. Astronaut health care.
- Sec. 1105. National Academies decadal surveys.
- Sec. 1106. Innovation prizes.
- Sec. 1107. Commercial space launch range study.
- Sec. 1108. NASA outreach and technology assistance program.
- Sec. 1109. Reduction-in-force moratorium.
- Sec. 1110. Limit on the use of term positions.
- Sec. 1111. Temporary continuation of coverage of health benefits.
- Sec. 1112. Sense of Congress.
- Sec. 1113. Sense of Congress regarding the need for a robust workforce.
- Sec. 1114. Exception to alternative fuel procurement requirement.
- Sec. 1115. Christa McAuliffe scholarship program for fields related to the mission of NASA.

1 **SEC. 2. FINDINGS.**

2 The Congress finds, on this, the 50th anniversary of
 3 the establishment of the National Aeronautics and Space
 4 Administration, the following:

5 (1) NASA is and should remain a multimission
 6 agency with a balanced and robust set of core mis-
 7 sions in science, aeronautics, and human space flight
 8 and exploration.

9 (2) Investment in NASA's programs will pro-
 10 mote innovation through research and development,
 11 and will improve the competitiveness of the United
 12 States.

13 (3) Investment in NASA's programs, like in-
 14 vestments in other Federal science and technology
 15 activities, is an investment in our future.

1 (4) Properly structured, NASA's activities can
2 contribute to an improved quality of life, economic
3 vitality, United States leadership in peaceful co-
4 operation with other nations on challenging under-
5 takings in science and technology, national security,
6 and the advancement of knowledge.

7 (5) NASA should assume a leadership role in a
8 cooperative international Earth observations and re-
9 search effort to address key research issues associ-
10 ated with climate change and its impacts on the
11 Earth system.

12 (6) NASA should undertake a program of aero-
13 nautical research, development, and where appro-
14 priate demonstration activities with the overarching
15 goals of—

16 (A) ensuring that the Nation's future air
17 transportation system can handle up to 3 times
18 the current travel demand and incorporate new
19 vehicle types with no degradation in safety or
20 adverse environmental impact on local commu-
21 nities;

22 (B) protecting the environment;

23 (C) promoting the security of the Nation;

24 and

1 (D) retaining the leadership of the United
2 States in global aviation.

3 (7) Human and robotic exploration of the solar
4 system will be a significant long term undertaking of
5 humanity in the 21st century and beyond, and it is
6 in the national interest that the United States
7 should assume a leadership role in a cooperative
8 international exploration initiative.

9 (8) Developing United States human space
10 flight capabilities to allow independent American ac-
11 cess to the International Space Station, and to ex-
12 plore beyond low Earth orbit, is a strategically im-
13 portant national imperative, and all prudent steps
14 should thus be taken to bring the Orion Crew Explo-
15 ration Vehicle and Ares I Crew Launch Vehicle to
16 full operational capability as soon as practicable.

17 (9) NASA's scientific research activities have
18 contributed much to the advancement of knowledge,
19 provided societal benefits, and helped train the next
20 generation of scientists and engineers, and those ac-
21 tivities should continue to be an important priority.

22 (10) NASA should make a sustained commit-
23 ment to a robust long-term technology development
24 activity. Such investments represent the critically
25 important "seed corn" on which NASA's ability to

1 carry out challenging and productive missions in the
2 future will depend.

3 (11) NASA, through its pursuit of challenging
4 and relevant activities, can provide an important
5 stimulus to the next generation to pursue careers in
6 science, technology, engineering, and mathematics.

7 (12) Commercial activities have substantially
8 contributed to the strength of both the United
9 States space program and the national economy, and
10 the development of a healthy and robust United
11 States commercial space sector should continue to be
12 encouraged.

13 (13) It is in the national interest for the United
14 States to have an export control policy that protects
15 the national security while also enabling the United
16 States aerospace industry to compete effectively in
17 the global market place and the United States to un-
18 dertake cooperative programs in science and human
19 space flight in an effective and efficient manner.

20 **SEC. 3. DEFINITIONS.**

21 In this Act:

22 (1) ADMINISTRATOR.—The term “Adminis-
23 trator” means the Administrator of NASA.

24 (2) NASA.—The term “NASA” means the Na-
25 tional Aeronautics and Space Administration.

1 (3) NOAA.—The term “NOAA” means the Na-
2 tional Oceanic and Atmospheric Administration.

3 (4) OSTP.—The term “OSTP” means the Of-
4 fice of Science and Technology Policy.

5 **TITLE I—AUTHORIZATION OF**
6 **APPROPRIATIONS FOR FIS-**
7 **CAL YEAR 2009**

8 **SEC. 101. FISCAL YEAR 2009.**

9 (a) BASELINE AUTHORIZATION.—There are author-
10 ized to be appropriated to NASA for fiscal year 2009
11 \$19,210,000,000, as follows:

12 (1) For Science, \$4,932,200,000, of which—

13 (A) \$1,518,000,000 shall be for Earth
14 Science, including \$29,200,000 for suborbital
15 activities and \$2,500,000 for carrying out sec-
16 tion 313 of the National Aeronautics and Space
17 Administration Authorization Act of 2005
18 (Public Law 109–155);

19 (B) \$1,483,000,000 shall be for Planetary
20 Science, including \$486,500,000 for the Mars
21 Exploration program, \$2,000,000 to continue
22 planetary radar operations at the Arecibo Ob-
23 servatory in support of the Near-Earth Object
24 program, and \$5,000,000 for radioisotope ma-

1 terial production, to remain available until ex-
2 pended;

3 (C) \$1,290,400,000 shall be for Astro-
4 physics, including \$27,300,000 for suborbital
5 activities;

6 (D) \$640,800,000 shall be for
7 Heliophysics, including \$50,000,000 for sub-
8 orbital activities; and

9 (E) \$75,000,000 shall be for Cross-Science
10 Mission Directorate Technology Development,
11 to be taken on a proportional basis from the
12 funding subtotals under subparagraphs (A),
13 (B), (C), and (D).

14 (2) For Aeronautics, \$853,400,000, of which
15 \$406,900,000 shall be for system-level research, de-
16 velopment, and demonstration activities related to—

17 (A) aviation safety;

18 (B) environmental impact mitigation, in-
19 cluding noise, energy efficiency, and emissions;

20 (C) support of the Next Generation Air
21 Transportation System initiative; and

22 (D) investigation of new vehicle concepts
23 and flight regimes.

24 (3) For Exploration, \$3,886,000,000, of which
25 \$100,000,000 shall be for the activities under sec-

1 tions 902(b) and 902(d); and \$737,800,000 shall be
2 for Advanced Capabilities, including \$106,300,000
3 for the Lunar Precursor Robotic Program,
4 \$276,500,000 for International Space Station-re-
5 lated research and development activities, and
6 \$355,000,000 for research and development activi-
7 ties not related to the International Space Station.

8 (4) For Education, \$128,300,000.

9 (5) For Space Operations, \$6,074,700,000, of
10 which—

11 (A) \$150,000,000 shall be for an addi-
12 tional Space Shuttle flight to deliver the Alpha
13 Magnetic Spectrometer to the International
14 Space Station;

15 (B) \$100,000,000 shall be to augment
16 funding for International Space Station Cargo
17 Services to enhance research utilization of the
18 International Space Station, to remain available
19 until expended; and

20 (C) \$50,000,000 shall be to augment fund-
21 ing for Space Operations Mission Directorate
22 reserves and Shuttle Transition and Retirement
23 activities.

24 (6) For Cross-Agency Support Programs,
25 \$3,299,900,000.

1 (7) For Inspector General, \$35,500,000.

2 (b) ADDITIONAL AUTHORIZATION TO ADDRESS
3 HUMAN SPACE FLIGHT GAP.—In addition to the sums
4 authorized by subsection (a), there are authorized to be
5 appropriated for the purposes described in subsection
6 (a)(3) \$1,000,000,000 for fiscal year 2009, to be used to
7 accelerate the initial operational capability of the Orion
8 Crew Exploration Vehicle and the Ares I Crew Launch
9 Vehicle and associated ground support systems, to remain
10 available until expended.

11 **TITLE II—EARTH SCIENCE**

12 **SEC. 201. GOAL.**

13 The goal for NASA's Earth Science program shall
14 be to pursue a program of Earth observations, research,
15 and applications activities to better understand the Earth,
16 how it supports life, and how human activities affect its
17 ability to do so in the future. In pursuit of this goal,
18 NASA's Earth Science program shall ensure that securing
19 practical benefits for society will be an important measure
20 of its success in addition to securing new knowledge about
21 the Earth system and climate change. In further pursuit
22 of this goal, NASA shall assume a leadership role in devel-
23 oping and carrying out a cooperative international Earth
24 observations-based research and applications program.

1 **SEC. 202. GOVERNANCE OF UNITED STATES EARTH OBSER-**
2 **VATIONS ACTIVITIES.**

3 (a) STUDY.—The Director of the OSTP shall enter
4 into an arrangement with the National Academies for a
5 study to determine the most appropriate governance struc-
6 ture for United States Earth Observations programs in
7 order to meet evolving United States Earth information
8 needs and facilitate United States participation in global
9 Earth Observations initiatives.

