



Analysis of OSTP Space Authority Report

Bailey E. Reichelt

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About the Author



Bailey Reichelt is a solo practitioner air & space attorney licensed in Texas as well as the Northern District Court of Texas. She has been licensed since 2014. Bailey graduated with honors from the University of Mississippi Law School Air, Space, and Remote Sensing certificate program in 2014. She has previously had publications featured by the Woodrow Wilson International Center for Scholars as well as the National Sea Grant Law Center and the MS Bar Section on Natural Resources, Energy, and Environmental Law (SONREEL).

Space has been an increasingly popular legislative topic due to the continued growth and expansion of the commercial space sector. Of particular interest is the U.S. Commercial Space Launch Competitiveness Act (herein referred to as “the Competitiveness Act”) which formally became law on November 25, 2015. The idea behind this piece of legislation is to, “facilitate a pro-growth environment for the developing commercial space industry by encouraging private sector investment and creating more stable and predictable regulatory conditions.”¹ Fourteen reports are to be compiled by various federal agencies and ultimately scheduled to be delivered to the House and Senate committees to aid in establishing further legal frameworks in which commercial space exploration can thrive. These reports are at the government level and focus primarily on inter agency action while also taking some input from the commercial space sector.

The Space Authority report is first among the reports to be delivered to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives. It falls under section 108 of the Competitiveness Act and was compiled by the Office of Science and Technology Policy (OSTP).²

The Space Authority report was written by OSTP in consultation with the Secretary of State, Secretary of Transportation, Administrator of NASA, and heads of other federal agencies as well as the commercial space sector as is directed in section 108 of the Commercialization Act. The point of the Space Authority report is to assess current and proposed commercial activities in space and the appropriate authority to govern these activities. It also recommends an approach to authorization and supervision of these activities that prioritizes safety, uses existing authorities, minimizes the burden on the industry while promoting the commercial sector, and abides by international treaties. The terms “authorization” and “supervision” come directly from Article VI of the Outer Space Treaty (OST) which was ratified by the United States in 1967 and continues to set the foundation for the development and interpretation of space related legislation.³

To give some background on regulatory regimes, currently, space authority lies with three federal agencies: The Administrator of the FAA by authority of the Secretary of Transportation, the FCC by authority of the Communications Act of 1934, and NOAA by authority of the Secretary of Commerce. The Space Authority report utilizes the already

existing structure and proposes new approaches to fit developing and unprecedented commercial space activities.

The most significant categorizations of new activities, according to the OSTP, include private missions beyond Earth's orbit, new on-orbit activities, and space resource utilization. Among these categories we see missions to Mars, lunar habitats, satellite refueling, orbital habitats, asteroid resource extraction, etc. These endeavors will necessarily involve a look into international treaties and already established law.

Article VI of the Outer Space Treaty reads that, "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. 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."⁴ While there are frameworks already in place to deal with some activities-- launch, reentry, remote sensing, and communications-- there is not a clear framework for incorporating the new activities pursued by the commercial space sector while maintaining compliance with Article VI.

A clear example of the lacking framework and implication of treaties is found in the concept of asteroid mining or any other celestial extraction of resources. Article III of the OST states that "outer space shall not be subject to appropriation by claim of sovereignty, by means of use or occupation, or by any other means."⁵ This does not specifically address the use of resources or tell us whether or not the use of resources is a claim of sovereignty. The Commercialization Act puts forth under section 51303 that, "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."⁶ The International Institute of Space Law agrees with the American interpretation of the OST because, among various reasons, resource extraction is not expressly prohibited, and there are a limited amount of interpretations of the OST to indicate whether the American interpretation will ultimately be followed or not.⁷ Ken Hodgkins, Director of Space and Advanced Technology at

the State Department recently stated, "The legal debate is likely to continue for some time both within the space law community and at COPUOS (Committee On the Peaceful Uses of Outer Space)... the United States agreed to add an agenda item for next year's meeting of the COPUOUS Legal Subcommittee to discuss 'potential legal models for activities in exploration, exploitation and utilization of space resources.' "⁸ International discussion will continue to sculpt American legal frameworks regarding new space activities so long as treaty compliance is a priority.

