Hypothetical "Exploration and Use of Outer Space Act of 2015"

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I. Introduction

This paper presents the text of a hypothetical legislation that was drafted, not as a model for legislation by the U.S. or any other nation, but as a vehicle for stimulating a discussion by members of the International Institute of Space Law ("IISL") about the issues inherent in the consideration of any such legislation. The drafting of the original version of a hypothetical legislation was stimulated by the discussion of proposed U.S. legislation during the Annual IISL Eilene Galloway Memorial Symposium on Critical Issues of Space Law held in Washington, D.C. in December of 2014. The original version was made available to IISL members in a Linked-In discussion group.

The version of the hypothetical legislation presented in this paper incorporates a number of changes that are the result of private discussions between the author and individual members of IISL and students of the University of Nebraska College of Law who participated in the author's course on Commercial Satellite and Space Law.

It should be noted that an earlier version of this paper was presented at the International Astronautical Congress ("IAC") in Jerusalem. Since that time, U.S. Congress passed Title IV (Exploration and Utilization Act of 2015) of the "U.S. Space Launch Competitiveness Act", which was signed into law by the U.S. President.[1]

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1 Public Law 114-90 (November 25, 2015).

The Exploration and Utilization Act of 2015 (hereinafter "Act") address some, but not all, of the issues presented in the hypothetical legislation.
Some of the differences between the hypothetical legislation and the Act will be noted, not as a critique, but to highlight options for answering some of the issues presented. The text of the hypothetical legislation and the Act are reproduced at the end of this paper.

II. Discussion

II.1. Background

Article VI of the Outer Space Treaty[2] requires:

> "The activities of non-governmental entities in outer space [...] shall require authorization and continuing supervision by the appropriate State Party to the Treaty [...]".

The U.S. has a very comprehensive regulatory regime requiring licensing by the U.S. Federal Communications Commission ("FCC") of space stations using radio frequencies,[3] licensing of remote sensing satellite activities by the National Oceanic and Atmospheric Administration ("NOAA"), U.S. Department of Commerce,[4] and licensing by the Federal Aviation Administration ("FAA"), U.S. Department of Transportation of launches and reentries by U.S. persons and operation of U.S. launch sites.[5]
An interesting aspect of the FAA licensing of launches by "U.S. Citizens" and all launches from the United States, is that all launch payloads must go through a payload review, which includes a review of the FCC or the NOAA license for the payload. However, if the payload does not require an FCC or NOAA license, then the FAA regulations provide:

> "For a payload not subject to FCC or NOAA regulation, the Office [FAA] must determine whether to prevent launch of the payload because to launch it would jeopardize public health and safety, the safety of property, or any national security or foreign policy interest of the United States."[6]

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2 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and other Celestial Bodies London, Moscow, Washington, adopted 19 December 1966, opened for signature 27 January 1967, entered into force 10 October 1967; 6 ILM 386 (1967); 18 UST 2410; TIAS 6347; 610 UNTS 205 (hereinafter "Outer Space Treaty").
3 See, The Communications Act of 1934, as amended, 47 U.S.C. §151 et seq.
4 See, The Land Remote Sensing Policy Act of 1992, 15 U.S.C. §5621 et seq.
5 See, Commercial Space Launch Act of 1984, as amended, 51 U.S.C. §50901 et seq.
6 14 C.F.R. §415.21.

Part of the launch license process also includes the collection of information necessary for the U.S. to maintain its registry of space object as required by the Registration Convention.[7] Excepting object owned and registered by the U.S. Government and objects owned by a foreign entity, the launch operator must provide:

1. The international designator of the space object(s);
2. Date and location of launch;
3. General function of the space object; and
4. Final orbital parameters, including:
    a. Nodal period;
    b. Inclination;
    c. Apogee; and
    d. Perigee.[8]

With all of these regulatory requirements in place, one may ask whether additional legislation or regulation of space activities is required.

II.2. Holes in Existing Legislation and Regulation

The FCC does not necessarily have jurisdiction over the operation of all commercial communications satellites and all radio stations on space station operated by U.S. nationals.

Section 301 of the Communications Act establishes the jurisdiction which does not extend to all U.S. "nationals" but instead extends to all persons that are using or operating "any apparatus for the transmission of energy or communications or signals by radio" when –

- the transmission is with, to or from the U.S.,
- a transmission outside the U.S. has effects or causes interference within the U.S.,
- a transmission in the U.S. has effects or causes interference outside the U.S.,
- the transmission is from the U.S. to a vessel,
- when the apparatus is located on any vessel or aircraft of the U.S., or
- the apparatus is on a mobile station within the jurisdiction of the U.S.

