

SPACE RESOURCE EXPLORATION AND UTILIZATION ACT  
OF 2015

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JUNE 15, 2015.—Committed to the Committee of the Whole House on the State of  
the Union and ordered to be printed

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Mr. SMITH of Texas, from the Committee on Science, Space, and  
Technology, submitted the following

R E P O R T

together with

MINORITY VIEWS

[To accompany H.R. 1508]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, Space, and Technology, to whom was referred the bill (H.R. 1508) to promote the development of a United States commercial space resource exploration and utilization industry and to increase the exploration and utilization of resources in outer space, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

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The amendment is as follows:

Strike all after the enacting clause and insert the following:

**SEC. 1. SHORT TITLE.**

This Act may be cited as the “Space Resource Exploration and Utilization Act of 2015”.

**SEC. 2. TITLE 51 AMENDMENT.**

(a) IN GENERAL.—Subtitle V of title 51, United States Code, is amended by adding at the end the following new chapter:

**“CHAPTER 513—SPACE RESOURCE EXPLORATION AND UTILIZATION**

“Sec.

“51301. Definitions.

“51302. Commercialization of space resource exploration and utilization.

“51303. Legal framework.

**“§ 51301. Definitions**

“In this chapter:

“(1) SPACE RESOURCE.—The term ‘space resource’ means a natural resource of any kind found in situ in outer space.

“(2) ASTEROID RESOURCE.—The term ‘asteroid resource’ means a space resource found on or within a single asteroid.

“(3) STATE.—The term ‘State’ means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States.

“(4) UNITED STATES COMMERCIAL SPACE RESOURCE UTILIZATION ENTITY.—The term ‘United States commercial space resource utilization entity’ means an entity providing space resource exploration or utilization services, the control of which is held by persons other than a Federal, State, local, or foreign government, and that is—

“(A) duly organized under the laws of a State;

“(B) subject to the subject matter and personal jurisdiction of the courts of the United States; or

“(C) a foreign entity that has voluntarily submitted to the subject matter and personal jurisdiction of the courts of the United States.

**“§ 51302. Commercialization of space resource exploration and utilization**

“(a) IN GENERAL.—The President, acting through appropriate Federal agencies, shall—

“(1) facilitate the commercial exploration and utilization of space resources to meet national needs;

“(2) discourage government barriers to the development of economically viable, safe, and stable industries for the exploration and utilization of space resources in manners consistent with the existing international obligations of the United States; and

“(3) promote the right of United States commercial entities to explore outer space and utilize space resources, in accordance with the existing international obligations of the United States, free from harmful interference, and to transfer or sell such resources.

“(b) REPORT REQUIRED.—Not later than 180 days after the date of the enactment of this section, the President shall submit to Congress a report that contains recommendations for—

“(1) the allocation of responsibilities relating to the exploration and utilization of space resources among Federal agencies; and

“(2) any authorities necessary to meet the international obligations of the United States with respect to the exploration and utilization of space resources.

**“§ 51303. Legal framework**

“(a) PROPERTY RIGHTS.—Any asteroid resources obtained in outer space are the property of the entity that obtained such resources, which shall be entitled to all property rights thereto, consistent with applicable provisions of Federal law and existing international obligations.

“(b) SAFETY OF OPERATIONS.—A United States commercial space resource utilization entity shall avoid causing harmful interference in outer space.

“(c) CIVIL ACTION FOR RELIEF FROM HARMFUL INTERFERENCE.—A United States commercial space resource utilization entity may bring a civil action for appropriate legal or equitable relief, or both, under this chapter for any action by another entity subject to United States jurisdiction causing harmful interference to its operations with respect to an asteroid resource utilization activity in outer space.

“(d) RULE OF DECISION.—In a civil action brought pursuant to subsection (c) with respect to an asteroid resource utilization activity in outer space, a court shall enter judgment in favor of the plaintiff if the court finds—

“(1) the plaintiff—

“(A) acted in accordance with all existing international obligations of the United States; and

“(B) was first in time to conduct the activity; and

“(2) the activity is reasonable for the exploration and utilization of asteroid resources.

“(e) EXCLUSIVE JURISDICTION.—The district courts of the United States shall have original jurisdiction over an action under this chapter without regard to the amount in controversy.”.

(b) CLERICAL AMENDMENT.—The table of chapters for title 51, United States Code, is amended by adding at the end of the items for subtitle V the following:

“513. Space resource exploration and utilization .....51301”.

## COMMITTEE STATEMENT AND VIEWS

### PURPOSE AND SUMMARY

The purpose of H.R. 1508, the “Space Resource Exploration and Utilization Act of 2015,” is to establish a legal framework to govern property rights of resources obtained from asteroids enabling this new industry and providing clarity for future entrepreneurs.

