



2009

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Mark J. Sundahl

Cleveland-Marshall College of Law, Cleveland State University, m.sundahl@csuohio.edu

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Repository Citation

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**BIGELOW AEROSPACE'S COMMODITY JURISDICTION REQUEST UNDER ITAR
AND ITS IMPACT ON THE FUTURE OF PRIVATE SPACEFLIGHT**

Mark J. Sundahl

Cleveland State University, Cleveland-Marshall College of Law
United States

mark.sundahl@law.csuohio.edu

ABSTRACT

On April 22, 2009, Bigelow Aerospace announced that the United States Directorate of Defense Trade Controls (DDTC) had responded favorably to Bigelow's commodity jurisdiction request to ease its regulatory burden under the International Traffic in Arms Regulations (ITAR). Prior to this decision by the DDTC, the presence of foreign nationals on a Bigelow space station would have been treated as an "export" of space technology under ITAR – thus requiring a license from the DDTC in addition to other burdens. Bigelow Aerospace's successful commodity jurisdiction request has removed these obstacles and, as a result, has breathed new life into the private spaceflight industry. The DDTC's ruling in this case may also signal a broader shift in the application of ITAR. At a minimum, the ruling is an encouraging indication of the DDTC's sensitivity to the needs of the commercial spaceflight industry, which could result in the continued relaxation of export controls over commercial space technology.

I. INTRODUCTION

Only rarely do we see breakthroughs in space law that bring clear and quantifiable benefits to space companies. But such a breakthrough occurred this year when the United States Department of State's Directorate of Defense Trade Controls (DDTC) exempted Bigelow Aerospace from the need to acquire a license and comply with other burdensome requirements under the International Traffic in Arms Regulations (ITAR) before allowing foreign nationals aboard their expandable space stations. The DDTC's ruling will allow Bigelow Aerospace to more easily serve the global market since Bigelow will no longer have to bear these burdens for each foreign national that would set foot in one of their space stations. This article tells the story of how Bigelow achieved this breakthrough – and explores how this ruling will affect the future of human spaceflight.

II. ITAR AND HUMAN SPACEFLIGHT

Export controls on space technology are notoriously strict in the United States, where all space technology is deemed to be munitions and is therefore subject to the complicated and restrictive ITAR export regulations. Because the costs associated with ITAR-compliance must be passed along to the customer, the current application of ITAR has harmed the ability of U.S. companies to compete on the world market. The seriousness of this regulatory impediment is perhaps best illustrated by the practice of certain European satellite manufacturers to market "ITAR-free" satellites – that is, satellites that are free of the regulatory complexities and associated costs that flow from ITAR. Such advertising ploys are not mere gimmicks, but reflect the real benefit that satellite operators enjoy when purchasing satellites that are beyond the reach of ITAR. As a result, European satellite sales have increased, cutting deeply into the market-

share of U.S. manufacturers. Complying with ITAR is particularly difficult for smaller companies that do not have an in-house legal staff specializing in export controls and already face a multitude of challenges as they attempt to establish themselves in the marketplace.

Technically speaking, ITAR prohibits the export of any “defense article” without a license from the Directorate of Defense Trade Controls (DDTC).¹ All items listed on the USML qualify as “defense articles,” including, among other things, all “spacecraft” and “satellites” – which would presumably include Bigelow’s space stations.²

Of particular importance to Bigelow Aerospace was that the concept of an “export” is broadly defined under ITAR as including not only the physical movement of defense articles across the borders of the United States, but also the disclosure of any “technical data” relating to spacecraft to a foreign national – even if the foreign national is in the United States at the time of disclosure.³ The term “technical data” is further defined as any information “required for the design, development, [or] production ... of defense articles.”⁴ Disclosure of such technical data without DDTC approval is prohibited regardless of the form in which such data is displayed or stored (whether in documents, models, or other items) and regardless of how the data is communicated (whether by the sharing of documents, email, conversation, or by visual inspection).⁵ As a result, the mere presence of a foreign national on a Bigelow space station would be deemed to be an “export” and would require a license.

