

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.

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## 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

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## 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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