10 (b) REPORT.—The Director shall transmit the study
11 to the Committee on Science and Technology of the House
12 of Representatives and the Committee on Commerce,
13 Science, and Transportation of the Senate not later than
14 18 months after the date of enactment of this Act, and
15 shall provide OSTP’s plan for implementing the study’s
16 recommendations not later than 24 months after the date
17 of enactment of this Act.

18 **SEC. 203. DECADAL SURVEY MISSIONS.**

19 (a) IN GENERAL.—The missions recommended in the
20 National Academies’ decadal survey “Earth Science and
21 Applications from Space” provide the basis for a compel-
22 ling and relevant program of research and applications,
23 and the Administrator should work to establish an inter-
24 national cooperative effort to pursue those missions.

25 (b) PLAN.—The Administrator shall prepare a plan
26 for submission to Congress not later than 270 days after

1 the date of enactment of this Act that shall describe how
2 NASA intends to implement the missions recommended
3 as described in subsection (a), whether by means of dedi-
4 cated NASA missions, multi-agency missions, inter-
5 national cooperative missions, data sharing, or commercial
6 data buys, or by means of long-term technology develop-
7 ment to determine whether specific missions would be exe-
8 cutable at a reasonable cost and within a reasonable
9 schedule.

10 **SEC. 204. TRANSITIONING EXPERIMENTAL RESEARCH INTO**
11 **OPERATIONAL SERVICES.**

12 (a) SENSE OF CONGRESS.—It is the sense of the Con-
13 gress that experimental NASA sensors and missions that
14 have the potential to benefit society if transitioned into
15 operational monitoring systems be transitioned into oper-
16 ational status whenever possible.

17 (b) INTERAGENCY PROCESS.—The Director of
18 OSTP, in consultation with the Administrator, the Admin-
19 istrator of NOAA, and other relevant stakeholders, shall
20 develop a process to transition, when appropriate, NASA
21 Earth science and space weather missions or sensors into
22 operational status. The process shall include coordination
23 of annual agency budget requests as required to execute
24 the transitions.

1 (c) RESPONSIBLE AGENCY OFFICIAL.—The Adminis-
2 trator and the Administrator of NOAA shall each des-
3 ignate an agency official who shall have the responsibility
4 for and authority to lead NASA’s and NOAA’s transition
5 activities and interagency coordination.

6 (d) PLAN.—For each mission or sensor that is deter-
7 mined to be appropriate for transition under subsection
8 (b), NASA and NOAA shall transmit to Congress a joint
9 plan for conducting the transition. The plan shall include
10 the strategy, milestones, and budget required to execute
11 the transition. The transition plan shall be transmitted to
12 Congress not later than 60 days after the successful com-
13 pletion of the mission or sensor critical design review.

14 **SEC. 205. LANDSAT THERMAL INFRARED DATA CON-**
15 **TINUITY.**

16 (a) PLAN.—In view of the importance of Landsat
17 thermal infrared data for both scientific research and
18 water management applications, the Administrator shall
19 prepare a plan for ensuring the continuity of Landsat
20 thermal infrared data or its equivalent, including alloca-
21 tion of costs and responsibility for the collection and dis-
22 tribution of the data, and a budget plan. As part of the
23 plan, the Administrator shall provide an option for devel-
24 oping a thermal infrared sensor at minimum cost to be
25 flown on the Landsat Data Continuity Mission with min-

1 imum delay to the schedule of the Landsat Data Con-
2 tinuity Mission.

3 (b) DEADLINE.—The plan shall be provided to Con-
4 gress not later than 60 days after the date of enactment
5 of this Act.

6 **SEC. 206. REAUTHORIZATION OF GLORY MISSION.**

7 (a) REAUTHORIZATION.—Congress reauthorizes
8 NASA to continue with development of the Glory Mission,
9 which will examine how aerosols and solar energy affect
10 the Earth’s climate.

11 (b) BASELINE REPORT.—Pursuant to the National
12 Aeronautics and Space Administration Authorization Act
13 of 2005 (Public Law 109–155), not later than 90 days
14 after the date of enactment of this Act, the Administrator
15 shall transmit a new baseline report consistent with sec-
16 tion 103(b)(2) of such Act. The report shall include an
17 analysis of the factors contributing to cost growth and the
18 steps taken to address them.

19 **SEC. 207. PLAN FOR DISPOSITION OF DEEP SPACE CLIMATE**
20 **OBSERVATORY.**

21 (a) PLAN.—NASA shall develop a plan for the Deep
22 Space Climate Observatory (DSCOVR), including such
23 options as using the parts of the spacecraft in the develop-
24 ment and assembly of other science missions, transferring
25 the spacecraft to another agency, reconfiguring the space-

1 craft for another Earth science mission, establishing a
2 public-private partnership for the mission, and entering
3 into an international cooperative partnership to use the
4 spacecraft for its primary or other purposes. The plan
5 shall include an estimate of budgetary resources and
6 schedules required to implement each of the options.

7 (b) CONSULTATION.—NASA shall consult, as nec-
8 essary, with other Federal agencies, industry, academic in-
9 stitutions, and international space agencies in developing
10 the plan.

11 (c) REPORT.—The Administrator shall transmit the
12 plan required under subsection (a) to the Committee on
13 Science and Technology of the House of Representatives
14 and the Committee on Commerce, Science, and Transpor-
15 tation of the Senate not later than 180 days after the date
16 of enactment of this Act.

17 **SEC. 208. TORNADOES.**

18 The Administrator shall ensure that NASA gives high
19 priority to those parts of its existing cooperative activities
20 with NOAA that are related to the study of tornadoes,
21 tornado-force winds, and other factors determined to influ-
22 ence the development of tornadoes, with the goal of im-
23 proving the Nation's ability to predict tornado events.
24 Further, the Administrator shall examine whether there

1 are additional cooperative activities with NOAA that
2 should be undertaken in the area of tornado research.

3 **SEC. 209. SHARING WEATHER RESEARCH.**

4 The Administrator shall work to ensure that NASA's
5 policies on the sharing of climate related data respond to
6 the recommendations of the Government Accountability
7 Office's report on climate change research and data-shar-
8 ing policies and to the recommendations on the processing,
9 distribution, and archiving of data by the National Acad-
10 emies Earth Science Decadal Survey, Earth Science and
11 Applications from Space, and other relevant National
12 Academies reports, to enhance and facilitate their avail-
13 ability and widest possible use to ensure public access to
14 accurate and current data on global warming.

15 **TITLE III—AERONAUTICS**

16 **SEC. 301. ENVIRONMENTALLY FRIENDLY AIRCRAFT RE-**
17 **SEARCH AND DEVELOPMENT INITIATIVE.**

18 The Administrator shall establish an initiative involv-
19 ing NASA, universities, industry, and other research orga-
20 nizations as appropriate, of research, development, and
21 demonstration, in a relevant environment, of technologies
22 to enable the following commercial aircraft performance
23 characteristics:

24 (1) Noise levels on takeoff and on airport ap-
25 proach and landing that do not exceed ambient noise

1 levels in the absence of flight operations in the vicin-
2 ity of airports from which such commercial aircraft
3 would normally operate, without increasing energy
4 consumption or nitrogen oxide emissions compared
5 to aircraft in commercial service as of the date of
6 enactment of this Act.

7 (2) Significant reductions in greenhouse gas
8 emissions compared to aircraft in commercial serv-
9 ices as of the date of enactment of this Act.

10 **SEC. 302. RESEARCH ALIGNMENT.**

11 In addition to pursuing the research and development
12 initiative described in section 301, the Administrator shall,
13 to the maximum extent practicable within available fund-
14 ing, align the fundamental aeronautics research program
15 to address high priority technology challenges of the Na-
16 tional Academies' Decadal Survey of Civil Aeronautics,
17 and shall work to increase the degree of involvement of
18 external organizations, and especially of universities, in
19 the fundamental aeronautics research program.

20 **SEC. 303. RESEARCH PROGRAM TO DETERMINE PERCEIVED**
21 **IMPACT OF SONIC BOOMS.**

22 (a) IN GENERAL.—The ability to fly commercial air-
23 craft over land at supersonic speeds without adverse im-
24 pacts on the environment or on local communities would
25 open new markets and enable new transportation capabili-

1 ties. In order to have the basis for establishing an appro-
2 priate sonic boom standard for such flight operations, a
3 research program is needed to assess the impact in a rel-
4 evant environment of commercial supersonic flight oper-
5 ations.

6 (b) ESTABLISHMENT.—The Administrator shall es-
7 tablish a cooperative research program with industry, in-
8 cluding the conduct of flight demonstrations in a relevant
9 environment, to collect data on the perceived impact of
10 sonic booms that would enable the promulgation of a
11 standard that would have to be met for overland commer-
12 cial supersonic flight operations.

13 (c) COORDINATION.—The Administrator shall ensure
14 that sonic boom research is coordinated as appropriate
15 with the Administrator of the Federal Aviation Adminis-
16 tration, and as appropriate make use of the expertise of
17 the Partnership for Air Transportation Noise and Emis-
18 sions Reduction Center of Excellence sponsored by NASA
19 and the Federal Aviation Administration.