### BACKGROUND AND NEED FOR LEGISLATION

In the United States, a number of private entities are investing in and developing the technical capability to explore and utilize outer space resources. Stakeholders from this community are concerned that legal and regulatory uncertainties are impeding their development and threaten to disrupt their continued investment and eventual activities in outer space. This bill addresses these concerns by giving effect to *Outer Space Treaty* rights and obligations through the establishment of a domestic legal framework to govern property rights of resources obtained from asteroids and to avoid causing harmful interference in outer space. Moreover, the bill directs the President to facilitate commercial utilization, discourage government barriers, promote the right of United States commercial entities to explore outer space and utilize space resources, and submit to Congress a report containing recommendations on regulatory uncertainty and authorizations necessary to meet the international obligations of the U.S.

### LEGISLATIVE HISTORY

During the 113th and 114th Congresses, the House Committee on Science, Space, and Technology held nine hearings and four markups relevant to this bill.

On February 28, 2013, the Subcommittee on Space held a hearing titled “A Review of the Space Leadership Preservation Act” to receive testimony on legislation (H.R. 6491) first introduced in the last Congress and re-introduced for the 113th Congress. This hearing informed the Science, Space, and Technology Committee’s consideration of the policies, organization, programs, and budget in re-authorizing the National Aeronautics and Space Administration in

this Congress. The Subcommittee heard testimony from The Honorable Frank R. Wolf, Chairman of the Commerce-Justice-Science Subcommittee, The Honorable John Culberson, Mr. A. Thomas Young, Chair of the Board for SAIC (testifying on his own behalf), and Mr. Elliot Pulham, Chief Executive Officer of The Space Foundation.

On April 24, 2014, the Subcommittee on Space held a hearing titled “An Overview of the National Aeronautics and Space Administration Budget for Fiscal Year 2014” with NASA Administrator Charles Bolden to review the Administration’s FY 2014 budget request for the National Aeronautics and Space Administration and examine its priorities and challenges.

On June 19, 2013, the Subcommittee on Space held a hearing titled, “NASA Authorization Act of 2013.” The purpose of the hearing was to review a discussion draft of the National Aeronautics and Space Administration (NASA) Authorization Act of 2013. The most recent NASA Authorization Act passed in 2010, authorized NASA for three years.

On July 10, 2013, the Subcommittee on Space met to consider H.R. 2687, the National Aeronautics and Space Administration Authorization Act of 2013. This measure contained many provisions that affect commercial space.

On July 18, 2013, the Committee on Science, Space, and Technology met to consider H.R. 2687, the National Aeronautics and Space Administration Authorization Act of 2013. This measure contained many provisions that affect commercial space.

On November 20, 2013, the Subcommittee on Space held a hearing titled “Commercial Space.” The hearing examined commercial activities in space launch, communications, GPS, remote sensing, weather monitoring, suborbital tourism, science experimentation, and human spaceflight. The witnesses addressed what government policies would be helpful to the U.S. commercial space industry. Witnesses also addressed the policies contained in H.R. 3038, the Suborbital and Orbital Advancement and Regulatory Streamlining (SOARS) Act. The first witness panel consisted of the Honorable Kevin McCarthy, Majority Whip of the U.S. House of Representatives. The second panel consisted of: Ms. Patricia Cooper, President of the Satellite Industry Association; Mr. Stuart Witt, CEO and General Manager of the Mojave Air and Space Port; and Dennis Tito, Chairman of the Inspiration Mars Foundation.

On March 27, 2014, the Subcommittee on Space of the House Committee on Science, Space, and Technology held a hearing titled “A Review of the National Aeronautics and Space Administration Budget for Fiscal Year 2015” to review the Administration’s fiscal year 2015 (FY15) budget request for the National Aeronautics and Space Administration and examine its priorities and challenges. The hearing had one witness, the Honorable Charles F. Bolden, Jr., Administrator of the National Aeronautics and Space Administration.

On April 9, 2014, the Subcommittee on Space met to consider H.R. 4412, the National Aeronautics and Space Administration Authorization Act of 2014. The Act contained several provisions regarding barriers to commercial use of space.

On April 29, 2014, the Committee on Science, Space, and Technology met to consider H.R. 4412, the National Aeronautics and

Space Administration Authorization Act of 2014. The Act contained several provisions regarding barriers to commercial use of space.

On May 9, 2014, the Space Subcommittee held a hearing titled “Space Traffic Management: How to Prevent a Real Life ‘Gravity.’” There are currently three agencies that play a primary role in tracking and mitigation of orbital debris that may be hazardous to operational satellites, or life and property on Earth if the debris reentered the Earth’s atmosphere. The Joint Functional Component Command for Space (JFCC SPACE), part of the Department of Defense, is responsible for tracking orbital debris, the Federal Communications Commission (FCC) asserts jurisdiction for mitigating orbital debris from communications satellites, and the Federal Aviation Administration (FAA) regulates orbital debris from launch and reentry activities. This hearing explored the roles and responsibilities of the Department of Defense, FAA, and FCC in policing orbital debris, what authorities are currently granted by Congress to federal agencies, and how they coordinate these activities. The Subcommittee heard from five witnesses: Lt. Gen. John “Jay” Raymond, Commander, 14th Air Force, Air Force Space Command, and Commander, Joint Functional Component Command for Space, U.S. Strategic Command; Mr. George Zamka, Deputy Associate Administrator, Office of Commercial Space Transportation, Federal Aviation Administration; Mr. Robert Nelson, Chief Engineer, International Bureau, Federal Communications Commission; Mr. P.J. Blount, Adjunct Professor, Air and Space Law, University of Mississippi School of Law; and Mr. Brian Weeden, Technical Advisor, Secure World Foundation.

