

112TH CONGRESS  
2D SESSION

# S. 3661

To reaffirm and amend the National Aeronautics and Space Administration Authorization Act of 2010, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

DECEMBER 5, 2012

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

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## A BILL

To reaffirm and amend the National Aeronautics and Space Administration Authorization Act of 2010, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Space Exploration Sus-  
5 tainability Act”.

6 **SEC. 2. FINDINGS.**

7 Congress makes the following findings:

1           (1) A robust and balanced space program en-  
2           hances the United States long-term national and  
3           economic security by—

4                   (A) inspiring students to pursue disciplines  
5                   in science, technology, engineering, and mathe-  
6                   matics;

7                   (B) stimulating development of advanced  
8                   technologies with widespread applications;

9                   (C) increasing the United States techno-  
10                  logical competitiveness; and

11                  (D) enhancing global prosperity and secu-  
12                  rity through cooperation in shared interests,  
13                  such as advancement of science, understanding  
14                  of Earth and the universe, and protection from  
15                  space borne threats, such as asteroids.

16           (2) The Nation’s space program should include  
17           endeavors that balance—

18                   (A) national security space and civil space;

19                   (B) robotic and human exploration;

20                   (C) advancement of scientific knowledge  
21                   and engagement of the general public;

22                   (D) U.S. Government led launch capability  
23                   development, including the Space Launch Sys-  
24                   tem and multi-purpose crew vehicle, and part-

1           nerships with commercial and international en-  
2           tities;

3           (E) advancement of the space frontier and  
4           stimulation of commerce within Earth Orbit;  
5           and

6           (F) peering outward to further under-  
7           standing of the universe and observing Earth to  
8           expand knowledge of our home planet.

9           (3) The National Aeronautics and Space Ad-  
10          ministration Authorization Act of 2010 (42 U.S.C.  
11          18301 et seq.) provides for a robust and balanced  
12          national space program.

13 **SEC. 3. GOALS AND OBJECTIVES.**

14          Section 202 of the National Aeronautics and Space  
15          Administration Authorization Act of 2010 (42 U.S.C.  
16          18312) is amended—

17               (1) by amending subsection (a) to read as fol-  
18               lows:

19               “(a) LONG-TERM GOAL.—The long-term goal of the  
20          human space flight and exploration efforts of NASA shall  
21          be to sustainably expand permanent human presence be-  
22          yond low-Earth orbit and to do so, where practical, in a  
23          manner involving international partners and expanding  
24          economic activity in space.”; and

1           (2) in subsection (b)(2), by inserting “and ex-  
2           panding throughout cis-lunar space and beyond”  
3           after “infrastructure”.

4 **SEC. 4. REPORT ON CIS-LUNAR SPACE.**

5           (a) IN GENERAL.—Not later than 120 days after the  
6           date of enactment of this Act, the Administrator of the  
7           National Aeronautics and Space Administration shall sub-  
8           mit to Congress a strategy to achieve the long-term goal  
9           of sustainably expanding a human presence beyond low-  
10          Earth orbit under section 202(a) of the National Aero-  
11          nautics and Space Administration Authorization Act of  
12          2010 (42 U.S.C. 18312(a)) through robust utilization of  
13          cis-lunar space.

14          (b) REQUIREMENTS.—The strategy shall include a  
15          discussion of—

16                (1) the utility of an expanded permanent  
17                human presence in cis-lunar space to enable mis-  
18                sions to the lunar surface, asteroids, the Mars sys-  
19                tem, and other destinations of interest for future  
20                human exploration;

21                (2) the utility of an expanded permanent  
22                human presence in cis-lunar space to economic, sci-  
23                entific, and technological advances;

24                (3) the opportunities for—

1 (A) international partner collaboration to-  
2 ward the establishment and continuance of an  
3 expanded permanent human presence in cis-  
4 lunar space;

5 (B) international partner contributions to  
6 the missions listed under paragraph (1) that  
7 are uniquely enabled by mission architectures  
8 that make use of an expanded and persistent  
9 human presence in cis-lunar space;

10 (C) commercial industry participation to-  
11 ward the expansion and continuance of perma-  
12 nent human presence in cis-lunar space;

13 (D) commercial industry contributions to  
14 the missions listed under paragraph (1) that  
15 are uniquely enabled by mission architectures  
16 that make use of an expanded and persistent  
17 human presence in cis-lunar space; and

18 (E) commercial ventures that result from  
19 an expanded and persistent human presence in  
20 cis-lunar space;

21 (4) the opportunities and uses for the National  
22 Aeronautics and Space Administration managed al-  
23 location of the International Space Station National  
24 Laboratory, including a specific discussion of high  
25 priority scientific and technological developments

1 that use the International Space Station toward ex-  
2 panding and sustaining a human presence in cis-  
3 lunar space; and

4 (5) a range of exploration mission architectures  
5 for the missions listed under paragraph (1).