Space objects are not vessels. Furthermore, radio stations in outer space are not mobile stations within the territorial jurisdiction of the U.S. Consequently, it is possible that a radio station located on a space station operated by a U.S.

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7 CONVENTION ON REGISTRATION OF OBJECTS LAUNCHED INTO OUTER SPACE, New York, adopted 12 November 1974, opened for signature 14 January 1975, entered into force 15 September 1976; 14 ILM 43 (1975); 28 UST 695; TIAS 8480; 1023 UNTS 15, (hereafter Registration Convention).

8 14 C.F.R. §417.19.

national would not be regulated by the FCC if the station does not communicate with other stations in the U.S. or with a vessel or aircraft of the U.S.
Similarly NOAA does not have jurisdiction over the operation of all remote sensing activities in space by U.S. nationals. Section 5622(a) of the Land Remote Sensing Policy Act provides:

> "No person who is subject to the jurisdiction or control of the United States may, directly or through any subsidiary or affiliate, operate any private remote sensing space system without a license [...]"

However, NOAA interprets their jurisdiction to cover any system "capable" of remotely sensing Earth. If the system is not capable of remotely sensing Earth, then NOAA jurisdiction would not apply.
Similarly, the FAA does not have jurisdiction over the operation of all payloads of U.S. nationals. If the payload is launched on a foreign launch vehicle, there is no requirement for a payload review by the FAA.
Even if these holes in the existing regulatory framework are ignored, the question of whether new legislation is required. What is the need?

II.3. New Space – Vision or Reality

Are the proposed new space activities merely visions for the future (vaporware) or they concrete and imminent enough to warrant attention? There is no international obligation for the U.S. to authorize "potential" activities in outer space.
There are numerous proposals for new space activities in Earth orbits, orbits other than Earth orbits or on celestial bodies. These include, but certainly are not limited to, services such as microgravity research, propellant transfer, transportation nodes, on-orbit assembly, commercial operation of space stations for recreation, research and development or tourism and commercial resource extraction from celestial bodies.
Bigelow Aerospace has invested over $ 500 million in the development of inflatable space stations to be used in LEO and potentially as habitats on the Moon. Planetary Resources has launched satellites into low earth orbit and has tested 3D printing in space to demonstrate the feasibility of manufacturing in space using space resources. Real money is being invested in new space and more investment is required.
Of course, whether these ventures will be successful will only be determined in the future. No doubt, many will fail. However, there appears to be enough prospect of success so that no one in the government, whether in the legislative branch or the executive branch wants to run the risk of being accused of causing of the failure of a new space venture.

The Act appears to cover that political risk, at least with respect to resource extraction, by recognizing certain rights in those resources and mandating the President to promote such activities.[9]
However, one can ask whether recognizing the right of private parties the resources that are extracted from celestial bodies is the same as authorizing a private party to extract those resources? From a political or a legal point of view is there a difference between not preventing an activity and authorizing an activity? Is there a difference between promoting an activity and authorizing an activity?
As noted, the Exploration and Utilization Act of 2015. recognizes certain rights in resources extracted from asteroids and other space resources:

> "(a) A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States."

The Act also clearly authorizes the President to promote commercial recovery of space resources. In Section 51302(a), the Act requires that the President

> "through appropriate Federal agencies shall [...] promote the right of Unites States citizens to engage in commercial exploration for and commercial recovery of space resources ... subject to authorization and continuing supervision by the Federal Government."

The use of the language "subject to authorization and continuing supervision by the Federal Government" implies that the Act does not itself authorize these activities. That interpretation is supported by the language in Section 51302(b) requires the President:

> "To submit to Congress a report on commercial exploration for and commercial recovery of space resources by United States citizens that specifies –
> (1) the authorities necessary to meet the international obligations of the United States, including authorization and continuing supervision by the Federal Government; and
> (2) recommendations for the allocation of responsibilities among Federal agencies for the activities described in paragraph (1)."