On June 25, 2014, the Science, Space, and Technology Committee held a hearing titled “Pathways to Exploration: A Review of the Future of Human Space Exploration.” Section 204 of the NASA Authorization Act of 2010 required the agency to enter into a contract with the National Academies to review the future of human spaceflight. In 2012, the National Research Council appointed an ad hoc Committee on Human Spaceflight co-chaired by Governor Daniels and Dr. Lunine. This hearing reviewed the conclusions and recommendations of the Committee’s report *Pathways to Exploration—Rationales and Approaches for a U.S. Program of Human Space Exploration* released in June 2014. The Committee heard from two witnesses: Governor Mitch Daniels, Co-Chair of the Report and President, Purdue University and Dr. Jonathan Lunine, Co-Chair of the Report and Director, Cornell University’s Center for Radiophysics and Space Research.

On September 10, 2014, the hearing titled “Exploring Our Solar System: The ASTEROIDS Act as a Key Step” gave the Committee an overview of the variety of issues facing the planetary science community, including challenges the community is facing due to the low inventories of Pu-238 for deep space missions, NASA’s proposed budget for planetary science, and potential commercial interests. Witnesses were also asked to comment on H.R. 5063, the American Space Technology for Exploring Resource Opportunities In Deep Space (ASTEROIDS) Act. The Subcommittee heard from five witnesses: Dr. Jim Green, NASA Planetary Science Division Director; Dr. Jim Bell, Professor of Earth and Space Science Exploration, Arizona State University, and President, Board of Directors, The Planetary Society; Dr. Mark Sykes, CEO and Director, Plan-

etary Science Institute; Professor Joanne Gabrynowicz, Professor Emerita, Director Emerita, Journal of Space Law Editor-in-Chief Emerita, University of Mississippi; Dr. Philip Christensen, Co-Chair, NRC Committee on Astrobiology and Planetary Science (CAPS), Chair, Mars Panel, NRC Planetary Decadal Survey, Regents Professor, Arizona State University.

On April 16, 2015, the Space Subcommittee held a hearing titled “An Overview of the Budget Proposal for the National Aeronautics and Space Administration for Fiscal Year 2016.” The purpose of the hearing was to review the Administration’s fiscal year 2016 (FY16) budget request for the National Aeronautics and Space Administration (NASA) and examine the Administration’s priorities and challenges. The sole witness was the Honorable Charles F. Bolden, Jr., Administrator, National Aeronautics and Space Administration (NASA).

On May 13, 2015, the Committee on Science, Space, and Technology met to consider H.R. 2262, the Spurring Private Aerospace Competitiveness and Entrepreneurship Act of 2015; H.R. 1508, the Space Resource Exploration and Utilization Act of 2015; H.R. 2261, the Commercial Remote Sensing Act of 2015; and H.R. 2263, the Office of Space Commerce Act.” H.R. 1508 was amended to change the definition of “asteroid resource” and to further ensure the bill would remain consistent with existing international obligations. All four bills passed in the Committee.

The House Committee on Rules then promulgated a rule for H.R. 2262, which contained each of the four bills marked up on May 13, 2015 as four separate titles. The House passed the bill with a vote of 284 Yeas and 133 Nays.

#### COMMITTEE VIEWS

##### *U.S. international obligations*

The Committee recognizes that the United States is a *Party to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies* (“Outer Space Treaty”), as well as the *Convention on International Liability for Damage Caused by Space Objects*, the *Convention on Registration of Objects Launched in Outer Space*, and *Agreement on the Rescue of Astronauts, the Return of Astronauts and Return of Objects Launched in Outer Space*. There is nothing in this title which calls for the United States to violate its existing international obligations under these treaties to which it is a Party or to any other treaty to which it is a Party.

##### *Claims of sovereignty*

This title does not claim sovereignty over outer space or any celestial bodies.

##### *National appropriation*

Removing, taking possession, and using in-situ celestial resources, including in-situ asteroid resources, is not to be construed as an act of national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

*Strengthening U.S. private sector in-situ asteroid resource exploration and utilization*

The successful exploration and use of in-situ asteroid resources is an important step in humanity's development and is in the national interests of the United States. Continued private sector investment in resource exploration and utilization is threatened by uncertainty as to the rights of U.S. private entities to remove, take possession of, and use in-situ asteroid resources. The committee finds it is imperative that the United States enact into law domestic legislation that gives effect to *Outer Space Treaty* provisions relevant to private sector in-situ asteroid resource removal, possession, and use.