Moving back to the Space Authority report, OSTP suggests a somewhat new framework for all current, proposed near-term, and commercial non-governmental space activities while remaining treaty compliant. The legislative proposal is for a "Mission Authorization" framework. This structure is not as comprehensive as those already established for more mature space activities such as launch. Instead, this framework is designed to be the least restrictive for developing technologies and their demonstrations. It is modeled on the FAA's Payload Review process. The Payload Review process coordinates and designates agencies to review proposed missions in relation to specified government interests, i.e., treaty compliance but does not actually provide licensing. Under the proposed framework, only conditions necessary to fulfill those interests will be imposed. This forms the outline of the procedural aspects of getting a "Mission Authorization." There is some debate about whether "Mission Authorization" is an appropriate name rather than "Mission Licensing." To call it a licensing process, according to Mike Gold of Bigelow Aerospace, would give the proposed framework legal consistency with other licensing processes already existing.⁹

The Secure World Foundation has provided commentary that the non-traditional missions flagged by the OSTP are not currently covered under U.S. licensing practices and the framework is insufficient for them. The need for creation of a framework is, by existence, beneficial to the industry by providing legal means to allow these non-traditional activities. Also pointed out is that, if the U.S. government does not put a framework in place, other countries might. This creates a more favorable business environment somewhere else, and Luxembourg is already exploring frameworks for asteroid mining.

The OSTP suggested framework would apply regardless of where the American company is carrying out their business-- domestic or abroad. This aspect of the Mission

Authorization concept seeks to make the American space companies more competitive by providing a reliable framework to which foreign entities will be able to predict and depend on. The Space Authority report goes on to include American citizens in the Mission Authorization framework by stating that, "No person that is subject to the jurisdiction or control of the United States may, directly or through any subsidiary or affiliate, conduct missions in outer space without authorization under this section." This clarifies some ambiguity in the OST. The OST establishes that a state bears international responsibility for national activities but does not detail whether that applies to individuals. The Mission Authorization framework would apply to individuals. However, the "conducting a mission" language leaves some ambiguity as to if every American working for a foreign space company would need authorization, or if it only includes the person responsible for conducting the mission.

In the Appendix of the Space Authority report, the Mission Authorization Proposal makes specific suggestions for how to amend Chapter 509 of title 51 of the United States Code. Not previously codified, "Mission" would be defined as the operation of a space object, with or without human occupants, in outer space, including on the Moon and other celestial bodies. Any person subject to the jurisdiction of the United States, whether directly or indirectly, may not conduct missions in outer space without authorization. Missions already subject to a regulatory framework would be exempt from the new provision.

A Mission Authorization Registry will be required and maintained by the Secretary of Transportation. It will require holders of mission authorizations to provide updated information periodically as well as to give notice of material changes of operations. Relevant and appropriate agencies will coordinate to modify the mission authorization as necessary to meet treaty obligations and preserve foreign policy interests. This actually builds on registry requirements already in existence. It was put forth in the Convention on Registration of Objects Launched Into Outer Space (Registration Convention) and subsequently General Assembly resolution 1721B (XVI) that States and international organizations are required to provide the Secretary-General with information on their space objects for inclusion in the United Nations Register of Objects Launched into Outer Space and dissemination to all Member States. The United States ratified this treaty in 1976. The requirement of a Mission Authorization Registry serves a similar but additional purpose in knowing which entity is sending what to where, but it also goes a large step further by providing a way to update and

modify the registry. Appropriate federal agencies and departments will be involved with meeting international obligations and security issues when missions inevitably change. As humans enter space, this will most certainly be a greatly needed level of flexibility. However, it is unclear how this registry is significantly less cumbersome than a licensing process and if the lack of specific designation of agencies in charge will lead to ambiguity and additional strife long term.