9 Luxembourg also has announced its intention to set out a formal legal framework that ensures that private operators working in space can be confident about their rights to the resources they extract, i.e. rare minerals from asteroids. The expressed intent of the Luxembourg Government is to position Luxembourg as a European hub in the exploration and use of space resources. www.gouvernement.lu/5653386.

If the Act does not grant the authorization for the activities of resource extraction, does the language of Section 51302(b) above also imply that neither the President nor any part of the Executive Branch has the authority to authorize such activities.

The legislative history and the statement of Congressional staff indicate that there was no such intention. It appears that Section 51302 was not a statement of the existence of authority or the lack of authority. Instead, it is a requirement for the President to report on what authorities are necessary and how should the responsibility be allocated. In other words, Congress is keeping an open mind until it receives the report from the President.

One might expect that the report will address the issue of whether a payload review by the FAA that determines that a payload should not be prohibited from being launched is sufficient to meet the requirements of Article VI of the Outer Space Treaty for authorization and supervision.

The FAA has repeatedly stated that they do not have authority to grant authorizations for new space activities that are not licensed by NOAA or the FCC. The FAA Associate Administrator for the Office of Space Transportation, George Nield recently stated that he wants his office to be given the responsibility for issuing a "mission license" for in-space operations not already regulated by the Federal Communications Commission (FCC) or NOAA.[10] It must be concluded that the FAA does not believe that a decision not to prevent the launch of a payload in a launch payload review is the not an authorization of the activities to be undertaken by the operation of the payload.

This appears to be the conclusion also of the Department of State, which has stated that the national regulatory framework, in its present form, is "ill-equipped" to enable the U.S. Government to fulfill its obligations under the Outer Space Treaty with respect to private sector activities on the moon or other celestial bodies.[11]

Mike Gold, V.P. of Bigelow Aerospace calls situation a "regulatory gap" and has urged Congress "to explicitly give AST the responsibility and authority to license LEO and beyond LEO activities that are not currently addressed by the FCC, NOAA, or other agencies,"[12]

Will the report of the President required by the Act support the conclusions expressed above or will the President reach a different conclusion? We will have to await the release of the report to know.

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10 www.spacepolicyonline.com/news/nield-bridenstine-make-case-for-expanding-faa-asts-authorities?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+Spacepolicyonline+(SpacePolicyOnline+News).

11 http://news.yahoo.com/business-moon-faa-backs-bigelow-aerospace-220838313.html.

12 http://spacenews.com/faa-review-a-small-step-for-lunar-commercialization-efforts/.

II.4. Issues of Legislation

At the outset of this discussion, readers are reminded that the text of the hypothetical legislation is not a proposal but only vehicle to stimulate discussion with IISL and within the classroom. In many ways the Act and the hypothetical legislation represent opposite ends of the spectrum. The ultimate decision of whether the issues addressed in the hypothetical legislation should be included or how they should be resolved in actual legislation, is the province of the Congress. The following examines some of the differences.

II.4.1. Findings

Section 2 of our hypothetical legislation sets forth findings of Congress. There is no separate section on "findings" in the "Exploration and Utilization Act."

Commercial Exploration and Use of Outer Space is in the U.S. National Interest – Section 2 (1) of the hypothetical legislation finds that commercial exploration and use of outer space by nationals of the U.S. is in the interest of the U.S. There is no such statement in the Act. Is such a finding required for compliance with Article VI of the Outer Space Treaty? Clearly not.

Acknowledgement of the Obligation to Authorize and Supervise the Activities of Nationals in the Exploration and Use of Outer Space – Section 2 (2) of the hypothetical legislation is a statement to recognize the international agreements to which the U.S. is a Party and which have bearing on the hypothetical legislation. This is a formal acknowledgement that the U.S. has international obligations related to the subject matter of the legislation with which the U.S. must comply.

The Act cites the international obligations of the U.S. in several places. In Section 51302(a)(1) of the Act, the President is mandated to discourage government barrier to "commercial exploration for and commercial recovery of space resource in manners consistent with the international obligations of the United States."

Section 51302(a)(2) of the Act, the President is mandated to promote the right of United States citizens to engage in

> "commercial exploration for and commercial recovery of space resource, free from harmful interference, in accordance with the international obligations of the United States..."

As noted previously, in Section 51302(b) of the Act, the President is required to submit a report to Congress that specifies

> "(1) the authorities necessary to meet the international obligations of the United States, including authorization and continuing supervision by the Federal Government."