20 **SEC. 304. EXTERNAL REVIEW OF NASA'S AVIATION SAFETY-**
21 **RELATED RESEARCH PROGRAMS.**

22 (a) REVIEW.—The Administrator shall enter into an
23 arrangement with the National Research Council for an
24 independent review of NASA's aviation safety-related re-
25 search programs. The review shall assess whether—

1 (1) the programs have well-defined, prioritized,
2 and appropriate research objectives;

3 (2) the programs are properly coordinated with
4 the safety research programs of the Federal Aviation
5 Administration and other relevant Federal agencies;

6 (3) the programs have allocated appropriate re-
7 sources to each of the research objectives; and

8 (4) suitable mechanisms exist for transitioning
9 the research results from the programs into oper-
10 ational technologies and procedures and certification
11 activities in a timely manner.

12 (b) REPORT.—Not later than 14 months after the
13 date of enactment of this Act, the Administrator shall sub-
14 mit to the Committee on Science and Technology of the
15 House of Representatives and the Committee on Com-
16 merce, Science, and Transportation of the Senate a report
17 on the results of the review.

18 **SEC. 305. INTERAGENCY RESEARCH INITIATIVE ON THE IM-**
19 **PACT OF AVIATION ON THE CLIMATE.**

20 (a) IN GENERAL.—The Administrator of the Federal
21 Aviation Administration, in coordination with NASA and
22 the United States Climate Change Science Program, shall
23 establish a research initiative to assess the impact of avia-
24 tion on the climate and, if warranted, to evaluate ap-
25 proaches to mitigate that impact.

1 (b) RESEARCH PLAN.—Not later than one year after
2 the date of enactment of this Act, the participating Fed-
3 eral entities shall jointly develop a plan for the research
4 program that contains the objectives, proposed tasks, mile-
5 stones, and 5-year budgetary profile.

6 **SEC. 306. RESEARCH ON DESIGN FOR CERTIFICATION.**

7 (a) ESTABLISHMENT OF PROGRAM.—Not later than
8 6 months after the date of enactment of this Act, the Fed-
9 eral Aviation Administration, in consultation with other
10 agencies as appropriate, shall establish a research pro-
11 gram on methods to improve both confidence in and the
12 timeliness of certification of new technologies for their in-
13 troduction into the national airspace system.

14 (b) RESEARCH PLAN.—Not later than 1 year after
15 the date of enactment of this Act, as part of the activity
16 described in subsection (a), the Federal Aviation Adminis-
17 tration shall develop a plan for the research program that
18 contains the objectives, proposed tasks, milestones, and
19 five-year budgetary profile.

20 (c) REVIEW.—The Administrator of the Federal
21 Aviation Administration shall have the National Research
22 Council conduct an independent review of the research
23 program plan and provide the results of that review to
24 the Committee on Science and Technology and the Com-
25 mittee on Transportation and Infrastructure of the House

1 of Representatives and the Committee on Commerce,
2 Science, and Transportation of the Senate not later than
3 18 months after the date of enactment of this Act.

4 **SEC. 307. AVIATION WEATHER RESEARCH.**

5 The Administrator shall establish a program of col-
6 laborative research with NOAA on convective weather
7 events, with the goal of significantly improving the reli-
8 ability of 2-hour to 6-hour aviation weather forecasts.

9 **SEC. 308. JOINT AERONAUTICS RESEARCH AND DEVELOP-**
10 **MENT ADVISORY COMMITTEE.**

11 (a) ESTABLISHMENT.—A joint Aeronautics Research
12 and Development Advisory Committee (in this section re-
13 ferred to as the “Advisory Committee”) shall be estab-
14 lished.

15 (b) DUTIES.—The Advisory Committee shall—

16 (1) make recommendations regarding the co-
17 ordination of research and development activities of
18 NASA and the Federal Aviation Administration;

19 (2) make recommendations for and monitor de-
20 velopment and implementation of processes for
21 transitioning research and development from NASA
22 and the Federal Aviation Administration to external
23 entities for further development as appropriate;

24 (3) make recommendations regarding the status
25 of the activities of NASA and the Federal Aviation

1 Administration’s research and development pro-
2 grams as they relate to the recommendations con-
3 tained in the National Research Council’s 2006 re-
4 port entitled “Decadal Survey of Civil Aeronautics”,
5 and the recommendations contained in subsequent
6 National Research Council reports of a similar na-
7 ture; and

8 (4) not later than March 15 of each year,
9 transmit a report to the Administrator, the Adminis-
10 trator of the Federal Aviation Administration, the
11 Committee on Science and Technology of the House
12 of Representatives, and the Committee on Com-
13 merce, Science, and Transportation of the Senate on
14 the Advisory Committee’s findings and recommenda-
15 tions under paragraphs (1), (2), and (3).

16 (c) MEMBERSHIP.—The Advisory Committee shall
17 consist of 10 members, none of whom shall be a Federal
18 employee, including—

19 (1) 5 members selected by the Administrator;
20 and

21 (2) 5 members selected by the Chair of the
22 Federal Aviation Administration’s Research, Engi-
23 neering, and Development Advisory Committee
24 (REDAC).

1 (d) SELECTION PROCESS.—Initial selections under
2 subsection (c) shall be made within 3 months after the
3 date of enactment of this Act. Vacancies shall be filled
4 in the same manner as provided in subsection (c).

5 (e) CHAIRPERSON.—The Advisory Committee shall
6 select a chairperson from among its members.

7 (f) COORDINATION.—The Advisory Committee shall
8 coordinate with the advisory bodies of other Federal agen-
9 cies, which may engage in related research activities.

10 (g) COMPENSATION.—The members of the Advisory
11 Committee shall serve without compensation, but shall re-
12 ceive travel expenses, including per diem in lieu of subsist-
13 ence, in accordance with sections 5702 and 5703 of title
14 5, United States Code.

15 (h) MEETINGS.—The Advisory Committee shall con-
16 vene, in person or by electronic means, at least 4 times
17 per year.

18 (i) QUORUM.—A majority of the members serving on
19 the Advisory Committee shall constitute a quorum for pur-
20 poses of conducting the business of the Advisory Com-
21 mittee.

22 (j) DURATION.—Section 14 of the Federal Advisory
23 Committee Act shall not apply to the Advisory Committee.

1 **SEC. 309. FUNDING FOR RESEARCH AND DEVELOPMENT**
2 **ACTIVITIES IN SUPPORT OF OTHER MISSION**
3 **DIRECTORATES.**

4 Research and development activities performed by the
5 Aeronautics Research Mission Directorate with the pri-
6 mary objective of assisting in the development of a flight
7 project in another Mission Directorate shall be funded by
8 the Mission Directorate seeking assistance.

9 **SEC. 310. UNIVERSITY-BASED CENTERS FOR RESEARCH ON**
10 **AVIATION TRAINING.**

11 Section 427(a) of the National Aeronautics and
12 Space Administration Authorization Act of 2005 (Public
13 Law 109–155) is amended by striking “may” and insert-
14 ing “shall”.

15 **TITLE IV—INTERNATIONAL**
16 **EXPLORATION INITIATIVE**

17 **SEC. 401. SENSE OF CONGRESS.**

18 It is the sense of Congress that the President of the
19 United States should invite America’s friends and allies
20 to participate in a long-term international initiative under
21 the leadership of the United States to expand human and
22 robotic presence into the solar system, including the explo-
23 ration and utilization of the Moon, near Earth asteroids,
24 Lagrangian points, and eventually Mars and its moons,
25 among other exploration and utilization goals. When ap-
26 propriate, the United States should lead confidence build-

1 ing measures that advance the long-term initiative for
2 international cooperation.

3 **SEC. 402. STEPPING STONE APPROACH TO EXPLORATION.**

4 In order to maximize the cost-effectiveness of the
5 long-term exploration and utilization activities of the
6 United States, the Administrator shall take all necessary
7 steps to ensure that activities in its lunar exploration pro-
8 gram shall be designed and implemented in a manner that
9 gives strong consideration to how those activities might
10 also help meet the requirements of future exploration and
11 utilization activities beyond the Moon. The timetable of
12 the lunar phase of the long-term international exploration
13 initiative shall be determined by the availability of funding
14 and agreement on an international cooperative framework
15 for the conduct of the international exploration initiative.
16 However, once an exploration-related project enters its de-
17 velopment phase, the Administrator shall seek, to the max-
18 imum extent practicable, to complete that project without
19 undue delays.

20 **SEC. 403. LUNAR OUTPOST.**

21 (a) ESTABLISHMENT.—As NASA works toward the
22 establishment of a lunar outpost, NASA shall make no
23 plans that would require a lunar outpost to be occupied
24 to maintain its viability. Any such outpost shall be oper-

1 able as a human-tended facility capable of remote or au-
2 tonomous operation for extended periods.

3 (b) DESIGNATION.—The United States portion of the
4 first human-tended outpost established on the surface of
5 the Moon shall be designated the “Neil A. Armstrong
6 Lunar Outpost”.

7 (c) CONGRESSIONAL INTENT.—It is the intent of
8 Congress that NASA shall make use of commercial serv-
9 ices to the maximum extent practicable in support of its
10 lunar outpost activities.

11 **SEC. 404. EXPLORATION TECHNOLOGY DEVELOPMENT.**

12 (a) IN GENERAL.—A robust program of long-term
13 exploration-related technology research and development
14 will be essential for the success and sustainability of any
15 enduring initiative of human and robotic exploration of the
16 solar system.

17 (b) ESTABLISHMENT.—The Administrator shall es-
18 tablish and maintain a program of long-term exploration-
19 related technology research and development that is not
20 tied to specific flight projects and that has a funding goal
21 of at least 10 percent of the total budget of the Explo-
22 ration Systems Mission Directorate.

