Statement

of

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on

"*Regulating Space: Innovation, Liberty, and International Obligations*"

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Introduction

Mr. Chairman and Members of the Subcommittee, it is my pleasure to present my views about the subject of this hearing: "*Regulating Space: Innovation, Liberty, and International Obligations.*"

I have a long-standing interest in domestic and international law relating to commercial space activities. My experience in the practice of law over the past forty-four years includes service as an attorney advisor to an independent United States regulatory commission and as both corporate in-house counsel and outside counsel to private companies that have developed or attempted to develop new and innovative commercial uses of space. I have participated in numerous space-related new business development efforts; some that have been frustrated by over-regulation and some that have been fostered by government support.

I would like to emphasize that I am here today to present my personal views and not to represent the views of the University of Nebraska-Lincoln College of Law or of the Kymeta Corporation.

The Focus of the Discussion

This testimony addresses issues related to the potential regulation of activities in outer space for which there is no existing United States regulatory authority.[1] These activities will be referred to herein for convenience as "new space" activities.

[1] Activities that already are regulated are: (a) the use of radio frequencies for communication to or from the United States (regulated by the Federal Communications Commission ("FCC")); (b) operation of remote sensing satellites (regulated by the National Oceanic and Atmospheric Administration, United States Department of Commerce ("NOAA")); and (c) the operation of a launch vehicle, operation of a launch site, reentry of a launch vehicle, operation of a reentry site (regulated by the Federal Aviation Administration, United States Department of Transportation ("FAA")).

The issues related to whether a new regulatory regime is required for new space activities are not new to Congress. The *United States Commercial Space Launch Competitiveness Act* (Public Law 114-90, hereinafter the "Act") required the Administration to develop several reports for Congress. Section 108 of the Act required the Director of the Office of Science and Technology Policy, *inter alia*, to –

> (2) Identify appropriate authorization and supervision authorities for . . . [new space activities];
>
> (3) Recommend an authorization and supervision approach that would prioritize safety, utilize existing authorities, minimize burdens to the industry, promote the United States commercial space sector, and meet the United States obligations under international treaties.

A report in response to Section 108 of the Act[2] was submitted by John P. Holdren, Director and Assistant to the President for Science and Technology in the form of a letter dated April 4, 2016 to Chairman Thune[3] and Chairman Smith.[4]

The Report noted that many space faring nations have a general licensing requirement. By way of example, the Report explained that the United Kingdom ("U.K.") has a single licensing process by the U.K. Secretary of State that includes the authority to impose license conditions to ensure conformity with its treaty obligations and to protect other public interests such as national security. No other examples were cited and no alternative means of achieving "authorization and supervision" were identified or discussed in the Report.

[2] The letter from Mr. Holdren will be referred to herein as the "Section 108 Report" or the "Report".
[3] Senator John Thune, Chairman, Senate Committee on Commerce, Science and Transportation.
[4] Representative Lamar Smith, Chairman, House Committee on Science, Space and Technology.

The Report recommended a "Mission Authorization" framework and a legislative proposal for a Mission Authorization was appended to the Report. Some of key elements of the proposed legislation would –

- Define the term "mission" as the operation of a space object in outer space;[5]
- Expand the regulatory authority of the Secretary of Transportation ("Secretary") to include the authority to grant authorizations to conduct missions in outer space if such missions are "consistent with the international obligations, foreign policy and national security interests of the United States";
- Require the Secretary to authorize missions with conditions that are deemed necessary by the Secretary, in coordination with the Secretary of Defense, the Secretary of State, the Secretary of Commerce, the NASA Administrator, the Director of National Intelligence, and other appropriate departments and agencies, to comply with United States international obligations, preservation of the foreign policy interests and national security of the United States, and protection of United States Government uses of outer space; and
- Prohibit any person subject to the jurisdiction or control of the United States from conducting a mission in outer space without an authorization from the Secretary.

It is not my purpose to analyze or critique the legislation proposed in the Report, although I would be pleased to do so. Rather, my purpose is to present my views on: (1) the international obligations of the United States to authorize and supervise new space activities of nongovernmental entities; (2) the range of options for authorizing and supervising new space

[5] It should be noted that not all activities in outer space necessarily involve the operation of a space object.

activities, other than the regulatory scheme proposed in the Report; (3) the criteria for assessing the merits of the available options if we are to be vigilant in maximizing "liberty" and "innovation"; and (4) national interests that are important to maintaining or enhancing "Freedom of Space". The following will begin with a discussion of the international obligations of the United States to regulate new space[6] activities by nongovernmental entities.