Presumption of Authorization – Section 2 (3) of the hypothetical legislation would establish a presumption that proposed activities of nationals of the U.S. should be authorized unless there is a specific finding that such activity is: (1) contrary to or inconsistent with U.S. law, which includes international law; (2) harmfully interfere with prior lawfully established space activities of other persons; or (3) endanger public health or safety. This presumption is further defined in Section 4.2 of the text of the hypothetical legislation.
While there is no such statement in the Act, Section 51302 of the Act may be considered to achieve the same result by requiring the President to "facilitate", "discourage government barriers" and "promote" the rights for commercial exploration for and commercial recovery of space resources. However, the Act is not as explicit as the hypothetical legislation.
No U.S. National Appropriation or Claim of Sovereignty. Section 2 (4) of the hypothetical legislation is an affirmation that the commercial exploration and use of outer space by nationals of the United States is not a national appropriation or claim of sovereignty by the United States, consistent with the requirements of Article II of the Outer Space Treaty.
The Act has a provision that appears to have a similar intent. Section 403 of the Act states:

> "It is the sense of Congress that by the enactment of this Act, the United States does not thereby assert sovereignty or sovereign exclusive rights or jurisdiction over, or the ownership of, any celestial body."

It is interesting to note that Section 403 of the Act does not use the words used in Article II of the Outer Space Treaty. In particular, the Act is silent on "national appropriation". It can be argued that reference to "national appropriation" is not necessary but perhaps this is an issue that needs further examination.
No Recognition of National Appropriation or Claim of Sovereignty – Section 2(5) of the hypothetical legislation states that the U.S. does not and shall not recognize national appropriation or claim of sovereignty in outer space by any other nation. The Act does not contain a similar statement.
Rights of Use and Property Rights – Section 2(6), 2(7) and 2(8) of the hypothetical legislation deal with rights of use and property rights. It is important to note that a distinction is made between a "right of use" and a "property right" in extracted or refined resources.
These issues, of course, are the most controversial issues included in the hypothetical legislation and in the consideration of the Act. The argument has been made by a number of scholars that the assertion of either a right of use or a property right in extracted resources is inconsistent with Article II of the Outer Space Treaty that prohibits national appropriation by assertion of sovereignty by means of use or occupation, or by any other means.

Arguments to the contrary are that a right of use is not a national appropriation and that property rights in extracted resources are not prohibited by the Outer Space Treaty. These arguments are thoroughly examined in the legislative history of the "Exploration and Utilization Act of 2015". That legislative history clearly establishes a record of the policy of the U.S. that is consistent with the language included in the text of the hypothetical legislation.
Section 5103 of the "Exploration and Utilization Act of 2015" appears to settle this question by stating that a U.S. Citizen "shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource..."
While the Act does not recognize a property right *per se* in an asteroid resource or space resource, it does recognize the bundle of rights usually considered to constitute a property right.
Another criticism of the Act is that it is unnecessarily narrower than it needs to be. In particular, that commercial exploration for and commercial recovery of "space resources" and "asteroid resources" is narrower than commercial "exploration and use of outer space, including the moon and other celestial bodies."

II.4.2. Definitions

The definition section of the hypothetical legislation and in the Act are, on the surface, quite different. However, the definition of "national of the United States" in the hypothetical legislation and the definition of "citizen of the United States" in the Act are similar except with respect to the extraterritorial jurisdiction over foreign corporations who are controlled by U.S. interests. The definition of "citizen of the United States" as used in the Act can be found in 51 U.S.C 50902 as follows:

> "(1) citizen of the United States" means –
> (A) an individual who is a citizen of the United States;
> (B) an entity organized or existing under the laws of the United States or a State; or
> (C) an entity organized or existing under the laws of a foreign country if the controlling interest (as defined by the Secretary of Transportation) is held by an individual or entity described in subclause (A) or (B) of this clause."

It should be noted that the definition used in the Act was originally part of the Commercial Space Launch Act and it may be assumed that the extraterritorial jurisdiction was intended because of the subject matter.
However, it is not clear whether the extraterritorial jurisdiction was intended with respect to the Commercial Exploration and Use Act or just an unintended consequence of using a convenient definition. There is nothing in the legislative history to indicate the intent.
The hypothetical legislation uses a slightly different approach by defining the term "national of the United States" instead of "citizen of the United States".