23 (c) GOALS.—The long-term technology program shall
24 have the goal of having at least 50 percent of the funding

1 allocated to external grants and contracts with univer-
2 sities, research institutions, and industry.

3 **SEC. 405. EXPLORATION RISK MITIGATION PLAN.**

4 (a) PLAN.—The Administrator shall prepare a plan
5 that identifies and prioritizes the human and technical
6 risks that will need to be addressed in carrying out human
7 exploration beyond low Earth orbit and the research and
8 development activities required to address those risks. The
9 plan shall address the role of the International Space Sta-
10 tion in exploration risk mitigation and include a detailed
11 description of the specific steps being taken to utilize the
12 International Space Station for that purpose.

13 (b) REPORT.—The Administrator shall transmit to
14 the Committee on Science and Technology of the House
15 of Representatives and the Committee on Commerce,
16 Science, and Transportation of the Senate the plan de-
17 scribed in subsection (a) not later than one year after the
18 date of enactment of this Act.

19 **SEC. 406. EXPLORATION CREW RESCUE.**

20 In order to maximize the ability to rescue astronauts
21 whose space vehicles have become disabled, the Adminis-
22 trator shall enter into discussions with the appropriate
23 representatives of spacefaring nations who have or plan
24 to have crew transportation systems capable of orbital

1 flight or flight beyond low Earth orbit for the purpose of
2 agreeing on a common docking system standard.

3 **SEC. 407. PARTICIPATORY EXPLORATION.**

4 (a) IN GENERAL.—The Administrator shall develop
5 a technology plan to enable dissemination of information
6 to the public to allow the public to experience missions
7 to the Moon, Mars, or other bodies within our solar system
8 by leveraging advanced exploration technologies. The plan
9 shall identify opportunities to leverage technologies in
10 NASA’s Constellation systems that deliver a rich, multi-
11 media experience to the public, and that facilitate partici-
12 pation by the public, the private sector, nongovernmental
13 organizations, and international partners. Technologies
14 for collecting high-definition video, 3-dimensional images,
15 and scientific data, along with the means to rapidly deliver
16 this content through extended high bandwidth communica-
17 tions networks shall be considered as part of this plan.
18 It shall include a review of high bandwidth radio and laser
19 communications, high-definition video, stereo imagery, 3-
20 dimensional scene cameras, and Internet routers in space,
21 from orbit, and on the lunar surface. The plan shall also
22 consider secondary cargo capability for technology valida-
23 tion and science mission opportunities. In addition, the
24 plan shall identify opportunities to develop and dem-
25 onstrate these technologies on the International Space

1 Station and robotic missions to the Moon, Mars, and other
2 solar system bodies. As part of the technology plan, the
3 Administrator shall examine the feasibility of having
4 NASA enter into contracts with appropriate public, pri-
5 vate sector, and international partners to broadcast elec-
6 tronically, including via the Internet, images and multi-
7 media records delivered from its missions in space to the
8 public and shall identify issues associated with such con-
9 tracts. In any such contracts, NASA would be required
10 to adhere to a transparent bidding process to award con-
11 tracts, pursuant to United States law.

12 (b) REPORT.—Not later than 270 days after the date
13 of enactment of this Act, the Administrator shall submit
14 the plan to the Committee on Science and Technology of
15 the House of Representatives and the Committee on Com-
16 merce, Science, and Transportation of the Senate.

17 **SEC. 408. SCIENCE AND EXPLORATION.**

18 It is the sense of Congress that NASA’s scientific and
19 human exploration activities are synergistic, i.e. science
20 enables exploration and human exploration enables
21 science. The Congress encourages the Administrator to co-
22 ordinate, where practical, NASA’s science and exploration
23 activities with the goal of maximizing the success of
24 human exploration initiatives and furthering our under-
25 standing of the Universe that we explore.

1 **SEC. 409. CONGRESSIONAL BUDGET OFFICE REPORT UP-**
2 **DATE.**

3 Not later than 6 months after the date of enactment
4 of this Act, the Congressional Budget Office shall update
5 its report from 2004 on the budgetary analysis of NASA's
6 Vision for the Nation's Space Exploration Program, in-
7 cluding new estimates for Project Constellation, NASA's
8 new generation of spacecraft designed for human
9 spaceflight that will replace the Space Shuttle program.

10 **TITLE V—SPACE SCIENCE**

11 **SEC. 501. TECHNOLOGY DEVELOPMENT.**

12 The Administrator shall establish a cross-Directorate
13 long-term technology development program for space and
14 Earth science within the Science Mission Directorate for
15 the development of new technology. The program shall be
16 independent of the flight projects under development.
17 NASA shall have a goal of funding the cross-Directorate
18 technology development program at a level of 5 percent
19 of the total Science Mission Directorate annual budget.
20 The program shall be structured to include competitively
21 awarded grants and contracts.

22 **SEC. 502. PROVISION FOR FUTURE SERVICING OF OBSERV-**
23 **ATORY-CLASS SCIENTIFIC SPACECRAFT.**

24 The Administrator shall take all necessary steps to
25 ensure that provision is made in the design and construc-
26 tion of all future observatory-class scientific spacecraft in-

1 tended to be deployed in Earth orbit or at a Lagrangian
2 point in space for robotic or human servicing and repair.

3 **SEC. 503. MARS EXPLORATION.**

4 Congress reaffirms its support for a systematic, inte-
5 grated program of exploration of the Martian surface to
6 examine the planet whose surface is most like Earth's, to
7 search for evidence of past or present life, and to examine
8 Mars for future habitability and as a long-term goal for
9 future human exploration. To the extent affordable and
10 practical, the program should pursue the goal of launches
11 at every Mars launch opportunity, leading to an eventual
12 robotic sample return.

13 **SEC. 504. IMPORTANCE OF A BALANCED SCIENCE PRO-**
14 **GRAM.**

15 It is the sense of Congress that a balanced and ade-
16 quately funded set of activities, consisting of NASA's re-
17 search and analysis grants programs, technology develop-
18 ment, small, medium-sized, and large space science mis-
19 sions, and suborbital research activities, contributes to a
20 robust and productive science program and serves as a
21 catalyst for innovation. It is further the sense of Congress
22 that suborbital flight activities, including the use of sound-
23 ing rockets, aircraft, and high-altitude balloons, and sub-
24 orbital reusable launch vehicles, offer valuable opportuni-
25 ties to advance science, train the next generation of sci-

entists and engineers, and provide opportunities for participants in the programs to acquire skills in systems engineering and systems integration that are critical to maintaining the Nation's leadership in space programs. The Congress believes that it is in the national interest to expand the size of NASA's suborbital research program.

SEC. 505. RESTORATION OF RADIOISOTOPE THERMOELECTRIC GENERATOR MATERIAL PRODUCTION.

(a) PLAN.—The Director of OSTP shall develop a plan for restarting and sustaining the domestic production of radioisotope thermoelectric generator material for deep space and other space science missions.

(b) REPORT.—The plan developed under subsection (a) shall be transmitted to Congress not later than 270 days after the date of enactment of this Act.

SEC. 506. ASSESSMENT OF IMPEDIMENTS TO INTERAGENCY COOPERATION ON SPACE AND EARTH SCIENCE MISSIONS.

(a) ASSESSMENT.—The Administrator shall enter into an arrangement with the National Academies to assess impediments to the successful conduct of interagency cooperation on space and Earth science missions, to provide lessons learned and best practices, and to recommend

1 steps to help facilitate successful interagency collabora-
2 tions on space and Earth science missions.

3 (b) REPORT.—The report of the assessment carried
4 out under subsection (a) shall be transmitted to the Com-
5 mittee on Science and Technology of the House of Rep-
6 resentatives and the Committee on Commerce, Science,
7 and Transportation of the Senate not later than 15
8 months after the date of enactment of this Act.

9 **SEC. 507. ASSESSMENT OF COST GROWTH.**

10 (a) STUDY.—The Administrator shall enter into an
11 arrangement for an independent external assessment to
12 identify the primary causes of cost growth in the large,
13 medium-sized, and small space and Earth science space-
14 craft mission classes, and make recommendations as to
15 what changes, if any, should be made to contain costs and
16 ensure frequent mission opportunities in NASA’s science
17 spacecraft mission programs.

18 (b) REPORT.—The report of the assessment con-
19 ducted under subsection (a) shall be submitted to Con-
20 gress not later than 15 months after the date of enactment
21 of this Act.

22 **SEC. 508. OUTER PLANETS EXPLORATION.**

23 It is the sense of Congress that the outer solar system
24 planets and their satellites can offer important knowledge
25 about the formation and evolution of the solar system, the

1 nature and diversity of these solar system bodies, and the
2 potential for conditions conducive to life beyond Earth.
3 NASA should move forward with plans for an Outer Plan-
4 ets flagship mission to the Europa-Jupiter system or the
5 Titan-Saturn system as soon as practicable within a bal-
6 anced Planetary Science program.

7 **TITLE VI—SPACE OPERATIONS**

8 **Subtitle A—International Space**

9 **Station**

10 **SEC. 601. UTILIZATION.**

11 The Administrator shall take all necessary steps to
12 ensure that the International Space Station remains a via-
13 ble and productive facility capable of potential United
14 States utilization through at least 2020 and shall take no
15 steps that would preclude its continued operation and uti-
16 lization by the United States after 2016.

