

108TH CONGRESS
1ST SESSION

H. R. 3057

To restore a vision for the United States human space flight program by instituting a series of incremental goals that will facilitate the scientific exploration of the solar system and aid in the search for life elsewhere in the universe, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 10, 2003

Mr. LAMPSON (for himself, Ms. JACKSON-LEE of Texas, Mr. BELL, Mr. HONDA, Mr. GREEN of Texas, Mr. ORTIZ, Mr. EVANS, Ms. LINDA T. SÁNCHEZ of California, Mr. PASCRELL, Mr. HALL, Mr. REYES, Mr. ISRAEL, Ms. EDDIE BERNICE JOHNSON of Texas, Mr. EDWARDS, Mr. COSTELLO, Mr. LIPINSKI, Mr. GORDON, Mr. UDALL of Colorado, Mr. LARSON of Connecticut, Mr. MILLER of North Carolina, Mr. FROST, Mr. SANDLIN, Mr. TURNER of Texas, Mr. WU, Mr. KUCINICH, Ms. ESHOO, and Ms. MCCARTHY of Missouri) introduced the following bill; which was referred to the Committee on Science

A BILL

To restore a vision for the United States human space flight program by instituting a series of incremental goals that will facilitate the scientific exploration of the solar system and aid in the search for life elsewhere in the universe, 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.**

2 This Act may be cited as the “Space Exploration Act
3 of 2003”.

4 **SEC. 2. FINDINGS.**

5 The Congress finds the following:

6 (1) It is in the national interest of the United
7 States to have a vigorous, outward-looking program
8 of space exploration, encompassing both robotic
9 spacecraft missions and human space flight.

10 (2) The United States has achieved major ac-
11 complishments in its human space flight program
12 over the last 4 decades, including the first crewed
13 lunar landing, the first reusable crewed Space Shut-
14 tle, and the first truly international Space Station.

15 (3) There currently is no commitment to the ac-
16 complishment of any challenging goals in human
17 space flight after the completion of the International
18 Space Station.

19 (4) While a significant amount of scientific re-
20 search can and should be accomplished by robotic
21 means, a comprehensive plan of scientific exploration
22 of the solar system and search for life beyond Earth
23 will require both robotic spacecraft missions and
24 human space flight to achieve its goals.

25 (5) Properly coordinated, the Nation’s human
26 space flight program does not compete with robotic

1 exploration but instead complements it and provides
2 additional capabilities for scientific research.

3 (6) The successful repair and servicing of the
4 Hubble Space Telescope demonstrates the potential
5 for the productive participation of the human space
6 flight program in advancing the goals of scientific
7 exploration.

8 (7) There have been numerous commissions and
9 study panels over the last 30 years that have articu-
10 lated goals for the future of human space flight, and
11 additional studies to establish goals are not needed
12 at this time.

13 (8) While there are significant technical and
14 programmatic hurdles to be overcome in carrying
15 out human space flight activities beyond low Earth
16 orbit, the main hurdle to be overcome is the lack of
17 a national commitment to such activities.

18 (9) In the absence of a commitment to specific
19 and challenging human space flight goals, programs
20 to develop generic technological capabilities for
21 human space flight are likely to be unfocused, ineffi-
22 cient, and short-lived.

23 (10) It is in the national interest of the United
24 States to commit to a challenging set of incremental
25 goals for the Nation's human space flight program

1 in order to facilitate the scientific exploration of the
2 solar system and aid in the search for life beyond
3 Earth and to commit to the attainment of those
4 goals.

5 (11) While the ultimate goal of human space
6 flight in the inner solar system is the exploration of
7 the planet Mars, there are other important goals for
8 exploration of the inner solar system that will ad-
9 vance our scientific understanding and allow the
10 United States to develop and demonstrate capabili-
11 ties that will be needed for the scientific exploration
12 and eventual settlement of Mars.

13 (12) A bold and sustained human space flight
14 initiative of scientific exploration should contain pro-
15 gressively more challenging objectives, including mis-
16 sions to the Earth-Sun libration points, Earth-orbit
17 crossing asteroids, the lunar surface, the satellites of
18 Mars, and the surface of Mars.