The difference is intentional. The term "national" and not "citizen" is used in Article VI of the Outer Space Treaty. Under general principles of international law, the issue of "nationality" is determined by national law and not international law. Not all nationals are necessarily citizens.
Consequently, to avoid any doubt about the compliance of the U.S. with Article VI of the Outer Space Treaty, the term "national" instead of "citizen" is used in the hypothetical legislation.
The issue of the extraterritorial reach of the is a domestic policy issue of how far U.S. law should reach. Congress, obviously has the last say on this issue and it appears that they have spoken.

II.4.3. Authority to Authorize

There is some disagreement about whether there needs to be a Congressional authorization to the Executive Branch for the Executive Branch to authorize "new space" activities. One school of thought is that the President has the inherent authority to grant such authorizations and that authorizations that meet the requirements of the Outer Space Treaty are granted either when the payload is approved as part of the payload review required for all launches regulated by the FAA or when the spacecraft is registered on the U.S. registry maintained as required by the CONVENTION ON REGISTRATION OF OBJECTS LAUNCHED INTO OUTER SPACE (the "Registration Convention").[13] The Act does not resolve this issue; at least not resolve it with any clarity. In Section 51302(a), the Act requires that the President

> "through appropriate Federal agencies shall [...] promote the right of Unites States citizens to engage in commercial exploration for and commercial recovery of space resources ... subject to authorization and continuing supervision by the Federal Government."

Does the President have the authority to authorize and supervise such activities? Does he have authority to delegate that authority? As noted previously, Section 51302(b) requires the President to

> "To submit to Congress a report on commercial exploration for and commercial recovery of space resources by United States citizens that specifies –
> (1) the authorities necessary to meet the international obligations of the United States, including authorization and continuing supervision by the Federal Government; and
> (2) recommendations for the allocation of responsibilities among Federal agencies for the activities described in paragraph (1)."

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13 CONVENTION ON REGISTRATION OF OBJECTS LAUNCHED INTO OUTER SPACE, New York, adopted 12 November 1974, opened for signature 14 January 1975, entered into force 15 September 1976; 14 ILM 43 (1975); 28 UST 695; TIAS 8480; 1023 UNTS 15, (hereafter Registration Convention).

As stated previously, it appears that Congress intends to consider the issue what authorities are required and which agency should have what authority after receiving the report of the President.
The hypothetical legislation adopts a different approach: assign the authority to the President and let him delegate some or all of that authority to one or more executive agencies. This is the approach taken in the Arms Export Control Act where the authority to regulate the exports and imports of defense articles and defense services was granted to the President and various parts of that authority have since been delegated to various agencies, including the Secretary of State, the Secretary of Defense, the Secretary of Treasury and the Secretary of Commerce. This approach is followed in the text of the hypothetical act as a possible option to Congress assigning the responsibility.
Which approach is preferred? The answer to that question depends on the report of the President and consideration of all of the policy issues that must be considered by Congress and the President.

II.4.4. Activities to Be Regulated

Article VI of the Outer Space Treaty requires Signatories to authorize and supervise the activities of non-governmental entities in the exploration and use of outer space but does not define what is meant by the term "activities." Authorization and supervision of literally all activities would be absurd as the word "activities" would extend to trivial and inconsequential acts.
One way to resolve this issue is to mandate that the President (or his delegate) define which activities require authorization and supervision. However, one must be careful about which one wishes. The risk, of course, is that unneeded and unwanted regulation may be the result.
In all cases in which delegation of power is made by Congress to the President, there may arise a question of whether such a delegation is an unconstitutional delegation of legislative powers from Congress to the President. Nevertheless, this author believes that such an approach is a viable option that could withstand a constitutional challenge.
However, the Act does not address this issue. The reason this issue is not addressed is that the Act is narrowly confined to acts related to the exploration for and use of space resources. The Act avoids the issue of what, if any, other activities should require authorization and supervision.

II.4.5. Authority to Adjust or Meet General or Special Conditions Unfavorable to the Exploration or Use of Outer-Space by Nationals of the U.S.

An issue that is not covered by the Act but that may need to be considered is what recourse and authority to take recourse should be granted to counter actions by foreign governments or foreign nationals that harm the authorized activities of nationals of the U.S. in the exploration and use of outer space. This issue has been faced in other areas of the foreign commerce of the U.S. and there are precedents.