17 **SEC. 602. RESEARCH MANAGEMENT PLAN.**

18 (a) RESEARCH MANAGEMENT PLAN.—The Adminis-
19 trator shall develop a research management plan for the
20 International Space Station. The plan shall include a proc-
21 ess for selecting and prioritizing research activities (in-
22 cluding fundamental, applied, commercial, and other re-
23 search) for flight on the International Space Station. This
24 plan shall be used to prioritize resources such as crew
25 time, racks and equipment, and United States access to

1 international research facilities and equipment. The plan
2 shall also identify the organization to be responsible for
3 managing United States research on the International
4 Space Station, including a description of the relationship
5 of the management institution with NASA (e.g., internal
6 NASA office, contract, cooperative agreement, or grant),
7 the estimated length of time for the arrangement, and the
8 budget required to support the management institution.
9 The plan shall be developed in consultation with other
10 Federal agencies, academia, industry, and other relevant
11 stakeholders. The plan shall be transmitted to Congress
12 not later than 12 months after the date of enactment of
13 this Act.

14 (b) ACCESS TO NATIONAL LABORATORY.—The Ad-
15 ministrator shall—

16 (1) establish a process by which to support
17 International Space Station National Laboratory
18 users in identifying their requirements for transpor-
19 tation of research supplies to and from the Inter-
20 national Space Station, and for communicating those
21 requirements to NASA and International Space Sta-
22 tion transportation services providers; and

23 (2) develop an estimate of the transportation
24 requirements needed to support users of the Inter-
25 national Space Station National Laboratory and de-

1 velop a plan for satisfying those requirements by
2 dedicating a portion of volume on NASA supply mis-
3 sions to the International Space Station and mis-
4 sions returning from the International Space Station
5 to Earth.

6 (c) ASSESSMENT.—The Administrator shall—

7 (1) identify existing research equipment and
8 racks and support equipment that are manifested for
9 flight;

10 (2) provide a detailed description of the status
11 of research equipment and facilities that were com-
12 pleted or in development prior to being cancelled,
13 and provide the budget and milestones for com-
14 pleting and preparing the equipment for flight on
15 the International Space Station; and

16 (3) provide the results of the assessment to the
17 Committee on Science and Technology of the House
18 of Representatives and the Committee on Commerce,
19 Science, and Transportation of the Senate not later
20 than 18 months after the date of enactment of this
21 Act.

22 (d) ADVISORY COMMITTEE.—Not later than 1 year
23 after the date of enactment of this Act, the Administrator
24 shall establish an advisory panel under the Federal Advi-
25 sory Committee Act to monitor the activities and manage-

1 ment of the International Space Station National Labora-
2 tory.

3 **SEC. 603. CONTINGENCY PLAN FOR CARGO RESUPPLY.**

4 (a) IN GENERAL.—The International Space Station
5 represents a significant investment of national resources,
6 and it is a facility that embodies a cooperative inter-
7 national approach to the exploration and utilization of
8 space. As such, it is important that its continued viability
9 and productivity be ensured, to the maximum extent pos-
10 sible, after the Space Shuttle is retired.

11 (b) CONTINGENCY PLAN.—The Administrator shall
12 develop a contingency plan and arrangements, including
13 use of International Space Station international partner
14 cargo resupply capabilities, to ensure the continued viabil-
15 ity and productivity of the International Space Station in
16 the event that United States commercial cargo resupply
17 services are not available during any extended period after
18 the date that the Space Shuttle is retired. The plan shall
19 be delivered to the Committee on Science and Technology
20 of the House of Representatives and the Committee on
21 Commerce, Science, and Transportation of the Senate not
22 later than one year after the date of enactment of this
23 Act.

1 **Subtitle B—Space Shuttle**

2 **SEC. 611. FLIGHT MANIFEST.**

3 (a) BASELINE MANIFEST.—In addition to the Space
4 Shuttle flights listed as part of the baseline flight manifest
5 as of January 1, 2008, the Utilization flights ULF–4 and
6 ULF–5 shall be considered part of the Space Shuttle base-
7 line flight manifest and shall be flown prior to the retire-
8 ment of the Space Shuttle.

9 (b) ADDITIONAL FLIGHT TO DELIVER THE ALPHA
10 MAGNETIC SPECTROMETER TO THE INTERNATIONAL
11 SPACE STATION.—In addition to the flying of the baseline
12 manifest as described in subsection (a), the Administrator
13 shall take all necessary steps to fly one additional Space
14 Shuttle flight to deliver the Alpha Magnetic Spectrometer
15 to the International Space Station prior to the retirement
16 of the Space Shuttle.

17 (c) SPACE SHUTTLE RETIREMENT DATE.—The
18 Space Shuttle shall be retired following the completion of
19 the baseline flight manifest and the flight of the additional
20 flight specified in subsection (b), events that are antici-
21 pated to occur in 2010.

22 **SEC. 612. DISPOSITION OF SHUTTLE-RELATED ASSETS.**

23 Not later than 90 days after the date of enactment
24 of this Act, the Administrator shall provide a plan to Con-
25 gress for the disposition of the remaining Space Shuttle

1 orbiters and other Space Shuttle program-related hard-
 2 ware and facilities after the retirement of the Space Shut-
 3 tle fleet. The plan shall include a process by which edu-
 4 cational institutions and science museums and other ap-
 5 propriate organizations may acquire, through loan or dis-
 6 posal by the Federal Government, Space Shuttle program-
 7 related hardware. The Administrator shall not dispose of
 8 any Space Shuttle-related hardware prior to the comple-
 9 tion of the plan.

10 **SEC. 613. SPACE SHUTTLE TRANSITION LIAISON OFFICE.**

11 (a) ESTABLISHMENT.—The Administrator shall es-
 12 tablish an office within NASA’s Office of Human Capital
 13 Management that shall assist local communities affected
 14 by the termination of the Space Shuttle program. The of-
 15 fice shall offer technical assistance and serve as a clearing-
 16 house to assist communities in identifying services avail-
 17 able from other Federal agencies.

18 (b) SUNSET.—The Office established under sub-
 19 section (a) shall cease operations 24 months after the last
 20 Space Shuttle flight.

21 **Subtitle C—Launch Services**

22 **SEC. 621. LAUNCH SERVICES STRATEGY.**

23 (a) IN GENERAL.—In preparation for the award of
 24 contracts to follow up on the current NASA Launch Serv-
 25 ices (NLS) contracts, the Administrator shall develop a

1 strategy for providing domestic commercial launch services
2 in support of NASA's small and medium-sized Science,
3 Space Operations, and Exploration missions, consistent
4 with current law and policy.

5 (b) REPORT.—The Administrator shall transmit a re-
6 port to the Committee on Science and Technology of the
7 House of Representatives and the Committee on Com-
8 merce, Science, and Transportation of the Senate describ-
9 ing the strategy developed under subsection (a) not later
10 than 90 days after the date of enactment of this Act. The
11 report shall provide, at a minimum—

12 (1) the results of the Request for Information
13 on small to medium-sized launch services released on
14 April 22, 2008;

15 (2) an analysis of possible alternatives to main-
16 tain small and medium-sized lift capabilities after
17 June 30, 2010, including the use of the Department
18 of Defense's Evolved Expendable Launch Vehicle
19 (EELV);

20 (3) the recommended alternatives, and associ-
21 ated 5-year budget plans starting in October 2010
22 that would enable their implementation; and

23 (4) a contingency plan in the event the rec-
24 ommended alternatives described in paragraph (3)
25 are not available when needed.

TITLE VII—EDUCATION

SEC. 701. RESPONSE TO REVIEW.

(a) PLAN.—The Administrator shall prepare a plan identifying actions taken or planned in response to the recommendations of the National Academies report, “NASA’s Elementary and Secondary Education Program: Review and Critique”. For those actions that have not been implemented, the plan shall include a schedule and budget required to support the actions.

(b) REPORT.—The plan prepared under subsection (a) shall be transmitted to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than 1 year after the date of enactment of this Act.

SEC. 702. EXTERNAL REVIEW OF EXPLORER SCHOOLS PROGRAM.

(a) REVIEW.—The Administrator shall make arrangements for an independent external review of the Explorer Schools program to evaluate its goals, status, plans, and accomplishments.

(b) REPORT.—The report of the independent external review shall be transmitted to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of

1 the Senate not later than 1 year after the date of enact-
2 ment of this Act.

3 **SEC. 703. SENSE OF CONGRESS.**

4 It is the sense of Congress that NASA’s educational
5 programs are important sources of inspiration and hands-
6 on learning for the next generation of engineers and sci-
7 entists and should be supported. In that regard, programs
8 such as EarthKAM, which brings NASA directly into
9 American classrooms by enabling students to talk directly
10 with Astronauts aboard International Space Station and
11 take photographs of Earth from space, and NASA involve-
12 ment in robotics competitions for students of all levels, are
13 particularly worthy undertakings and NASA should sup-
14 port them and look for additional opportunities to engage
15 students through NASA’s space and aeronautics activities.