International Obligations of the United States under the

Outer Space Treaty

The principle of the "Freedom of Space" is codified in The Outer Space Treaty ("Treaty").[7] This legal principle is set forth in the Article I.

> "Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States . . ."

We need to remember that this Freedom of Space was not always a recognized principle of international law as it potentially conflicted with the sovereignty of "air space". The operation of earth orbiting satellites by the Union of Soviet Socialist Republics ("Soviet Union") and the United States in the 1950s and 1960s created state practice consistent with Freedom of Space.[8] The Treaty codified that state practice.

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[6] However, it needs to be emphasized that the Outer Space Treaty is an agreement among sovereign nations and imposes no legal requirements directly on non-governmental entities; *i.e*., it is not self-executing.

[7] TREATY ON PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE EXPLORATION AND USE OF OUTER SPACE, INCLUDING THE MOON AND OTHER CELESTIAL BODIES, 205 TIAS 6347, 18 UST 2410 (signed 27 January 1967, entered into force 10 October 1967).

[8] See, R. Cargill Hall, *Chapter Two*, *Essay*: "*Origins of Space Policy*, *Eisenhower*, *Open Skies and Freedom of Space*, John Logsdon (ed.), EXPLORING THE UNKNOWN, *Selected Documents in the History of the U.S. Civil Space Program, Volume 1: Organizing for Exploration*, NASA History Office, 213 (1995), https://history.nasa.gov/SP-4407/vol1/chapter2-1.pdf.

The Freedom of Space for the United States and the Soviet Union (the two space powers at the time of the Treaty) was not without obligations. One such obligation that was agreed to be in the interests of all nations is contained in Article II of the Treaty.

> Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

A similar obligation that was agreed to be in the interest of all nations is contained in Article IV:

> States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner. . . The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden. . . .

Other obligation on the signatories to the Treaty are stated in the following Articles:

- Article V – agreement to return astronauts, render assistance to astronauts, inform of dangers to astronauts;
- Article VIII – agreement to return space objects of other States Party to the Treaty;
- Article IX – agreement to avoid harmful contamination of Outer Space and to avoid adverse changes to the environment of the Earth by the introduction of extraterrestrial matter;
- Article IX – agreement to coordinate with other States Party to the Treaty in the event of potential harmful interference; and
- Article XII – agreement to allow visits to facilities and space objects on the Moon and other celestial bodies.

Freedom of Space for Nongovernmental Entities

Freedom of Space for activities of nongovernmental entities was not a foregone conclusion. In fact, the Soviet Union at first opposed the legitimacy of any activity by nongovernmental entities in outer space.[9] Compromise was reached when the United States agreed that nations should be responsible for ensuring that the activities of nongovernmental entities comply the Treaty and that nations have the obligation to authorize and continuously supervise the activities of their nationals.

Normally a treaty is an obligation between nations and the restraints and obligations written in the treaty are obligations only of nations. The international obligations of Nation States usually are not attributed to private entities or nationals of that state. However, the compromise reached to recognize the Freedom of Space for nongovernmental entities in Article VI of the Treaty is an exception to this general rule.

> State 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 government 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. The activities of non-governmental entities in outer space, including the moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organizations.
>
> [Emphasis added.]

Article VI and its dual requirements for the United States to assure that U.S. national activities are carried out in conformity with the provisions of the Treaty and that the activities of U.S. non-

[9] "The Soviet Union, true to its communist ideology, was squarely against any private activities in most economically relevant areas of society, but certainly so in an area of such strategic concern as outer space." F.G. von der Dunk, *The Origins of Authorization: Article VI of the Outer Space Treaty and International Space Law*,(2011). *Space and Telecommunications Law Program Faculty Publications*, Paper 69, http://digitalcommons.unl.edu/spacelaw/69.

governmental entities be authorized and continuously supervised by the United States are the focus of this hearing. The requirement for authorization and continuous supervision is discussed first.

Authorization and Continuing Supervision

There appears to be little if any negotiating history that informs us of how a State must authorize and supervise activities in outer space. One of the few contemporary and authoritative accounts of the negotiation of the Outer Space Treaty, which was concluded in 1967, included the following explanation of Article VI by Paul Dembling, the then NASA General Counsel who had been a member of the United States delegation to the United Nations that negotiated the Treaty.