*Giving effect to Outer Space Treaty rights and obligations*

Treaty law creates rights and obligations binding on States and other international legal persons. But, when a treaty confers rights or imposes obligations on natural or legal persons, they can be given effect only if they have been made part of the domestic law of a party. § 51303(a) gives an effect to the right to explore and use outer space by establishing under Federal law property rights over removed in-situ asteroid resources. § 51303(b) gives an effect to the obligation under Article IX of the *Outer Space Treaty* to avoid causing harmful interference in outer space through the grant of a private right of action in Federal courts.

*Non-governmental entity exploration and use of celestial resources*

The *Outer Space Treaty* explicitly recognizes the right of "exploration and use" of outer space, including the Moon and other celestial bodies.

Article 1 of the *Outer Space Treaty* states: "The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind. Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies. There shall be freedom of scientific investigation in outer space, including the Moon and other celestial bodies, and States shall facilitate and encourage international co-operation in such investigation."

The exploration and use of outer space includes the right to remove, take possession, and use in-situ natural resources from celestial bodies. In a letter dated November 28, 1979, the Secretary of State addressed to Senator Church, Chairman of Senate Foreign Relations Committee, the legality of removal, taking possession, and using in-situ natural resources from celestial bodies, including asteroids, under the *Outer Space Treaty*. In this letter, the Secretary of State wrote: "Such removal is permitted by the article contained in the 1967 *Outer Space Treaty* which states, inter alia, that 'Outer Space, including the Moon and other celestial bodies, shall be free for exploration and use by all States . . .'"

On July 29, 1980, at the second session of hearings on the *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, the Legal Adviser to the Department of State, Robert

Owen, testified to the Senate Subcommittee on Science, Technology and Space that: “The United States has long taken the position that Article 1 of that treaty [*Outer Space Treaty*] . . . recognizes the right of exploitation. We were and are aware, however, that this view is not shared by all States or commentators, some of whom take the position that the nonappropriation provisions in Article [III] of the 1967 Treaty preclude exploitation of celestial natural resources and the reduction to private property.”

In *U.S. v. One Lucite Ball* (unpublished Case No. 01–0116–CIV–JORDAN), the U.S. District Court (S.D. Florida) upheld the right of Honduras to assert national property ownership over a Moon rock. The court discussed two sales of lunar rock samples involving private parties (one involving a slide of lunar dust sold at Sotheby’s auction and the second involving the lunar sample and plaque given by the U.S. to Nicaragua that was purchased by a private buyer from the middle east).

State practice is consistent with finding that exploration and use of outer space includes the right to remove, take possession, and use in-situ natural resources from celestial bodies. The United States, Russia, and Japan have all removed, taken possession, and used in-situ natural resources. These activities have never been protested by a State party to the treaty or judged in a court of law to be in violation of the *Outer Space Treaty*.

The Committee notes that in a 2011 report of the NASA Office of Inspector General titled *NASA’s Management of Moon Rocks and Other Astromaterials Loaned for Research, Education, and Public Display*, it is stated: “Lunar material retrieved from the Moon during the Apollo Program is U.S. Government property.” Moon rocks removed from the lunar surface by the Soviet Union *Luna Programme* were sold as private property to a private bidder at a Sotheby’s auction in 1993 for the cost of \$422,500. The Committee also notes that some activities under NASA’s proposed Asteroid Recovery Mission may be done in partnership with private entities in the United States and may involve the removal and use of in-situ natural resources, consistent with the finding that exploration and use of outer space includes the right to remove, take possession, and use in-situ natural resources from celestial bodies.

Article VI of the *Outer Space Treaty* explicitly recognizes that non-governmental entities, such as private corporations, may explore and use outer space. Article VI states, inter alia: “States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty.” Non-governmental entities may explore and use outer space, including the use of outer space by removing, taking possession, and using in-situ natural resources (subject to the supervision and authorization of a State under Article VI of the *Outer Space Treaty*). Whether or not the end-use of such resources is for private purposes does not qualify the right to explore and use outer space.



*Jurisdiction*

Federal courts are granted original jurisdiction over entities defined in § 51301(4) and in-situ asteroid resources that have been removed from an asteroid by such entities. Federal courts are not granted jurisdiction over outer space, the Moon, other celestial bodies, or the asteroid from which the in-situ natural resource was removed.

*Supervision and authorization*

Article 6 of the Outer Space Treaty obligates the United States to authorize and supervise non-governmental entities in outer space and ensure their activities are carried out in conformity with the *Outer Space Treaty*. The Department of Commerce, Department of Transportation, and the Federal Communications Commission all have authority to authorize and supervise the activities of non-governmental entities in outer space. § 51302(b) directs the President to report to Congress as to whether existing regulatory authorities are necessary to meet the international obligations of the United States with respect to the exploration and utilization of space resources.