19 (13) A human space flight initiative with incre-
20 mental goals and milestones will allow a continuing
21 series of accomplishments to be achieved throughout
22 the duration of the initiative, permit the “lessons
23 learned” and capabilities acquired from previous im-
24 plementation steps to be incorporated into subse-
25 quent phases of the initiative, and allow adjustments

1 to be made to the implementation of the initiative as
2 new opportunities or challenges arise.

3 (14) The National Aeronautics and Space Ad-
4 ministration should develop a roadmap and imple-
5 mentation plan for a progressive program of human
6 space flight beyond low Earth orbit in support of the
7 scientific exploration of the solar system and the
8 search for life beyond Earth.

9 (15) This new initiative in space exploration
10 should not come at the expense of existing and
11 planned investments in the National Aeronautics
12 and Space Administration's human space flight and
13 space transportation programs, which all should be
14 leveraged to help advance the goals of the human
15 space flight initiative while avoiding duplication of
16 effort.

17 (16) The President should ensure that suffi-
18 cient resources are provided to the National Aero-
19 nautics and Space Administration and that appro-
20 priate financial management controls are in place to
21 ensure that the implementation plan can be carried
22 out in a timely and cost-effective manner.

23 (17) The United States captured the imagina-
24 tion of the peoples of the world and inspired a gen-
25 eration of young people to enter careers in science

1 and engineering when it successfully landed humans
2 on the surface of the Moon in the years 1969
3 through 1972.

4 (18) A bold and sustained human space explo-
5 ration initiative has the potential to inspire a new
6 generation of young people in the same way as the
7 Apollo program did.

8 (19) Properly constructed, a bold and sustained
9 human space exploration initiative has the potential
10 to engage the international community in peaceful
11 cooperation in space.

12 (20) Completion of the International Space Sta-
13 tion with a full crew complement of 7 astronauts
14 and robust research capabilities is essential if the
15 United States is to carry out successfully a com-
16 prehensive initiative of scientific exploration of the
17 solar system that involves human space flight.

18 **SEC. 3. DEFINITION.**

19 For purposes of this Act the term “Administrator”
20 means the Administrator of the National Aeronautics and
21 Space Administration.

22 **SEC. 4. HUMAN SPACE FLIGHT INITIATIVE.**

23 (a) GOALS.—The Administrator shall set the fol-
24 lowing goals for the future activities of the National Aero-

1 nautics and Space Administration's human space flight
2 program:

3 (1) Within 8 years after the date of enactment
4 of this Act, the development and flight demonstra-
5 tion of a reusable space vehicle capable of carrying
6 humans from low Earth orbit to the L 1 and L 2
7 Earth-Sun libration points and back for the pur-
8 poses of assembling large-scale space structures such
9 as would be required for scientific observatories, to
10 the Earth-Moon libration points and back, and to
11 lunar orbit and back.

12 (2) Within 10 years after the date of enactment
13 of this Act, the development and flight demonstra-
14 tion of a reusable space vehicle capable of carrying
15 humans from low Earth orbit to and from an Earth-
16 orbit crossing asteroid and rendezvousing with it.

17 (3) Within 15 years after the date of enactment
18 of this Act, the development and flight demonstra-
19 tion of a reusable space vehicle capable of carrying
20 humans from lunar orbit to the surface of the Moon
21 and back, as well as the development and deploy-
22 ment of a human-tended habitation and research fa-
23 cility on the lunar surface.

24 (4) Within 20 years after the date of enactment
25 of this Act, the development and flight demonstra-

1 tion of a reusable space vehicle capable of carrying
2 humans from low Earth orbit to and from Martian
3 orbit, the development and deployment of a human-
4 tended habitation and research facility on the sur-
5 face of one of the moons of Mars, and the develop-
6 ment and flight demonstration of a reusable space
7 vehicle capable of carrying humans from Martian
8 orbit to the surface of Mars and back.

9 (b) OFFICE OF EXPLORATION.—

10 (1) ESTABLISHMENT.—The Administrator shall
11 establish an Office of Exploration, which shall be
12 headed by an Associate Administrator reporting di-
13 rectly to the Administrator.

14 (2) FUNCTIONS.—The Office of Exploration
15 shall, in coordination with the Office of Space
16 Flight, the Office of Space Science, and all other rel-
17 evant Offices, be responsible for planning, budg-
18 eting, and managing activities undertaken by the
19 National Aeronautics and Space Administration to
20 accomplish the goals stated in subsection (a).