> Article VI of the Treaty assures that the parties cannot escape their international obligations under the treaty by virtue of the fact that activity in outer space or on celestial bodies is conducted through the medium of nongovernmental entities or international organizations. Perhaps the most important of the three sentences from the standpoint of domestic concern is the second, which states that the activities of nongovernmental entities in outer space and on celestial bodies shall require authorization and continuing supervision by the State concerned. The obvious example of activity covered by the second sentence is that of the Communications Satellite Corporation, a nongovernmental entity whose activities are authorized and regulated by United States federal agencies pursuant to federal statutes and regulations. However, while no one would doubt the need for governmental control over space activity at its present stage, the second sentence of Article VI would prohibit, as a matter of treaty obligation, strictly private, unregulated activity in outer space or on celestial bodies even at a time when such private activity becomes most common-place. Although the terms "authorization" and "continuing supervision" are open to different interpretations, it would appear that Article VI requires a certain minimum of licensing and enforced adherence to government-imposed regulations.[10]
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> [Emphasis added.]

According to Mr. Dembling, the United States has the responsibility, as a matter of Treaty obligation, to impose a certain "minimum" authorization and continuing supervision private

[10] Paul G. Dembling and Daniel M. Arons, *The Evolution of the Outer Space Treaty,* 33 JOURNAL OF SPACE LAW AND COMMERCE, 419, 436,437 (1967).

activities of United States nationals in Outer Space. The following separately examines "minimum authorization" and "minimum continuing supervision" to determine what range of options is available to the United States.

Authorization

At least one author has noted that the United States issues licenses or authorizations in a variety of forms, including "certificate, certification, approval, license, registration, waiver, or exemption."[11]

Professor Schaefer points out that the proposition that "authorization" can take many forms is supported by the ordinary meaning of the word "authorize", which is "give official permission or approval to" or "to give official permission for something to happen."[12] Surely most, if not all, of the types of licenses, permissions or authorizations which we could conceive would meet the Treaty requirement for authorization (*i.e.*, a "certain minimum" of licensing). In summary, there are numerous options for how regulation or authorization can be implemented; *i.e.*, a license issued by an independent regulatory commission or an administration of the Executive Branch of the United States is not the only option available to meet the requirement to authorize the activities of nationals in outer space.

It is my opinion that the minimum Treaty requirement for authorization could be met by completion of a registration; *i.e.*, the authorization would be granted by operation of law when the registration is accepted as completed.

[11] Laura Montgomery, *By the Outer Space Treaty's Own Terms, The United States Complies with Article VI of the Treaty*, (December 16, 2016); http://groundbasedspacematters.com/index.php/2016/12/17/by-the-outer-space-treatys-own-terms-the-u-s-complies-with-article-vi-of-the-treaty/#more-245.

[12] Mathew Schaefer, *The Contours of Permissionless Innovations* (2017), (manuscript available from the author). Definition from the MACMILLAN DICTIONARY.

Continuing Supervision

The Department of State has interpreted the requirement for "continuing supervision" to mean that the authorization must be "contingent" to meet the Treaty requirement for "continuing supervision". There is no "continuing supervision" if there is an "absence of a mechanism for the U.S. Government to ensure that the proposed activities . . . [will] be carried out in conformity with the Treaty."[13] Under the State Department's interpretation a simple authorization, without more, is not sufficient to meet the Treaty requirement for continuing supervision.

An analysis of the ordinary meaning of the term "supervise" appears to support this interpretation. Professor Schaefer notes the word supervise means "to monitor" and the ordinary meaning of the word "continuing" is "occurring in a cyclical or repetitious pattern".[14] Professor Schaefer summarizes the requirement of the first and second sentence of Article VI as –

> . . . some process to "give official permission or approval to" and "monitor" in some "cyclical or repetitious pattern" with at least one purpose of such process to "assure" that commercial actors are complying with [Treaty] obligations.[15]

There are numerous options for how continuous supervision can be achieved, as long as there is a cyclical or repetitious pattern.

It is my opinion that this obligation can be met with a requirement for the applicant to amend the facts stated in the application if they change, to renew the application on some basis (*e.g.*, yearly renewal), and provide the authority to suspend the authorization if the applicant makes a false statement or fails to amend or renew the authorization.