The reason for qualifying this report with respect to exploration and utilization of space resources is that the Committee is aware of other proposed private sector activities in outer space (e.g. on-orbit satellite servicing, space tourism, human habitation, space solar generation, etc.) and is not directing the President to report on the sufficiency of existing authorities to meet international obligation with respect to these other activities.

## SECTION-BY-SECTION

*Sec. 1. Short title*

Titles the Act the “Space Resource Exploration and Utilization Act of 2015.”

*Sec. 2. Title 51 amendment*

Amends Subtitle V of title 51, U.S. Code, by adding Chapter 513, containing Sections 51301 (definitions), 51302 (commercialization of space resource exploration and utilization), and 51303 (legal framework).

Section 51301 defines “space resource,” “asteroid resource,” “state,” and “United States commercial space resource utilization.”

Section 51302 directs the President, acting through appropriate Federal agencies, to facilitate commercial exploration and utilization of space resources to meet national needs, to discourage government barriers to the development of industries for space exploration and utilization of space resources, and to promote the right of U.S. commercial entities to explore space and utilize space resources.

This section also requires the President to submit to Congress a report containing recommendations for the allocation of responsibilities relating to the exploration and utilization of space resources among Federal agencies, and recommendations for any authorities necessary to meet the international obligations of the U.S. regarding the exploration and utilization of space resources.

Section 51303 establishes that “any asteroid resources obtained in outer space are the property of the entity that obtained such resources, which shall be entitled to all property rights thereto, consistent with applicable provisions of Federal law and existing international obligations.”

Moreover, this section states that certain U.S. entities shall avoid causing harmful interference in outer space, and that a U.S. commercial space entity may bring civil action for relief for any action by another U.S. entity causing harmful interference to operations with respect to an asteroid resource utilization activity in space. In a civil action brought with respect to an asteroid resource utilization activity in space, a court shall enter judgment in favor of the plaintiff if the plaintiff acted in accordance with all existing international obligations of the U.S., if the plaintiff was first in time to conduct the activity, and if the activity is reasonable for the exploration and utilization of asteroid resources.

Federal district courts will have original jurisdiction over actions regarding asteroid resource utilization activity without regards to the amount in controversy.

#### EXPLANATION OF AMENDMENTS

An amendment to strike from § 51301(2) “an asteroid” and insert “a single asteroid” was adopted. The purpose of this amendment is to ensure that an “asteroid resource utilization activity” is interpreted as on a single asteroid and not on any asteroid.

An amendment to insert in § 51303(a) “and existing international obligations” after “Federal law” was adopted. The purpose of this amendment is to condition that property rights over asteroid resources obtained in outer space are consistent with applicable provisions of U.S. international obligations.

#### COMMITTEE CONSIDERATION

On May 13, 2015, the Committee met in open session and ordered reported favorably the bill, H.R. 1508, as amended, by roll call vote, a quorum being present.

## ROLL CALL VOTES

**COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 114<sup>th</sup>**  
Full Committee Roll Call

Working Quorum: 13      Reporting Quorum: 20

DATE: 05/13/2015

Bill: H.R. 1508  
ROLL CALL NO. 7

AMENDMENT NO. Johnson 005

Amendment Sponsor: Ms. Johnson (TX)

**DEFEATED**

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. SMITH, <i>Chair - TX</i>		X		
2 Mr. LUCAS - OK **		X		
3 Mr. SENSENBRENNER - WI				
4 Mr. ROHRBACHER - CA		X		
5 Mr. NEUGEBAUER - TX				
6 Mr. MCCAUL - TX		X		
7 Mr. PALAZZO - MS		X		
8 Mr. BROOKS - AL		X		
9 Mr. HULTGREN - IL		X		
10 Mr. POSEY - FL		X		
11 Mr. MASSIE - KY				
12 Mr. BRIDENSTINE - OK		X		
13 Mr. WEBER - TX		X		
14 Mr. JOHNSON - OH		X		
15 Mr. MOOLENAAR - MI		X		
16 Mr. KNIGHT - CA		X		
17 Mr. BABIN - TX		X		
18 Mr. WESTERMAN - AR		X		
19 Mrs. COMSTOCK - VA		X		
20 Mr. NEWHOUSE - WA				

21	Mr. PALMER – AL		X		
22	Mr. LOUDERMILK – GA		X		
1	Ms. JOHNSON, <i>Ranking</i> - TX	X			
2	Ms. LOFGREN - CA	X			
3	Mr. LIPINSKI - IL	X			
4	Ms. EDWARDS - MD	X			
5	Ms. BONAMICI - OR	X			
6	Mr. SWALWELL – CA	X			
7	Mr. GRAYSON – FL				
8	Mr. BERA – CA	X			
9	Ms. ESTY – CT	X			
10	Mr. VEASEY – TX	X			
11	Ms. CLARK – MA	X			
12	Mr. BEYER – VA	X			
13	Mr. PERLMUTTER – CO	X			
14	Mr. TONKO – NY				
		X			
15	Mr. TAKANO – CA	X			
16	Mr. FOSTER – IL				
17	VACANT				
	<b>TOTALS</b>	14	18		