21 (c) IMPLEMENTATION.—

22 (1) COMPETITIONS.—The Administrator shall
23 establish a process for conducting competitions for
24 innovative, cost-efficient mission concepts to accom-
25 plish each of the goals stated in subsection (a). The

1 competitions shall be open to entities or consortia
2 from industry, academia, nongovernmental research
3 organizations, National Aeronautics and Space Ad-
4 ministration Centers, and other governmental orga-
5 nizations. Mission concepts may include the provi-
6 sion of a commercial item or service sufficient to ac-
7 complish all or part of the relevant goal. Mission
8 concepts that include international participation and
9 cost-sharing shall be encouraged. The Administrator
10 shall solicit proposals for the competition with re-
11 spect to the goal stated in subsection (a)(1) not later
12 than 180 days after the date of the enactment of
13 this Act, and shall determine when it is appropriate
14 to conduct competitions with respect to each of the
15 other goals stated in subsection (a).

16 (2) INDEPENDENT REVIEW OF PROPOSALS.—
17 The Administrator shall establish an independent
18 panel to conduct a merit-based competitive review of
19 the proposals submitted under each competition con-
20 ducted under this subsection, and to submit a rank-
21 ordered evaluation of the proposals to the Adminis-
22 trator.

23 (3) CONTENTS.—Each proposal submitted as
24 part of a competition under this subsection shall

1 contain a proposed implementation plan that in-
2 cludes—

3 (A) the mission concept;

4 (B) a cost estimate;

5 (C) a funding profile;

6 (D) a schedule; and

7 (E) a technological risk reduction roadmap
8 for any required technologies not currently
9 available for use in the proposed mission con-
10 cept.

11 (4) REVIEW OF COST ESTIMATE AND FUNDING
12 PROFILE.—The Administrator shall provide for the
13 completion of an independent external review of the
14 cost estimate and funding profile of the competi-
15 tively selected proposal for each of the competitions
16 conducted under this subsection within 60 days after
17 the completion of the competitive selection process.

18 (5) REPORT TO CONGRESS.—The Administrator
19 shall provide to the Committee on Science of the
20 House of Representatives and to the Committee on
21 Commerce, Science, and Transportation of the Sen-
22 ate the implementation plan of the competitively se-
23 lected proposal, along with the results of the inde-
24 pendent external review under paragraph (4), for
25 each competition conducted under this subsection,

1 within 90 days after the completion of the competi-
2 tive selection process.

3 (d) IMPLEMENTATION PLAN UPDATES AND RE-
4 VIEWS.—

5 (1) UPDATES.—The implementation plans of
6 the competitively selected proposals under subsection
7 (c) shall be updated every year by the manager of
8 the project, as designated by the original implemen-
9 tation plan.

10 (2) UPDATED IMPLEMENTATION PLAN RE-
11 VIEW.—The Administrator shall have an inde-
12 pendent external review panel review each of the up-
13 dated implementation plans required by paragraph
14 (1), and shall provide the results of those reviews to
15 the Committee on Science of the House of Rep-
16 resentatives and to the Committee on Commerce,
17 Science, and Transportation of the Senate within 30
18 days after each review is completed.

19 (3) REVIEW ELEMENTS.—Reviews under para-
20 graph (2) shall address at least the following:

21 (A) The reasonableness of the assumed
22 schedule for the cost estimate and funding pro-
23 file.

1 (B) The degree to which the implementa-
2 tion plan is consistent with the competitively se-
3 lected mission concept.

4 (C) The degree to which the relevant areas
5 of technical and programmatic risk are ad-
6 dressed and risk mitigation plans are in place.

7 (D) The extent to which the implementa-
8 tion plan utilizes commercially available goods
9 and services when available and appropriate to
10 achieve the goal.

11 (E) The extent to which the plan makes
12 use of existing capabilities developed in previous
13 phases of the human space flight initiative or in
14 other National Aeronautics and Space Adminis-
15 tration programs when available and appro-
16 priate in lieu of undertaking new development
17 programs.

18 (e) AUTHORIZATION OF APPROPRIATIONS.—There
19 are authorized to be appropriated to the Administrator for
20 carrying out this Act—

21 (1) \$50,000,000 for fiscal year 2004; and

22 (2) \$200,000,000 for fiscal year 2005.

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