In particular, Section 19(1)(b) of the Merchant Marine Act of 1920 (46 U.S.C. §42101) provides that the Federal Maritime Commission may enact regulations, not in conflict with law,

> "to adjust or meet general or special conditions unfavorable to shipping in the foreign trade of the United States [...] which arise out of or result from foreign laws, rules, or regulations or from competitive methods, pricing practices, or other practices employed by owners, operators, agents, or masters of vessels of a foreign country."

Section 4.6 of the hypothetical legislation is modeled after Section 19 of the Merchant Marine Act of 1920 and would grant similar powers to the President to adjust or meet general or special conditions unfavorable to the exploration or use of outer-space by nationals of the U.S.

II.4.6. Avoid Duplicative Regulation

A nightmare scenario for a new space actor would a requirement to obtain an authorization from a newly appointed agency and also be required to obtain authorization for the same subject matter from other agencies.
On the other hand, it may not make sense to consolidate all authorities in one agency basket. Subject matter expertise has been built up in the FCC, NOAA and the FAA that cannot easily be transferred. In the case of the FCC, it also would highly impractical to transfer licensing authority over space stations to another agency while keeping authority over all other radio stations.
Sections 6, 7 and 8 of the text of the hypothetical legislation are designed to avoid conflicts between agencies and to maintain the existing authorities of the FCC, NOAA and the FAA. The Act does not address the issue of possible overlaps in jurisdiction of multiple government agencies.

III. Text of the "Exploration and Utilization Act of 2015"

"SEC. 401. **Short Title.**
This title may be cited as the "Space Resource ***Exploration and Utilization Act of 2015".***

SEC. 402. **Title 51 Amendment.**
(a) IN GENERAL. – Subtitle V is amended by adding at the end the following:

Chapter 513 – Space Resource Commercial Exploration and Utilization

Sec.
51301. Definitions.
51302. Commercial exploration and commercial recovery.
51303. Asteroid resource and space resource rights.

§51301. Definitions
In this chapter:

(1) ASTEROID RESOURCE. – The term 'asteroid resource' means a space resource found on or within a single asteroid.
(2) SPACE RESOURCE. –
  (A) IN GENERAL. – The term 'space resource' means an abiotic resource in situ in outer space.
  (B) INCLUSIONS. – The term 'space resource' includes water and minerals.
  (3) UNITED STATES CITIZEN. – The term 'United States citizen' has the meaning given the term 'citizen of the United States' in section 50902.

§51302. Commercial Exploration and Commercial Recovery
(a) IN GENERAL. – The President, acting through appropriate Federal agencies, shall –
  (1) facilitate commercial exploration for and commercial recovery of space resources by United States citizens;
  (2) discourage government barriers to the development in the United States of economically viable, safe, and stable industries for commercial exploration for and commercial recovery of space resources in manners consistent with the international obligations of the United States; and
  (3) promote the right of United States citizens to engage in commercial exploration for and commercial recovery of space resources free from harmful interference, in accordance with the international obligations of the United States and subject to authorization and continuing supervision by the Federal Government.

(b) REPORT. – Not later than 180 days after the date of enactment of this section, the President shall submit to Congress a report on commercial exploration for and commercial recovery of space resources by United States citizens that specifies –
  (1) the authorities necessary to meet the international obligations of the United States, including authorization and continuing supervision by the Federal Government; and
  (2) recommendations for the allocation of responsibilities among Federal agencies for the activities described in paragraph (1).

§51303. Asteroid Resource and Space Resource Rights
(a) A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States.
(b) TABLE OF CHAPTERS. – The table of chapters for title 51 is amended by adding at the end of the items for subtitle V the following:

513. Space resource commercial exploration and utilization [...].51301

SEC. 403. **Disclaimer Of Extraterritorial Sovereignty.**
It is the sense of Congress that by the enactment of this Act, the United States does not thereby assert sovereignty or sovereign or exclusive rights or jurisdiction over, or the ownership of, any celestial body."

IV. Text of Hypothetical Legislation

"Section 1. Short Title.
This Act may be cited as the "Exploration or Use of Outer Space Policy Act of 2015".