\*\* Vice Chair

**COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 114<sup>th</sup>**  
Full Committee Roll Call

Working Quorum: 13      Reporting Quorum: 20

DATE: 05/13/2015

Bill: H.R. 1508  
ROLL CALL NO. 8

FINAL PASSAGE

PASSED

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. SMITH, <i>Chair</i> - TX	X			
2 Mr. LUCAS - OK **	X			
3 Mr. SENSENBRENNER - WI				
4 Mr. ROHRBACHER - CA	X			
5 Mr. NEUGEBAUER - TX				
6 Mr. MCCAUL - TX	X			
7 Mr. PALAZZO - MS	X			
8 Mr. BROOKS - AL	X			
9 Mr. HULTGREN - IL	X			
10 Mr. POSEY - FL	X			
11 Mr. MASSIE - KY				
12 Mr. BRIDENSTINE - OK	X			
13 Mr. WEBER - TX	X			
14 Mr. JOHNSON - OH	X			
15 Mr. MOOLENAAR - MI	X			
16 Mr. KNIGHT - CA	X			
17 Mr. BABIN - TX	X			
18 Mr. WESTERMAN - AR	X			
19 Mrs. COMSTOCK - VA	X			
20 Mr. NEWHOUSE - WA				

21	Mr. PALMER – AL	X		
22	Mr. LOUDERMILK – GA	X		
1	Ms. JOHNSON, <i>Ranking</i> - TX		X	
2	Ms. LOFGREN - CA		X	
3	Mr. LIPINSKI - IL		X	
4	Ms. EDWARDS - MD		X	
5	Ms. BONAMICI - OR		X	
6	Mr. SWALWELL – CA		X	
7	Mr. GRAYSON – FL		X	
8	Mr. BERA – CA		X	
9	Ms. ESTY – CT		X	
10	Mr. VEASEY – TX		X	
11	Ms. CLARK – MA		X	
12	Mr. BEYER – VA		X	
13	Mr. PERLMUTTER – CO		X	
14	Mr. TONKO – NY			
			X	
15	Mr. TAKANO – CA		X	
16	Mr. FOSTER – IL			
17	VACANT			
	TOTALS	18	15	

\*\* Vice Chair

## APPLICATION OF LAW TO THE LEGISLATIVE BRANCH

Section 102(b)(3) of Public Law 104–1 requires a description of the application of this bill to the legislative branch where the bill relates to the terms and conditions of employment or access to public services and accommodations. This bill establishes a legal framework to govern property rights of resources obtained from asteroids. As such this bill does not relate to employment or access to public services and accommodations.

STATEMENT OF OVERSIGHT FINDINGS AND RECOMMENDATIONS OF  
THE COMMITTEE

In compliance with clause 3(c)(1) of rule XIII and clause (2)(b)(1) of rule X of the Rules of the House of Representatives, the Committee's oversight findings and recommendations are reflected in the descriptive portions of this report.

## STATEMENT OF GENERAL PERFORMANCE GOALS AND OBJECTIVES

H.R. 1508, the "Space Resource Exploration and Utilization Act of 2015," would establish a legal framework to govern property rights of resources obtained from asteroids enabling a new industry and providing clarity for future entrepreneurs.

## DUPLICATION OF FEDERAL PROGRAMS

No provision of H.R. 1508 establishes or reauthorizes a program of the Federal Government known to be duplicative of another Federal program, a program that was included in any report from the Government Accountability Office to Congress pursuant to section 21 of Public Law 111–139, or a program related to a program identified in the most recent Catalog of Federal Domestic Assistance.

## DISCLOSURE OF DIRECTED RULE MAKINGS

The Committee estimates that enacting H.R. 1508 does not direct the completion of any specific rule makings within the meaning of 5 U.S.C. 551.

## FEDERAL ADVISORY COMMITTEE ACT

The Committee finds that the legislation does not establish or authorize the establishment of an advisory committee within the definition of 5 U.S.C. App., Section 5(b).

## UNFUNDED MANDATE STATEMENT

Section 423 of the Congressional Budget and Impoundment Control Act (as amended by Section 101(a)(2) of the Unfunded Mandate Reform Act, P.L. 104–4) requires a statement as to whether the provisions of the reported bill include unfunded mandates. In compliance with this requirement the Committee has received a letter from the Congressional Budget Office included herein.

## EARMARK IDENTIFICATION

H.R. 1508 does not include any congressional earmarks, limited tax benefits, or limited tariff benefits as defined in clause 9 of rule XXI.