6 (c) COMPARISON OF ARCHITECTURES.—

7 (1) IN GENERAL.—The strategy shall include a  
8 comparison of architectures that use an expanded  
9 and persistent human presence in cis-lunar space  
10 and architectures that do not, with a primary objec-  
11 tive of identifying the architectures and approaches  
12 that—

13 (A) best support the long-term goal under  
14 section 202(a) of the National Aeronautics and  
15 Space Administration Authorization Act of  
16 2010 (42 U.S.C. 18312(a)); and

17 (B) are enabled by the transportation ca-  
18 pabilities developed under titles III and IV of  
19 the National Aeronautics and Space Adminis-  
20 tration Authorization Act of 2010 (42 U.S.C.  
21 18301 et seq.).

22 (2) FACTORS.—Factors to be considered in the  
23 comparison shall include recurring and non-recur-  
24 ring cost, safety, sustainability, opportunities for  
25 international collaboration, enabling of new markets

1 and opportunities for commercial industry, compel-  
2 ling scientific opportunities, flexibility of the archi-  
3 tecture to adjust to evolving technologies, and lead-  
4 ership and priorities over time.

5 (d) IMPLEMENTATION PLAN.—The strategy shall in-  
6 clude a plan that establishes a method and schedule for  
7 implementation of the strategy. The implementation plan  
8 shall include—

- 9 (1) proposed Program Formulation events;
- 10 (2) Program Critical Design Reviews;
- 11 (3) System Integration Reviews;
- 12 (4) Systems Assembly, Integration and Test  
13 milestones; and
- 14 (5) schedules of planned test launches and  
15 events, up to and including initial missions.

16 **SEC. 5. ASSURANCE OF CORE CAPABILITIES.**

17 Section 203 of the National Aeronautics and Space  
18 Administration Authorization Act of 2010 (42 U.S.C.  
19 18313) is amended by adding at the end the following:

20 “(c) ASSURANCE OF CORE CAPABILITIES.—The Ad-  
21 ministrator shall proceed with the utilization of the ISS,  
22 technology development, and follow-on transportation sys-  
23 tems, including the Space Launch System, multi-purpose  
24 crew vehicle, and commercial crew and cargo transpor-

1 tation capabilities authorized by this Act in a manner that  
2 ensures—

3 “(1) that these capabilities remain inherently  
4 complimentary and interrelated;

5 “(2) a balance of the development, sustainment,  
6 and use of each of these capacities, which are of crit-  
7 ical importance to the viability and sustainability of  
8 the U.S. space program; and

9 “(3) that resources required to support the  
10 timely and sustainable development of these capabili-  
11 ties are not derived from a reduction in resources  
12 from one capability as a means of increasing re-  
13 sources to support another capability.”.

14 **SEC. 6. EXTENSION OF CERTAIN SPACE LAUNCH LIABILITY**  
15 **PROVISIONS.**

16 Section 50915(f) of title 51, United States Code, is  
17 amended by striking “December 31, 2012” and inserting  
18 “December 31, 2014”.

19 **SEC. 7. EXEMPTION FROM INKSNA.**

20 Section 7(1) of the Iran, North Korea, and Syria  
21 Nonproliferation Act (50 U.S.C. 1701 note) is amended  
22 to read as follows:

23 “(1) **EXTRAORDINARY PAYMENTS IN CONNEC-**  
24 **TION WITH THE INTERNATIONAL SPACE STATION.—**

25 The term ‘extraordinary payments in connection



1 with the International Space Station' means pay-  
2 ments in cash or in-kind made or to be made by the  
3 United States Government for work on the Inter-  
4 national Space Station which the Russian Govern-  
5 ment pledged at any time to provide at its ex-  
6 pense.”.

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