Section 2. Findings.
The Congress finds and declares the following:

(1) The commercial exploration and use of outer-space by nationals of the United States will further the national security, foreign policy and economic interests of the United States.
(2) United States have agreed in the Convention on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies to authorize and supervise the activities of nationals of the United States in the exploration and use of outer-space.
(3) The proposed activities of nationals of the United States in the exploration and use of outer-space should be authorized unless such activities are inconsistent with United States' law, harmfully interfere with prior lawfully established space activities of other persons, or endanger public health or safety.
(4) The exploration and use of outer space, including the moon and other celestial bodies, by nationals of the United States shall not constitute national appropriation by the United States and shall not constitute a claim of sovereignty by the United States.
(5) The United States shall not recognize any national appropriation of outer space, including the moon and other celestial bodies, and shall not recognize any claim of sovereignty in outer space, including the moon and other celestial bodies, by any other nation.
(6) The use, extraction, refinement, or conversion of resources in outer space, including the moon and other celestial bodies, by nationals of the United States shall not be prohibited unless the President finds that such use, extraction, refinement or conversion of resources in outer space, including the moon and other celestial bodies, is contrary to the law of the United States or is contrary to the national security or foreign policy of the United States.
(7) Nationals of the United States may acquire rights of use of resources in outer space, including the moon and other celestial bodies, and that the United States shall honor and protect those rights.
(8) Nationals of the United States may acquire rights of use, including property ownership interests, in resources in outer space that are extracted, refined or converted from resources in outer space and that the United States shall honor and protect those rights.

Section 3. Definitions.
In this Act, the following definitions apply:

(1) The term "juridical person" for the purposes of this Act shall mean any legal entity duly constituted or otherwise organized under applicable law, whether for profit or otherwise, and whether privately-owned or governmentally-owned, including any corporation, trust, partnership, joint venture, sole proprietorship or association.
(2) The term "national of the United States" for the purposes of this Act shall mean:

(a) any natural person who: (i) is a citizen of the United States; (ii) although not a citizen of the United States, owes permanent allegiance to the United States; or (iii) is permanent resident of the United States; and
(b) any juridical person that is formed pursuant to or under the laws of the United States or any of its political subdivisions.

Section 4. Authorization of Commercial Activities in the Exploration or Use of Outer-Space

1. The President is authorized to designate those activities of nationals of the United States in the exploration or use of outer-space that shall be authorized and supervised by the United States and to promulgate regulations for the authorization and continuing supervision of such activities. The President is authorized to amend the list of activities requiring authorization and supervision and to modify or amend such authorizations as may be required to further the purposes of this Act.
2. The President shall authorize activities designated by regulation promulgated pursuant to this Section of nationals of the United States in the exploration or use of outer-space unless the President finds that such activity is:
   (i) is inconsistent with United States' law (including United States' Treaties and international obligations); (ii) harmfully interferes with the prior authorized space activity of another national of the United States;
   (ii) harmfully interferes with the prior authorized activities of a national of nation that:
      (A) is a signatory to the Outer Space Treaty;
      (B) has lawfully authorized the activity by its national; and
      (C) has entered into an agreement with the United States ensuring that the rights of nationals of the United States recognized by this Act will be recognized and enforced; or
   (iii) endangers the public health or safety of the United States or any nation that has entered into an agreement with the United States to ensure the public health or safety of the United States by the activities of its nationals in the exploration and use of outer space, including the moon and other celestial bodies.
3. The President may condition authorizations issued pursuant to this Act to ensure compliance with any provision of this Act.
4. The President shall condition authorizations issued pursuant to this Act to require that any national of the United States receiving any such authorization coordinate with other United States nationals subsequently requesting authorization.
5. The President may suspend or revoke, in whole or in part, any authorization granted pursuant to this Act for violation of: (i) this Act, (ii) any regulation promulgated pursuant to this Act, or (iii) any condition of the authorization pertaining to the authorized activity to be suspended or revoked.
6. To further the objectives and policy set forth in this Act, the President shall prescribe regulations, not in conflict with law, to adjust or meet general or special conditions unfavorable to the exploration or use of outer-space by nationals of the United States, whether unfavorable to a particular activity or unfavorable in commerce generally, and which arise out of or result from laws or regulations of a foreign country or the activities in the exploration or use of outer space by nationals of a foreign country. If the President finds

that conditions unfavorable to the exploration or use of outer space by United States nationals exist, the President may –

(i) Prohibit exports or reexports of United States goods or technology to persons or countries creating or furthering such unfavorable conditions;
(ii) Impose a fee not to exceed $ 1,000,000 per day for such period of time as the unfavorable conditions are not mitigated; or
(iii) Take any other action the President finds necessary and appropriate to adjust or meet any condition unfavorable to the exploration or use of outer space by nationals of the United States.