The Steph Earle, Space Traffic Program Lead for the FAA, has addressed some of these questions by saying, “the Mission Authorization Registry really isn’t more burdensome than today’s licensing structure. Today the FAA maintains a database or list of active licenses, and launch operators who make material changes to their operations are required to notify the FAA. The Mission Authorization Registry is very similar but could provide more clarity throughout the interagency stakeholders. The Mission Authorization License does propose a specific lead agency and is intended to avoid the ambiguity that exists today. We have proposed a simplification in the Mission Authorization specifically through the lead agency. The burden of searching for the correct oversight agency is alleviated from the commercial operator and the burden of coordination is placed on the lead agency.”¹⁰

In a hearing of the House Subcommittee on Aviation on June 22, 2016, Chairman of COMSTAC, Mike Gold, explained the necessity of a new legal structure and what it should look like to help progress commercial space forward. In his statement to the Subcommittee he makes clear that the FAA AST has already been providing authorization and supervision for launch licensing. It's the continuing supervision of activities in and beyond low-earth orbit that provides an issue because there is no explicit authorization from Congress to do so. As space activities rapidly move from traditional oversight i.e. NASA, the government must develop a new structure that can effectively regulate non-government agencies. Mr. Gold puts forth the solution as, first, for Congress to update the FAA AST regulations to support a “Mission Licensing” process. Next, that process will look very similar to the already existing payload review process and grant a license.¹¹ The suggestions made by the Space Authority Report seem to run in line with leaders in the commercial space industry.

Finally, “the Secretary of Transportation, in coordination with the Secretary of Defense, is authorized to examine the planned and actual operational trajectories of space objects and advise operators as appropriate to facilitate prevention of collisions.”¹² This is a significant

deviation from the past regulatory regime in that this is the first time a civilian agency will have this type of authority. The FAA comments that, “the authority to examine and advise to facilitate the prevention of orbital collisions is a practical element of the mission authorization. In the most basic sense, one would expect an automobile driving instructor or a flight inspector to be empowered to assist in preventing a collision by warning commercial operator of an unsafe condition. This is especially relevant in the orbital regime because satellite operators do not independently assess their collision risk, nor do commercial or private operators have a level of space situational awareness to independently assure their own safety.”¹³ While the need for this type of authority is apparent, there will still need to be further discussion about whether the power to advise also carries the power to enforce.

To conclude, the OSTP has put forth an idea for a regulatory and authorization regime that they find to be least restrictive and most appropriate for emerging technologies and endeavors in space. There are multiple issues left to be determined. First is how to implement these measures while complying with international treaties and other national security concerns. Next, does or should the “least restrictive process” actually differ significantly from already established licensing frameworks? What everyone agrees on, however, is summed up nicely by Mike Gold, “If we do nothing, which is what we have done for the past several years, leaving the issue unaddressed, we run the risk of a future Administration interpreting ‘continuing supervision’ in a much more aggressive manner, leading to a regulatory regime that...harms both America's economy and its national security...”¹⁴

- 1 Pub. L., 114th Congress, 114-90.
- 2 Office of Science and Technology Policy Executive Office of the President (OSTP), SPACE AUTHORITY REPORT (2016), https://www.whitehouse.gov/sites/default/files/microsites/ostp/csla_report_4-4-16_final.pdf.
- 3 *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space*, Including the Moon and Other Celestial Bodies Art. 6, *adopted* Dec. 5, 1979, 18 U.S.T. 2410, 610 U.N.T.S. 205.
- 4 *Id.*
- 5 *Id.* at Art. 3.
- 6 Pub. L. 114-90, *supra* note 1, at §51303.
- 7 *IISL Position Paper on Space Resource Mining*, INTERNATIONAL INSTITUTE OF SPACE LAW (2015), http://www.iislweb.org/html/20151220_news.html (last visited Jul 19, 2016).
- 8 Marcia S Smith, BRIDENSTINE DRAFTING LEGISLATION TO IMPLEMENT CSLCA ASTEROID MINING PROVISION SPACEPOLICYONLINE.COM (2016), <http://www.spacepolicyonline.com/news/bridenstine-drafting-legislation-to-implement-cslca-asteroid-mining-provision> (last visited Jul 19, 2016).
- 9 Jeff Foust, @Jeff_Foust, TWITTER (6:42 AM – June 8, 2016).
- 10 Steph Earle, Space Traffic Program Lead, FAA.
- 11 *FAA Oversight of Commercial Space Transportation*, Testimony of Michael Gold (2016).
- 12 OSTP, *supra* note 2.
- 13 Earle, *supra* note 10.
- 14 Gold, *supra* note 11.