16 **TITLE VIII—NEAR-EARTH**
17 **OBJECTS**

18 **SEC. 801. IN GENERAL.**

19 The Congress reaffirms the policy direction estab-
20 lished in the National Aeronautics and Space Administra-
21 tion Authorization Act of 2005 (Public Law 109–155) for
22 NASA to detect, track, catalogue, and characterize the
23 physical characteristics of near-Earth objects equal to or
24 greater than 140 meters in diameter. NASA’s Near-Earth

1 Object program activities will also provide benefits to
2 NASA's scientific and exploration activities.

3 **SEC. 802. FINDINGS.**

4 Congress makes the following findings:

5 (1) Near-Earth objects pose a serious and cred-
6 ible threat to humankind, as many scientists believe
7 that a major asteroid or comet was responsible for
8 the mass extinction of the majority of the Earth's
9 species, including the dinosaurs, nearly 65,000,000
10 years ago.

11 (2) Several such near-Earth objects have only
12 been discovered within days of the objects' closest
13 approach to Earth and recent discoveries of such
14 large objects indicate that many large near-Earth
15 objects remain undiscovered.

16 (3) Asteroid and comet collisions rank as one of
17 the most costly natural disasters that can occur.

18 (4) The time needed to eliminate or mitigate
19 the threat of a collision of a potentially hazardous
20 near-Earth object with Earth is measured in dec-
21 ades.

22 (5) Unlike earthquakes and hurricanes, aster-
23 oids and comets can provide adequate collision infor-
24 mation, enabling the United States to include both
25 asteroid-collision and comet-collision disaster recov-

1 ery and disaster avoidance in its public-safety struc-
2 ture.

3 (6) Basic information is needed for technical
4 and policy decisionmaking for the United States to
5 create a comprehensive program in order to be ready
6 to eliminate and mitigate the serious and credible
7 threats to humankind posed by potentially hazardous
8 near-Earth asteroids and comets.

9 (7) As a first step to eliminate and to mitigate
10 the risk of such collisions, situation and decision
11 analysis processes, as well as procedures and system
12 resources, must be in place well before a collision
13 threat becomes known.

14 **SEC. 803. REQUESTS FOR INFORMATION.**

15 The Administrator shall issue requests for informa-
16 tion on—

17 (1) a low-cost space mission with the purpose of
18 rendezvousing with, attaching a tracking device, and
19 characterizing the Apophis asteroid, which scientists
20 estimate will in 2029 pass at a distance from Earth
21 that is closer than geostationary satellites; and

22 (2) a medium-sized space mission with the pur-
23 pose of detecting near-Earth objects equal to or
24 greater than 140 meters in diameter.

1 **SEC. 804. ESTABLISHMENT OF POLICY.**

2 Not later than 2 years after the date of enactment
3 of this Act, the Director of OSTP shall—

4 (1) develop a policy for notifying Federal agen-
5 cies and relevant emergency response institutions of
6 an impending near-Earth object threat, if near term
7 public safety is at stake; and

8 (2) recommend a Federal agency or agencies to
9 be responsible for protecting the Nation from a
10 near-Earth object that is anticipated to collide with
11 Earth and implementing a deflection campaign, in
12 consultation with international bodies, should one be
13 required.

14 **SEC. 805. PLANETARY RADAR CAPABILITY.**

15 The Administrator shall maintain a planetary radar
16 that is, at minimum, comparable to the capability provided
17 through the NASA Deep Space Network Goldstone facil-
18 ity.

19 **SEC. 806. ARECIBO OBSERVATORY.**

20 Congress reiterates its support for the use of the Are-
21 cibo Observatory for NASA-funded near-Earth object-re-
22 lated activities. The Administrator shall ensure the avail-
23 ability of the Arecibo Observatory's planetary radar to
24 support these activities until the National Academies' re-
25 view of NASA's approach for the survey and deflection
26 of near-Earth objects, including a determination of the

1 role of Arecibo, that was directed to be undertaken by the
2 Fiscal Year 2008 Omnibus Appropriations Act, is com-
3 pleted.

4 **SEC. 807. INTERNATIONAL RESOURCES.**

5 It is the sense of Congress that, since an estimated
6 25,000 asteroids of concern have yet to be discovered and
7 monitored, the United States should seek to obtain com-
8 mitments for cooperation from other nations with signifi-
9 cant resources for contributing to a thorough and timely
10 search for such objects and an identification of their char-
11 acteristics.

12 **TITLE IX—COMMERCIAL**
13 **INITIATIVES**

14 **SEC. 901. SENSE OF CONGRESS.**

15 It is the sense of Congress that a healthy and robust
16 commercial sector can make significant contributions to
17 the successful conduct of NASA's space exploration pro-
18 gram. While some activities are inherently governmental
19 in nature, there are many other activities, such as routine
20 supply of water, fuel, and other consumables to low Earth
21 orbit or to destinations beyond low Earth orbit, and provi-
22 sion of power or communications services to lunar out-
23 posts, that potentially could be carried out effectively and
24 efficiently by the commercial sector at some point in the
25 future. Congress encourages NASA to look for such serv-

1 ice opportunities and, to the maximum extent practicable,
2 make use of the commercial sector to provide those serv-
3 ices. It is further the sense of Congress that United States
4 entrepreneurial space companies have the potential to de-
5 velop and deliver innovative technology solutions at afford-
6 able costs. NASA is encouraged to use United States en-
7 trepreneurial space companies to conduct appropriate re-
8 search and development activities. NASA is further en-
9 couraged to seek ways to ensure that firms that rely on
10 fixed-price proposals are not disadvantaged when NASA
11 seeks to procure technology development.

12 **SEC. 902. COMMERCIAL CREW INITIATIVE.**

13 (a) IN GENERAL.—In order to stimulate commercial
14 use of space, help maximize the utility and productivity
15 of the International Space Station, and enable a commer-
16 cial means of providing crew transfer and crew rescue
17 services for the International Space Station, NASA
18 shall—

19 (1) make use of United States commercially
20 provided International Space Station crew transfer
21 and crew rescue services to the maximum extent
22 practicable, if those commercial services have dem-
23 onstrated the capability to meet NASA-specified as-
24 cent, entry, and International Space Station prox-
25 imity operations safety requirements;

1 (2) limit, to the maximum extent practicable,
2 the use of the Crew Exploration Vehicle to missions
3 carrying astronauts beyond low Earth orbit once
4 commercial crew transfer and crew rescue services
5 that meet safety requirements become operational;

6 (3) facilitate, to the maximum extent prac-
7 ticable, the transfer of NASA-developed technologies
8 to potential United States commercial crew transfer
9 and rescue service providers, consistent with United
10 States law; and

11 (4) issue a notice of intent, not later than 180
12 days after the date of enactment of this Act, to
13 enter into a funded, competitively awarded Space
14 Act Agreement with two or more commercial entities
15 for a Phase 1 Commercial Orbital Transportation
16 Services (COTS) crewed vehicle demonstration pro-
17 gram.

18 (b) COTS CREWED VEHICLE DEMONSTRATION PRO-
19 GRAM AUTHORIZATION OF APPROPRIATIONS.—There are
20 authorized to be appropriated to NASA for the program
21 described in subsection (a)(4) \$50,000,000 for fiscal year
22 2009, to remain available until expended.

23 (c) CONGRESSIONAL INTENT.—It is the intent of
24 Congress that funding for the program described in sub-
25 section (a)(4) shall not come at the expense of full funding

1 of the amounts authorized under section 101(a)(3), and
2 for future fiscal years, for Orion Crew Exploration Vehicle
3 development, Ares I Crew Launch Vehicle development, or
4 International Space Station cargo delivery.

5 (d) ADDITIONAL TECHNOLOGIES AUTHORIZATION OF
6 APPROPRIATIONS.—There are authorized to be appro-
7 priated to NASA for the provision of International Space
8 Station-compatible docking adaptors and other relevant
9 technologies to be made available to the commercial crew
10 providers selected to service the International Space Sta-
11 tion \$50,000,000, to remain available until expended.

12 (e) CREW TRANSFER AND CREW RESCUE SERVICES
13 CONTRACT.—If a commercial provider demonstrates the
14 capability to provide International Space Station crew
15 transfer and crew rescue services and to satisfy NASA as-
16 cent, entry, and International Space Station proximity op-
17 erations safety requirements, NASA shall enter into an
18 International Space Station crew transfer and crew rescue
19 services contract with that commercial provider for a por-
20 tion of NASA’s anticipated International Space Station
21 crew transfer and crew rescue requirements from the time
22 the commercial provider commences operations under con-
23 tract with NASA through calendar year 2016, with an op-
24 tion to extend the period of performance through calendar
25 year 2020.

1 **TITLE X—REVITALIZATION OF**
2 **NASA INSTITUTIONAL CAPA-**
3 **BILITIES**

4 **SEC. 1001. REVIEW OF INFORMATION SECURITY CONTROLS.**

5 (a) REPORT ON CONTROLS.—Not later than one year
6 after the date of enactment of this Act, the Comptroller
7 General shall transmit to the Committee on Science and
8 Technology of the House of Representatives and the Com-
9 mittee on Commerce, Science, and Transportation of the
10 Senate a review of information security controls that pro-
11 tect NASA’s information technology resources and infor-
12 mation from inadvertent or deliberate misuse, fraudulent
13 use, disclosure, modification, or destruction. The review
14 shall focus on networks servicing NASA’s mission direc-
15 torates. In assessing these controls, the review shall evalu-
16 ate—

17 (1) the network’s ability to limit, detect, and
18 monitor access to resources and information, thereby
19 safeguarding and protecting them from unauthorized
20 access;

21 (2) the physical access to network resources;
22 and

23 (3) the extent to which sensitive research and
24 mission data is encrypted.