Section 5. Prohibition against Unauthorized Exploration or Use of Outer-Space
Except as otherwise specifically provided in regulations issued pursuant to this Act, no national of the United States shall engage in any activity designated by the President under Section 4, Paragraph 1 of this Act without an authorization issued in accordance with this Act, except that no authorization shall be required for activities of or for an agency of the United States Government for official use by a department or agency of the United States Government.

Section 6. Authority of the Federal Communications Commission

1. Nothing in this Act shall affect the authority of the Federal Communications Commission pursuant to the Communications Act of 1934, as amended (47 U.S.C. 151 *et seq*.). To the extent required by the Communications Act of 1934 (47 U.S.C. 151 et seq.), an application shall be filed with the Federal Communications Commission for any radio facilities involved with activities required to be authorized pursuant to this chapter. Authority shall not be required from the Federal Communications Commission for the development and construction of any space system (or component thereof), other than radio transmitting facilities or components, while any licensing determination is being made. No separate license or authorization shall be required from the President for radio transmitting facilities and components thereof and no separate license or authorization shall be made by the President for operation of any radio facilities subject to the licensing authority of the Federal Communications Commission.
2. It is the intent of Congress that the Federal Communications Commission complete the radio licensing process under the Communications Act of 1934 (47 U.S.C. 151 et seq.), upon the application of any private sector party or consortium operator of any space system subject to this chapter, within 120 days of the receipt of an application for such licensing. If final action has not occurred within 120 days of the receipt of such an application, the Federal Communications Commission shall inform the applicant of any pending issues and of actions required to resolve them.

Section 7. Authority of the Department of Commerce
Nothing in this subchapter shall affect the authority of the Secretary of Commerce pursuant to the Land Remote Sensing Policy Act of 1992, as amended (15 U.S.C. 5601 *et seq*.). To the extent required by the Land Remote Sensing Policy Act of 1992, as amended (15 U.S.C. 5601 *et seq*.), an application shall be filed with the Secretary of Commerce for operation of any land remote sensing system required to be authorized pursuant to this chapter. Authority shall not be required from the Secretary of Commerce for the development and construction of any space system (or component thereof), other than land remote sensing facili-

ties or components, while any licensing determination is being made. No separate license or authorization shall be required from the President and no separate license or authorization shall be made by the President for operation of any satellite remote sensing system subject to the licensing authority of the Secretary of Commerce.

Section 8. Authority of the Department of Transportation
Nothing in this subchapter shall affect the authority of the Secretary of Transportation pursuant to the Commercial Space Launch Act of 1984, as amended (51 U.S.C. 50901 *et seq*.). To the extent required by the Commercial Space Launch Act of 1984, as amended (51 U.S.C. 50901 *et seq*.), an application shall be filed with the Secretary of Transportation for launch of a launch vehicle, operation of a launch site, reentry of a launch vehicle or operation of a reentry site required to be authorized pursuant to this chapter. Authority shall not be required from the Secretary of Transportation for the development and construction of any space system (or component thereof), other than launch vehicles, reentry vehicles, launch sites or reentry sites, while any licensing determination is being made. No separate license or authorization shall be required from the President and no separate license or authorization shall be made by the President for operation of any launch or reentry system or launch or reentry site subject to the licensing authority of the Secretary of Transportation.

Section 9. Criminal Violations
Any person who willfully violates any provision of this Act, or any rule or regulation issued pursuant to this Act, including any rule or regulation issued to implement or enforce a treaty or an implementing arrangement pursuant to such treaty, or who willfully, in a request, application or required report, makes any untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading, shall upon conviction be fined for each violation not more than $ 1,000,000 or imprisoned not more than 20 years, or both.

Section 10. Civil Penalties
In carrying out functions under this Act, the President may assess civil penalties for violations of this chapter and regulations prescribed thereunder and further may commence a civil action to recover such civil penalties. The civil penalty for each such violation may not exceed $ 500,000."

V. Conclusion

There should be no doubt that the issues presented in this paper will be the subject of further discussion and dispute. The report of the President required by the Act should give Congress further insight into the policy issues that need to be considered before deciding on how to comply with the requirements of the Outer Space Treaty and at the same time promote the foreign policy, national security and economic interests of the United States.