## COMMITTEE ESTIMATE

Clause 3(d)(2) of rule XIII of the Rules of the House of Representatives requires an estimate and a comparison by the Committee of the costs that would be incurred in carrying out H.R. 1508. However, clause 3(d)(3)(B) of that rule provides that this requirement does not apply when the Committee has included in its report a timely submitted cost estimate of the bill prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act.

## BUDGET AUTHORITY AND CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

With respect to the requirements of clause 3(c)(2) of rule XIII of the Rules of the House of Representatives and section 308(a) of the Congressional Budget Act of 1974 and with respect to requirements of clause (3)(c)(3) of rule XIII of the Rules of the House of Representatives and section 402 of the Congressional Budget Act of 1974, the Committee has received the following cost estimate for H.R. 1508 from the Director of Congressional Budget Office:

U.S. CONGRESS,  
CONGRESSIONAL BUDGET OFFICE,  
*Washington, DC, May 20, 2015.*

Hon. LAMAR SMITH,  
*Chairman, Committee on Science, Space, and Technology,  
House of Representatives, Washington, DC.*

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 1508, the Space Resource Exploration and Utilization Act of 2015.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Kathleen Gramp.

Sincerely,

KEITH HALL.

Enclosure.

*H.R. 1508—Space Resource Exploration and Utilization Act of 2015*

H.R. 1508 would establish certain policies and guidelines regarding the development of space resources by nonfederal entities. Existing international agreements authorize such activities under certain conditions, including requirements for national regulatory regimes to resolve liability, ownership, and operational issues. The bill would create a domestic framework for assigning property rights for resources from asteroids and for settling any related legal disputes. It also would direct the President to submit a report within six months of enactment on any administrative and statutory changes needed to implement federal programs and international agreements for those projects.

Assuming appropriation of the necessary amounts, CBO estimates that implementing H.R. 1508 would cost about \$1 million over the 2016–2020 period. CBO anticipates that developing a policy framework for this nascent industry would require levels of expertise and effort similar to that of studies done by expert panels at the National Academies of Science and Public Administration. Other provisions in the bill would have no significant budgetary ef-



fects, CBO estimates. Enacting H.R. 1508 would not affect direct spending or revenues; therefore, pay-as-you-go procedures do not apply.

H.R. 1508 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act and would not affect the budgets of state, local, or tribal governments.

The CBO staff contact for this estimate is Kathleen Gramp. The estimate was approved by H. Samuel Papenfuss, Deputy Assistant Director for Budget Analysis.

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3(e) of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (new matter is printed in italic and existing law in which no change is proposed is shown in roman):

**TITLE 51, UNITED STATES CODE**

Subtitle I—General

Chap.		Sec.
	<b>101. Definitions .....</b>	<b>10101</b>
	* * * * *	
	<b>Subtitle V—Programs Targeting Commercial Opportunities</b>	
	* * * * *	
	<b>513. <i>Space resource exploration and utilization</i> .....</b>	<b>51301</b>
	* * * * *	

**Subtitle V—PROGRAMS TARGETING  
COMMERCIAL OPPORTUNITIES**

\* \* \* \* \*

**CHAPTER 513—SPACE RESOURCE EXPLORATION AND  
UTILIZATION**

- Sec.  
51301. *Definitions.*  
51302. *Commercialization of space resource exploration and utilization.*  
51303. *Legal framework.*

**§ 51301. Definitions**

*In this chapter:*

- (1) *SPACE RESOURCE.*—The term “space resource” means a natural resource of any kind found in situ in outer space.
- (2) *ASTEROID RESOURCE.*—The term “asteroid resource” means a space resource found on or within a single asteroid.
- (3) *STATE.*—The term “State” means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States.
- (4) *UNITED STATES COMMERCIAL SPACE RESOURCE UTILIZATION ENTITY.*—The term “United States commercial space re-

source utilization entity” means an entity providing space resource exploration or utilization services, the control of which is held by persons other than a Federal, State, local, or foreign government, and that is—

(A) duly organized under the laws of a State;

(B) subject to the subject matter and personal jurisdiction of the courts of the United States; or

(C) a foreign entity that has voluntarily submitted to the subject matter and personal jurisdiction of the courts of the United States.

**§ 51302. Commercialization of space resource exploration and utilization**

(a) *IN GENERAL.*—The President, acting through appropriate Federal agencies, shall—

(1) facilitate the commercial exploration and utilization of space resources to meet national needs;

(2) discourage government barriers to the development of economically viable, safe, and stable industries for the exploration and utilization of space resources in manners consistent with the existing international obligations of the United States; and

(3) promote the right of United States commercial entities to explore outer space and utilize space resources, in accordance with the existing international obligations of the United States, free from harmful interference, and to transfer or sell such resources.

(b) *REPORT REQUIRED.*—Not later than 180 days after the date of the enactment of this section, the President shall submit to Congress a report that contains recommendations for—

(1) the allocation of responsibilities relating to the exploration and utilization of space resources among Federal agencies; and

(2) any authorities necessary to meet the international obligations of the United States with respect to the exploration and utilization of space resources.