1 (b) RESTRICTED REPORT ON INTRUSIONS.—Not
2 later than one year after the date of enactment of this
3 Act, and in conjunction with the report described in sub-
4 section (a), the Comptroller General shall transmit to the
5 Committee on Science and Technology of the House of
6 Representatives and the Committee on Commerce,
7 Science, and Transportation of the Senate a restricted re-
8 port detailing results of vulnerability assessments con-
9 ducted by the Government Accountability Office on
10 NASA’s network resources. Intrusion attempts during
11 such vulnerability assessments shall be divulged to NASA
12 senior management prior to their application. The report
13 shall put vulnerability assessment results in the context
14 of unauthorized accesses or attempts during the prior two
15 years and the corrective actions, recent or ongoing, that
16 NASA has implemented in conjunction with other Federal
17 authorities to prevent such intrusions.

18 **SEC. 1002. MAINTENANCE AND UPGRADE OF CENTER FA-**
19 **CILITIES.**

20 (a) IN GENERAL.—In order to sustain healthy Cen-
21 ters that are capable of carrying out NASA’s missions,
22 the Administrator shall ensure that adequate maintenance
23 and upgrading of those Center facilities is performed on
24 a regular basis.

1 (b) REVIEW.—The Administrator shall determine
2 and prioritize the maintenance and upgrade backlog at
3 each of NASA’s Centers and associated facilities, and shall
4 develop a strategy and budget plan to reduce that maintenance and upgrade backlog by 50 percent over the next
5 five years.

7 (c) REPORT.—The Administrator shall deliver a report to Congress on the results of the activities undertaken
8 in subsection (b) concurrently with the delivery of the fiscal year 2011 budget request.

11 **SEC. 1003. ASSESSMENT OF NASA LABORATORY CAPABILITIES.**
12

13 (a) IN GENERAL.—NASA’s laboratories are a critical
14 component of NASA’s research capabilities, and the Administrator shall ensure that those laboratories remain
15 productive.

17 (b) REVIEW.—The Administrator shall enter into an
18 arrangement for an independent external review of
19 NASA’s laboratories, including laboratory equipment, facilities, and support services, to determine whether they
20 are equipped and maintained at a level adequate to support NASA’s research activities. The assessment shall also
21 include an assessment of the relative quality of NASA’s
22 in-house laboratory equipment and facilities compared to
23 comparable laboratories elsewhere. The results of the re-

1 view shall be provided to the Committee on Science and
2 Technology of the House of Representatives and the Com-
3 mittee on Commerce, Science, and Transportation of the
4 Senate not later than 18 months after the date of enact-
5 ment of this Act.

6 **TITLE XI—OTHER PROVISIONS**

7 **SEC. 1101. SPACE WEATHER.**

8 (a) PLAN FOR REPLACEMENT OF ADVANCED COM-
9 POSITION EXPLORER AT L-1 LAGRANGIAN POINT.—

10 (1) PLAN.—The Director of OSTP shall de-
11 velop a plan for sustaining space-based measure-
12 ments of solar wind from the L-1 Lagrangian point
13 in space and for the dissemination of the data for
14 operational purposes. OSTP shall consult with
15 NASA, NOAA, and other Federal agencies, and with
16 industry, in developing the plan.

17 (2) REPORT.—The Director shall transmit the
18 plan to Congress not later than 1 year after the date
19 of enactment of this Act.

20 (b) RESEARCH PROGRAM ON SPACE WEATHER AND
21 AVIATION.—

22 (1) ESTABLISHMENT.—The Administrator
23 shall, in coordination with the National Science
24 Foundation, NOAA, and other relevant agencies, ini-
25 tiate a research program to—

1 (A) conduct or supervise research projects
2 on impacts of space weather to aviation, includ-
3 ing impacts on communication, navigation,
4 avionic systems, and airline passengers and per-
5 sonnel; and

6 (B) facilitate the transfer of technology
7 from space weather research programs to Fed-
8 eral agencies with operational responsibilities
9 and to the private sector.

10 (2) USE OF GRANTS OR COOPERATIVE AGREE-
11 MENTS.—The Administrator may use grants or co-
12 operative agreements in carrying out this subsection.

13 (c) ASSESSMENT OF THE IMPACT OF SPACE WEATH-
14 ER ON AVIATION.—

15 (1) STUDY.—The Administrator shall enter into
16 an arrangement with the National Research Council
17 for a study of the impacts of space weather on the
18 current and future United States aviation industry,
19 and in particular to examine the risks for Over-The-
20 Pole (OTP) and Ultra-Long-Range (ULR) oper-
21 ations. The study shall—

22 (A) examine space weather impacts on at
23 least communications, navigation, avionics, and
24 human health in flight;

1 (B) assess the benefits of space weather in-
2 formation and services to reduce aviation costs
3 and maintain safety;

4 (C) provide recommendations on how
5 NASA, NOAA, and the National Science Foun-
6 dation can most effectively carry out research
7 and monitoring activities related to space
8 weather and aviation; and

9 (D) provide recommendations on how to
10 integrate space weather information into the
11 Next Generation Air Transportation System.

12 (2) REPORT.—A report containing the results
13 of the study shall be provided to the Committee on
14 Science and Technology of the House of Representa-
15 tives and the Committee on Commerce, Science, and
16 Transportation of the Senate not later than 1 year
17 after the date of enactment of this Act.

18 **SEC. 1102. SPACE TRAFFIC MANAGEMENT.**

19 (a) IN GENERAL.—As more nations acquire the capa-
20 bilities for launching payloads into outer space, there is
21 an increasing need for a framework under which informa-
22 tion intended to promote safe access into outer space, op-
23 erations in outer space, and return from outer space to
24 Earth free from physical or radio-frequency interference
25 can be shared among those nations.

1 (b) DISCUSSIONS.—The Administrator, in consulta-
2 tion with other appropriate agencies of the Federal Gov-
3 ernment, shall initiate discussions with the appropriate
4 representatives of other spacefaring nations with the goal
5 of determining an appropriate framework under which in-
6 formation intended to promote safe access into outer
7 space, operations in outer space, and return from outer
8 space to Earth free from physical or radio-frequency inter-
9 ference can be shared among those nations.

10 **SEC. 1103. STUDY OF EXPORT CONTROL POLICIES RE-**
11 **LATED TO CIVIL AND COMMERCIAL SPACE**
12 **ACTIVITIES.**

13 (a) REVIEW.—The Director of OSTP shall carry out
14 a study of the impact of current export control policies
15 and implementation directives on the United States aero-
16 space industry and its competitiveness in global markets,
17 and on the ability of United States Government agencies
18 to carry out cooperative activities in science and tech-
19 nology and human space flight, including the impact on
20 research carried out under the sponsorship of those agen-
21 cies.

22 (b) CONSULTATION.—In carrying out the study, the
23 Director shall seek input from industry, academia, rep-
24 resentatives of the science community, all affected United

1 States Government agencies, and any other appropriate
2 organizations and individuals.

3 (c) REPORT.—The Director shall provide a report de-
4 tailing the findings and recommendations of the study to
5 the Committee on Science and Technology of the House
6 of Representatives and the Committee on Commerce,
7 Science, and Transportation of the Senate not later than
8 9 months after the date of enactment of this Act.

9 **SEC. 1104. ASTRONAUT HEALTH CARE.**

10 (a) SURVEY.—The Administrator shall administer an
11 anonymous survey of astronauts and flight surgeons to
12 evaluate communication, relationships, and the effective-
13 ness of policies. The survey questions and the analysis of
14 results shall be evaluated by experts independent of
15 NASA. The survey shall be administered on at least a bi-
16 ennial basis.

17 (b) REPORT.—The Administrator shall transmit a re-
18 port of the results of the survey to Congress not later than
19 90 days following completion of the survey.

20 **SEC. 1105. NATIONAL ACADEMIES DECADAL SURVEYS.**

21 (a) IN GENERAL.—The Administrator shall enter
22 into agreements on a periodic basis with the National
23 Academies for independent assessments, also known as
24 decadal surveys, to take stock of the status and opportuni-
25 ties for Earth and space science discipline fields and Aero-

1 nautics research and to recommend priorities for research
2 and programmatic areas over the next decade.

3 (b) INDEPENDENT COST ESTIMATES.—The agree-
4 ments described in subsection(a) shall include independent
5 estimates of the life cycle costs and technical readiness
6 of missions assessed in the decadal surveys whenever pos-
7 sible.

8 (c) REEXAMINATION.—The Administrator shall re-
9 quest that each National Academies decadal survey com-
10 mittee identify any conditions or events, such as signifi-
11 cant cost growth or scientific or technological advances,
12 that would warrant NASA asking the National Academies
13 to reexamine the priorities that the decadal survey had
14 established.

15 **SEC. 1106. INNOVATION PRIZES.**

16 (a) IN GENERAL.—Prizes can play a useful role in
17 encouraging innovation in the development of technologies
18 and products that can assist NASA in its aeronautics and
19 space activities, and the use of such prizes by NASA
20 should be encouraged.