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[13] Brian J. Egan, *The Next Fifty Years of the Outer Space Treaty*, (December 7, 2016) (https://2009-2017.state.gov/s/l/releases/remarks/26496)
[14] Mathew Schaefer, *supra*, Footnote 14.
[15] Mathew Schaefer, *supra*, Footnote 14.

However, the obligation to authorize and continuously supervise may not be the only Treaty obligation. As has already been demonstrated, there also is the Treaty obligation to assure that national activities are carried out in conformity with the requirements of the Treaty.

Treaty Requirements Attributable to Non-Government Entities

If the Treaty is deconstructed, it is apparent that only a certain few of the seventeen Treaty Articles can be interpreted to contain substantive obligations of the United States.[16]

Because these obligations apply by their own terms only to nations, it may be asserted that none of them are required to be imposed on non-governmental entities as a condition of authorization. However, this interpretation does not appear to square with the plain meaning of the first sentence of Article VI.

Another interpretation is that the first sentence of Article VI requires that all the national obligations are required to be imposed on nongovernmental entities as a condition of authorization. However, this interpretation does not square with state practice. More to the point, it is not the state practice of the United States.

The U.S. has established regulatory regimes for licensing operation of a radio station in space, operating a remote sensing satellite, conducting launches, operating a launch facility or reentry of launch vehicles. These licensing regimes do not require compliance with every one of the national obligations listed in the Treaty.

The testimony of Ambassador Goldberg, former Justice of the U.S. Supreme Court and head of the U.S. delegation that negotiated the Treaty provides some clarification of this issue.[17]

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[16] *See*, text re discussion under the heading of International Obligations of United States under the Outer Space Treaty, *supra*.

[17] TREATY ON OUTER SPACE, HEARINGS BEFORE THE COMMITTEE ON FOREIGN RELATIONS UNITED STATE SENATE, Ninetieth Congress, First Session, U.S. Government Printing Office (1967), (hereinafter referred to as "Treaty Hearings").

Throughout his testimony, Ambassador made it clear that the Treaty was not self-executing in the sense that it automatically is enforceable under U.S. law. However, he also used the term "self-executing" to apply to provisions of the Treaty that are to be understood to be subject to no further conditions and no further refinements, such as Article IV and Article V. Ambassador Goldberg distinguished these provisions (Article IV and Article V) with other provisions of the Treaty that are to be understood as statements of general principles; principles that state a worthy purpose that need further study, exploration and elaboration to develop the rules to govern the use of outer space.

Following this line of reasoning, only the Treaty provisions that were understood not to be subject to further refinements should be considered as provisions that are required conditions of the authorizations required by the Treaty.

However, this Treaty interpretation does not prohibit the United States from attaching conditions to authorizations that exceed the minimum requirements of the Treaty. Furthermore, the conditions should be relevant and appropriate to the activity being authorized. Freedom of Space for nongovernmental entities is incompatible with conditions on those activities unless the conditions are relevant to the activity.

Freedom of Space and Liberty

The concepts of freedom and liberty are intertwined and the words are sometimes used as synonyms. There are many definitions of the word "liberty" but one which captures the essence of the concept is as follows:

> Freedom from restraint, under conditions essential to the equal enjoyment of the same right by others; freedom regulated by law. *Kelly v. James*, 37 S.D. 272,157 N.W. 990, 991. [18]

Note that the definition begins with an emphasis on "freedom of restraint" but follows with reminder that this freedom is not absolute and the freedom from restraint can be regulated by law to ensure the enjoyment of the same right by others or to secure an important interest of the nation.[19]

When we speak of "liberty" it is often expression of our general antipathy to arbitrary restraint and overzealous regulation. Regulation that is not necessary for the protection of the equal enjoyment of freedom or regulation that is not necessary for the protection of an important national interest is to be avoided.

Innovation

Freedom from restraint generally is associated with "innovation". However, not all freedom from restraint promotes innovation and not all restraint stifles innovation. We all

[18] Other definitions: "The absence of arbitrary restraint, not immunity from reasonable regulations and prohibitions imposed in the interest of the community." *Southern Utilities Co. v. City of Palatka*, 86 Fla. 853, 99 So. 236, 240; *Nelsens v. Tilley*, 137 Neb. 327, 289 N.S. 388, 392; *Arnold v. Board of Barber Examiners*, 45 N.M., 57, 109 P2d 779, 785. "The word "liberty" as used in the state and federal Constitution means, in a negative sense, freedom from restraint, but in a positive sense, in involves the idea of freedom secured by the imposition of restraint, and it is in this positive sense that the state, in the exercise of its policy powers, promotes the freedom of all by the imposition on particular persons of restraints which are deemed necessary for the general welfare." *Fitzsimmons v. New York State Athletic Commission*, Sup., 146 N.Y.S. 117, 121.