**§ 51303. Legal framework**

(a) *PROPERTY RIGHTS.*—Any asteroid resources obtained in outer space are the property of the entity that obtained such resources, which shall be entitled to all property rights thereto, consistent with applicable provisions of Federal law and existing international obligations.

(b) *SAFETY OF OPERATIONS.*—A United States commercial space resource utilization entity shall avoid causing harmful interference in outer space.

(c) *CIVIL ACTION FOR RELIEF FROM HARMFUL INTERFERENCE.*—A United States commercial space resource utilization entity may bring a civil action for appropriate legal or equitable relief, or both, under this chapter for any action by another entity subject to United States jurisdiction causing harmful interference to its operations with respect to an asteroid resource utilization activity in outer space.

(d) *RULE OF DECISION.*—In a civil action brought pursuant to subsection (c) with respect to an asteroid resource utilization activity in outer space, a court shall enter judgment in favor of the plaintiff if the court finds—

(1) *the plaintiff—*

*(A) acted in accordance with all existing international obligations of the United States; and*

*(B) was first in time to conduct the activity; and*

*(2) the activity is reasonable for the exploration and utilization of asteroid resources.*

*(e) EXCLUSIVE JURISDICTION.—The district courts of the United States shall have original jurisdiction over an action under this chapter without regard to the amount in controversy.*

\* \* \* \* \*

## MINORITY VIEWS

H.R. 1508 performs a service in starting a discussion of the many issues it raises about property rights in space, international treaty obligations, and appropriate licensing and regulation of outer space activities. However, we are not at all close to resolving those issues. The debate about H.R. 1508 is not about whether or not we should encourage the development of an asteroid mining industry at some point in the future. It is about the fact that this legislation is premature. There has been no legislative hearing on this bill, or even a subcommittee markup, nor have we gotten the views of the Administration, including those responsible for tracking our international treaty obligations.

The University of Mississippi space law expert, Prof. Joanne Gabrynowicz, invited by the Majority last year to testify on an antecedent bill, noted some of the legal and regulatory issues that were unaddressed in the previous version of this bill. In addition, in a May 12, 2015 letter to Ranking Member Johnson, which has been entered into the record, Prof. Gabrynowicz raised the very significant concern that the bill appears to be in conflict with the 1967 Outer Space Treaty, to which the United States is a signatory. Simply including the phrase “consistent with the existing international obligations of the United States” in part of the bill doesn’t make that inconsistency go away—it just reinforces the fact that this bill needs much more review than this Committee has given it up to this point—because the Committee has given this current bill no review.

Supporters of the bill will argue that it doesn’t enable a company to claim an asteroid, but in fact the bill clearly states that “any asteroid resources obtained in outer space are the property of the entity that obtained those resources”. The Outer Space Treaty prohibits “*national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.*” To quote Professor Gabrynowicz, “*making unextracted, in situ ‘asteroid resources’ subject to U.S. Federal law and requiring the President ‘to meet national needs’*”—which this bill does—“*is a form of national appropriation by ‘other means’.*”

Supporters will also argue that existing FAA licensing authorities are sufficient for the purposes of this bill. That is simply not true. FAA only provides licenses for commercial launches and reentries. FAA does not have oversight over commercial activities that occur in orbit or on or around celestial bodies. The point is, the bill does not provide for any licensing regime by any agency of the U.S. government. Prof. Joanne Gabrynowicz, in her letter to Ranking Member Johnson, wrote, “*Unlicensed U.S. commercial space activities are unprecedented in United Space Law.*” She went on to also say: “*Licensing is how the U.S. meets its obligations to authorize and continually supervise the space activities of non-government en-*

*tities under the Outer Space Treaty.*” This bill has no licensing regime to govern the activities undertaken in the bill.

In addition to Prof. Gabrynowicz’s concerns, there are many other ambiguities and unresolved issues that need attention. For example, “obtain[ed] such resources” is left undefined. Would simply being the first to land a probe on an asteroid and have it collect a sample, whether or not it returned it to Earth, thereby confer property rights from that point forward onto the commercial company who sent the probe? Further, in the “Rule of Decision” provision, how is one to define an activity that is “reasonable for the exploration and utilization of asteroid resources,” and why are simple “exploration” activities included in the Rule of Decision at all? These questions become important because the bill is quite prescriptive in saying the court “shall enter judgment in favor of the plaintiff . . .”

Finally, supporters will say that this bill has been vetted in the Administration and there is a lot of support for it in the Administration. That also is not accurate. We are aware of no agency of the U.S. government that is [has issued any formal opinion or support] supporting the passage of this bill in its current form. This Committee should take the time and make the effort to come up with policy and potential legislation that will actually work without causing unintended consequences.

EDDIE BERNICE JOHNSON.