21 (b) AMENDMENTS.—Section 314 of the National Aer-
22 onautics and Space Act of 1958 is amended—

23 (1) by amending subsection (b) to read as fol-
24 lows:

1 “(b) TOPICS.—In selecting topics for prize competi-
2 tions, the Administrator shall consult widely both within
3 and outside the Federal Government, and may empanel
4 advisory committees. The Administrator shall give consid-
5 eration to prize goals such as the demonstration of the
6 ability to provide energy to the lunar surface from space-
7 based solar power systems, demonstration of innovative
8 near-Earth object survey and deflection strategies, and in-
9 novative approaches to improving the safety and efficiency
10 of aviation systems.”; and

11 (2) in subsection (i)(4) by striking
12 “\$10,000,000” and inserting “\$50,000,000”.

13 **SEC. 1107. COMMERCIAL SPACE LAUNCH RANGE STUDY.**

14 (a) STUDY BY INTERAGENCY COMMITTEE.—The Di-
15 rector of OSTP shall work with other appropriate Federal
16 agencies to establish an interagency committee to conduct
17 a study to—

18 (1) identify the issues and challenges associated
19 with establishing a space launch range and facilities
20 that are fully dedicated to commercial space mis-
21 sions in close proximity to Federal launch ranges or
22 other Federal facilities; and

23 (2) develop a coordinating mechanism such that
24 States seeking to establish such commercial space
25 launch ranges will be able to effectively and effi-

1 ciently interface with the Federal Government con-
2 cerning issues related to the establishment of such
3 commercial launch ranges in close proximity to Fed-
4 eral launch ranges or other Federal facilities.

5 (b) REPORT.—The Director shall, not later than May
6 31, 2010, submit to the Committee on Science and Tech-
7 nology of the House of Representatives and the Committee
8 on Commerce, Science, and Transportation of the Senate
9 a report on the results of the study conducted under sub-
10 section (a).

11 **SEC. 1108. NASA OUTREACH AND TECHNOLOGY ASSIST-**
12 **ANCE PROGRAM.**

13 (a) ESTABLISHMENT.—NASA shall contract with an
14 organization that has demonstrated the ability to partner
15 with NASA centers, aerospace contractors, and academic
16 institutions to carry out a program to transfer the knowl-
17 edge and technology of the space and aeronautics pro-
18 grams to small, minority-owned, and women-owned busi-
19 nesses in communities across the United States. The pro-
20 gram shall support the mission of NASA’s Innovative
21 Partnerships Program to provide technical assistance
22 through joint partnerships with industry, academia, gov-
23 ernment agencies, and national laboratories.

24 (b) PROGRAM STRUCTURE.—In carrying out the pro-
25 gram described in subsection (a), the organization shall

1 support the mission of NASA's Innovative Partnerships
2 Program by undertaking the following activities:

3 (1) Facilitating technology transfer to the pri-
4 vate sector to produce viable commercial products.

5 (2) Creating a network of academic institutions,
6 aerospace contractors, and NASA centers that will
7 commit to donating technical assistance to small
8 businesses, giving preference to socially and eco-
9 nomically disadvantaged small business concerns,
10 small business concerns owned and controlled by
11 service-disabled veterans, and HUBZone small busi-
12 ness concerns. This paragraph shall not apply to any
13 contracting actions entered into or taken by the
14 Agency.

15 (3) Creating a network of economic develop-
16 ment organizations to increase the awareness and
17 enhance the effectiveness of the program nationwide.

18 (c) REPORT.—Not later than 1 year after the date
19 of enactment of this Act, and annually thereafter, the Ad-
20 ministrator shall submit a report to the Committee on
21 Science and Technology of the House of Representatives
22 and the Committee on Commerce, Science, and Transpor-
23 tation of the Senate describing the efforts and accomplish-
24 ments of the program established under subsection (a) in

1 support of NASA's Innovative Partnerships Program. As
2 part of the report, the Administrator shall provide—

3 (1) data on the number of small businesses re-
4 ceiving assistance, jobs created and retained, and
5 volunteer hours donated by NASA, contractors, and
6 academic institutions nationwide;

7 (2) an estimate of the total dollar value of the
8 economic impact made by small businesses that re-
9 ceived technical assistance through the program; and

10 (3) an accounting of the use of funds appro-
11 priated for the program.

12 (d) AUTHORIZATION OF APPROPRIATIONS.—There
13 are authorized to be appropriated to NASA for the pro-
14 gram established under subsection (a), \$4,000,000 for fis-
15 cal year 2009 from the funding available for the Innova-
16 tive Partnerships Program, to remain available until ex-
17 pended.

18 **SEC. 1109. REDUCTION-IN-FORCE MORATORIUM.**

19 NASA shall not initiate or implement a reduction-in-
20 force, or conduct any other involuntary separations of per-
21 manent, non-Senior Executive Service, civil servant em-
22 ployees except for cause on charges of misconduct, delin-
23 quency, or inefficiency prior to December 31, 2010.

1 **SEC. 1110. LIMIT ON THE USE OF TERM POSITIONS.**

2 NASA shall limit the percentage of employees in term
3 positions, excluding students and cooperatives, within
4 NASA to less than or equal to ten percent of the total
5 number of non-Senior Executive Service, civil servant em-
6 ployees in fiscal year 2009.

7 **SEC. 1111. TEMPORARY CONTINUATION OF COVERAGE OF**
8 **HEALTH BENEFITS.**

9 (a) Section 8905a(d) of title 5, United States Code,
10 is amended by adding at the end the following new para-
11 graph:

12 “(6)(A) If the basis for continued coverage
13 under this section is, as a result of the termination
14 of the Space Shuttle Program, an involuntary sepa-
15 ration from a position due to a reduction-in-force or
16 declination of a directed reassignment or transfer of
17 function, or a voluntary separation from a surplus
18 position in the National Aeronautics and Space Ad-
19 ministration—

20 “(i) the individual shall be liable for not
21 more than the employee contributions referred
22 to in paragraph (1)(A)(i); and

23 “(ii) the National Aeronautics and Space
24 Administration shall pay the remaining portion
25 of the amount required under paragraph
26 (1)(A).

1 “(B) This paragraph shall only apply with re-
2 spect to individuals whose continued coverage is
3 based on a separation occurring on or after the date
4 of enactment of this paragraph and before December
5 31, 2010.

6 “(C) For purposes of this paragraph, “surplus
7 position” means a position which is—

8 “(i) identified in pre-reduction-in-force
9 planning as no longer required, and which is ex-
10 pected to be eliminated under formal reduction-
11 in-force procedures as a result of the termi-
12 nation of the Space Shuttle Program; or

13 “(ii) encumbered by an employee who has
14 received official certification from the National
15 Aeronautics and Space Administration con-
16 sistent with the Administration’s career transi-
17 tion assistance program regulations that the po-
18 sition is being abolished as a result of the ter-
19 mination of the Space Shuttle Program.”.

20 (b) Paragraph (1)(A) of such subsection (d) is
21 amended by striking “(4) and (5)” and inserting “(4), (5),
22 and (6)”.

1 **SEC. 1112. SENSE OF CONGRESS.**

2 It is the sense of Congress that NASA should not
3 dilute, distort, suppress, or impede scientific research or
4 the dissemination thereof.

5 **SEC. 1113. SENSE OF CONGRESS REGARDING THE NEED**
6 **FOR A ROBUST WORKFORCE.**

7 It is the sense of Congress that—

8 (1) a robust and highly skilled workforce is crit-
9 ical to the success of NASA’s programs;

10 (2) voluntary attrition, the retirement of many
11 senior workers, and difficulties in recruiting could
12 leave NASA without access to the intellectual capital
13 necessary to compete with its global competitors;
14 and

15 (3) NASA should work cooperatively with other
16 agencies of the United States Government respon-
17 sible for programs related to space and the aero-
18 space industry to develop and implement policies, in-
19 cluding those with an emphasis on improving
20 science, technology, engineering, and mathematics
21 education at all levels, to sustain and expand the di-
22 verse workforce available to NASA.

23 **SEC. 1114. EXCEPTION TO ALTERNATIVE FUEL PROCURE-**
24 **MENT REQUIREMENT.**

25 Section 526(a) of the Energy Independence and Se-
26 curity Act of 2007 (42 U.S.C. 17142(a)) does not prohibit

1 NASA from entering into a contract to purchase a gen-
2 erally available fuel that is not an alternative or synthetic
3 fuel or predominantly produced from a nonconventional
4 petroleum source, if—

5 (1) the contract does not specifically require the
6 contractor to provide an alternative or synthetic fuel
7 or fuel from a nonconventional petroleum source;

8 (2) the purpose of the contract is not to obtain
9 an alternative or synthetic fuel or fuel from a non-
10 conventional petroleum source; and

11 (3) the contract does not provide incentives for
12 a refinery upgrade or expansion to allow a refinery
13 to use or increase its use of fuel from a nonconven-
14 tional petroleum source.

15 **SEC. 1115. CHRISTA MCAULIFFE SCHOLARSHIP PROGRAM**
16 **FOR FIELDS RELATED TO THE MISSION OF**
17 **NASA.**

18 The Administrator shall establish a scholarship pro-
19 gram in honor of Christa McAuliffe, who died in the 1986
20 Challenger Space Shuttle Disaster. The scholarship fund
21 would provide scholarships each year of \$10,000 each to
22 three women who are going to college to study in fields
23 related to the mission of NASA, with the goal of seeking

1 careers in space science, aeronautics, and other fields re-
2 lated to NASA.

Passed the House of Representatives June 18, 2008.

Attest: LORRAINE C. MILLER,
Clerk.