[19] "The absence of arbitrary restraint, not immunity from reasonable regulations and prohibitions imposed in the interest of the community." *Southern Utilities Co. v. City of Palatka*, 86 Fla. 853, 99 So. 236, 240; *Nelsens v. Tilley*, 137 Neb. 327, 289 N.S. 388, 392; *Arnold v. Board of Barber Examiners*, 45 N.M., 57, 109 P2d 779, 785. "The word "liberty" as used in the state and federal Constitution means, in a negative sense, freedom from restraint, but in a positive sense, in involves the idea of freedom secured by the imposition of restraint, and it is in this positive sense that the state, in the exercise of its policy powers, promotes the freedom of all by the imposition on particular persons of restraints which are deemed necessary for the general welfare." *Fitzsimmons v. New York State Athletic Commission*, Sup., 146 N.Y.S. 117, 121.

understand that monopolies (*i.e.*, the lack of competition) stifle innovation and that market competition promotes innovation. Restraints on monopolies clearly promote innovation.

If our national objective is to promote technical and market innovation, we should not be striving to achieve an absolute absence of restraint but instead to avoid restraint that stifles innovation. Examples of the kind of restraints that stifle innovations are –

- Restraints that impose unnecessary administrative burdens to establish or operate an enterprise;
- Restraints that reduce competition;
- Restraints that are technologically out of date;
- Restraints that impose economic regulation;
- Restraints that introduce policy or regulatory uncertainty; and
- Restraints that are not flexible; *i.e.*, do not provide for several implementation paths to achieve compliance.[20]

On the other hand, restraints that promote competition and restraints that reduce or remove policy or regulatory uncertainty could promote innovation.

The discussion of restraints on freedom of action are necessary for the protection of the equal enjoyment of freedom or are necessary for the protection of an important national interest fall into two general categories: (1) restraints on Freedom that are Treaty obligations the United States; and (2) restraints that are not required by any international obligation but which Congress determines are necessary for the protection of important United States domestic or international

[20] See, OECD, *Regulatory Reform and Innovation*, http://www.oecd.org/sti/inno/2102514.pdf and Luke A. Stewart, *The Impact of Regulation on Innovation in the United States: A Cross-Industry Literature Review*, Information Technology & Innovation Foundation (June 2010), http://www.itif.org/files/2011-impact-regulation-innovation.pdf.

interests. We have discussed the Treaty obligations above. The following explores restraints that Congress may consider necessary for the protection of important national or international interests.

National Interests

In our discussion of freedom, we noted that freedom from restraint can be regulated by law to ensure the enjoyment of the same right by others or in the interest of the nation. Congress, in the exercise of its authority to regulate foreign commerce,[21] can impose restraints on freedom to use outer space to protect important national interests. One, if not the most important such interest is national security.

The Section 108 Report, discussed earlier, recommended that the national security interests of the United States be protected by conditioning authorizations to preserve the national security interest of the United States. Such conditions are those deemed necessary by the Secretary of Transportation

> "in coordination with the Secretary of Defense, the Secretary of State, the Secretary of Commerce, the NASA Administrator, the Director of National Intelligence, and other appropriate departments and agencies . . ."

There is a provision similar to this in the Land Remote Sensing Policy Act of 1992[22] and the Commercial Space Launch Act.[23] Are those provisions necessary to

[21] U.S. Const., Article 1, § 8.

[22] "In coordination with other appropriate United States Government Agencies, the Secretary [of Commerce] is authorized to license private sector parties to operate private remote sensing space systems for such period as the Secretary may specify and in accordance with the provisions of this subchapter." 15 USC § 5621(a)(1). "No license shall be granted by the Secretary unless the Secretary determines, in writing that the applicant will comply with the requirements of this chapter, any regulations issued pursuant to this chapter, and any applicable international obligations and national security concerns of the United States." 15 USC § 5621(b).

[23] The Secretary of Transportation may prescribe "any additional requirement necessary to protect the public health and safety, safety of property, national security interests, and foreign policy interests of the United States . . ." 51 USC § 50905(b)(2)(B).

protect the national security interests of the United States and is the process consistent with our concept of the freedom that new space entrepreneurs should enjoy?

Consider that an application for a license involving a reduction on the resolution limit of a proposed remote sensing system took three years to process because of issues of coordination. Consider that applications for systems that could sense objects in orbit also have taken more than three years to process. Consider that the commercial synthetic aperture radar market is dominated by foreign systems, largely due to the U.S. restrictions on resolution that do not apply to foreign systems.

Similar process issues are faced in the payload review process at the FAA. I have heard industry complaints that the decision criteria are "black boxes" and that national security "classification" appears to be a shield to protect "untethered discretion". Industry complains about lack of accountability, lack of transparency, lack of objective decision criteria and, of course, lack of timely decision even though there may be a deadline for action on an application[24] and even if there is a requirement for notifying Congress if the deadline is not met.[25]

[24] "The Secretary [of Commerce] shall review any application and make a determination thereon within 120 days of the receipt of such application. If final action has not occurred within such time, the Secretary shall inform the applicant of any pending issues and actions required to resolve them." 15 USC § 5621(c).

[25] "Consistent with the public health and safety, safety of property, and national security and foreign policy interests of the United States, the Secretary [of Transportation], not later than 180 days after accepting an application in accordance with criteria established pursuant to subsection (b)(2)(D), shall issue or transfer a license if the Secretary decides in writing that the applicant complies, and will continue to comply, with this chapter and regulations prescribed under this chapter. The Secretary shall inform the applicant of any pending issue and action required to resolve the issue if the Secretary has not made a decision not later than 120 days after accepting an application in accordance with criteria established pursuant to subsection (b)(2)(D). The Secretary shall transmit to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a written notice not later than 30 days after any occurrence when the Secretary has not taken action on a license application within the deadline established by this subsection." 51 USC § 50905(a)(1).

There are two fundamental issues with the "coordination process": (1) there is an absence of clear objective criteria that results in the applicant having to prove a negative (which is a logical impossibility); and (2) because there are no clear objective criteria, the burden of proof never shifts from the applicant.

One possible solution is to establish by legislation a list of clear objective statements of the interests and a statement of the criteria for judging compliance with that interest.

For example, a criterion for judging whether a proposed activity is consistent with the national security could be whether the activity will cause the loss of life or serious injury to U.S. military or intelligence personnel. Another example is that a proposed activity is not consistent with national security if the activity will cause the failure of or serious damage to an important U.S. military or intelligence facility or operation.

There also needs to be a point in the authorization process when the burden of going forward shifts from the applicant. For example, if the applicant provides an analysis concluding that the activity will not cause the loss of life or serious injury to military or intelligence personnel and that the proposed activity will not cause failure of or serious damage to an important U.S. military or intelligence facility or operation, then it should be presumed that the activity is consistent with national security interests unless the facts upon which the conclusions are based are disproved or rebutted by the interested agency. The process also should allow for surrebuttal to account for facts unknown to the applicant until raised by the interested agency.

Important International Interests of the United States

Outer space is not the exclusive realm of the United States. Other nations and their nationals have the same right of use. Furthermore, every day there are more uses of outer space and more nations and nongovernmental entities using outer space.

Mutual recognition of the Freedom of Space is the only way to ensure the Freedom of Space for all.

Other States party to the Treaty have the same Treaty obligations as the United States, including the obligation to authorize and supervise the activities of their nationals in the use of outer space. It is in our national interests, including economic and national security interests, that other nations be held accountable for the actions of their nationals in outer space. Of course, we cannot reasonably hold other nations accountable for the actions of their nationals unless we do the same.

Conclusion

The United States and its nationals have the freedom to use and explore outer space. That freedom of use is conditioned by certain Treaty obligations to authorize and continuously supervise the outer space activities of nationals. The requirement to authorize and continuously supervise can be met in a variety of ways and can involve a process that can be neither burdensome or complicated. The tradespace for implementing the requirements of the Treaty and protecting national interests is large. A traditional licensing and regulatory regime is not the only option available to Congress. Options are available that could better promote U.S. interests in developing new space activities, developing new and innovative technologies and markets, and minimizing restrictions on freedom of space.