Moreover, the provision of any “defense services,” which include the provision of technical data, requires a Technical Assistance Agreement with the recipient of

the data which must then be approved by the DDTC.⁶ The burdens of ITAR grow far greater when a U.S. company launches a space object from non-NATO territory. First, a Technology Control Transfer Plan has to be approved by the Department of Defense.⁷ Second, the Department of Defense has to be notified in advance of any discussions with foreign nationals related to the launch – and the DOD then has the right to monitor these discussions.⁸ Finally, the DOD has the right to send agents to the launch site to monitor the launch as well as all related activity and discussions (with all travel expenses being borne by owner of the space object).⁹

III. THE IMPACT OF ITAR ON BIGELOW AEROSPACE

The regulatory burdens of ITAR have been eloquently described by Michael Gold, the Corporate Counsel and Director of the Washington office of Bigelow Aerospace. In various publications, Mr. Gold has described the surprisingly onerous (and often nonsensical) demands that have been placed on Bigelow Aerospace as the company launched its prototype space stations into orbit from Russia.¹⁰

In what has become one of the more famous examples of the regulatory burden imposed by ITAR, Mr. Gold has described how Bigelow Aerospace was required to cover the travel expenses of DDTC officials who traveled to Russia to monitor the launch of Bigelow’s prototypes in Russia in order to ensure that the technology would not be

⁶ *Id.* §§120.9, 124.1 *et seq.*

⁷ *Id.* §124.15(a)(1).

⁸ *Id.* §§124.15(a)(1), 124.15(a)(2).

⁹ *Id.* §124.15(a)(2).

¹⁰ See, e.g., Interview with Michael Gold, *Res Communis*, April 28, 2008, at <http://rescommunis.wordpress.com/2008/04/28/interview-mike-gold-corporate-counsel-bigelow-aerospace>; see also Mike N. Gold, *Lost in Space: A Practitioner’s First-Hand Perspective on Reforming the U.S.’s Obsolete, Arrogant, and Counterproductive Export Control Regime for Space-Related Systems and Technologies*, 34 *Journal of Space Law* 163 (2008).

¹ *International Traffic in Arms Regulations*, 22 United States Code of Federal Regulations §127.1(a)(1) (hereinafter, C.F.R.).

² *Id.* §§120.6, 121.1 (Category XV).

³ *Id.* §120.17; see also *id.* §125.2(c).

⁴ *Id.* §120.10(a)(1).

⁵ *Id.*; see also *id.* §§120.6, 125.2(c).

shared with unauthorized individuals. The government monitors kept watch over all of Bigelow's equipment no matter how ordinary – including a stand that was nothing more than a simple table used to hold one of the company's prototype space stations prior to it being loaded into the Space Head Module of the Dnepr.¹¹

Although Mr. Gold's candid commentary on Bigelow's struggles with the ITAR regulations is at times pointed, he is at the same time always fair – and even complimentary – in his statements about the DDTC staff who make rulings on a daily basis about how ITAR applies to particular situations. He praises the DDTC officers who are on the front lines every day making difficult determinations about the flow of dangerous technology as “very intelligent individuals within the Department of State.”¹² And his comments on ITAR go beyond simple observations. Mr. Gold has written insightfully about the potential unconstitutionality of certain aspects of ITAR and has made promising recommendations for reform, such as his call for the granting of greater discretion to the DDTC officers who decide whether (and under what conditions) a license is necessary for the export of a particular product.¹³

Prior to the DDTC ruling that is the subject of this paper, Bigelow Aerospace would have had to request a license from the DDTC before allowing any foreign national to set foot on one of its space stations. For example, if Bigelow placed into orbit a space station that was to be visited by foreign nationals, ITAR would have required that Bigelow obtain a license (by submitting a DSP-5 form) for each foreign national that was anticipated to inhabit the space station. This requirement would also apply to any third party that might purchase a Bigelow space station. That is, if Bigelow

placed a space station into orbit and then transferred the station to a U.S. purchaser, the purchaser would have to obtain a license prior to permitting a foreign national to enter the space station. In addition to the costs of seeking such a license, there would also have been a risk that the DDTC would deny a license, thus preventing the foreign national from entering the space station at all.

In addition, Bigelow would have been required to enter into a Technical Assistance Agreement with each foreign passenger (which would then be subject to approval by the DDTC). Bigelow also faced the possibility that the more burdensome requirements regarding the creation of a Technology Transfer Controls Plan and DOD monitoring of all conversations with foreign passengers would be triggered if the space stations were launched from non-NATO countries.

That these requirements would have jeopardized the success of Bigelow's operations is clear. For example, if a space station were being used as a manufacturing facility, the pool of potential non-U.S. customers would be threatened by the ITAR requirements – which could destroy the sustainability of the venture, given the small overall size of the global client pool.

IV. OVERVIEW OF COMMODITY JURISDICTION REQUESTS

One way that a company can escape the burdens of ITAR compliance is to ask the DDTC to remove the company's technology from the USML by way of a “commodity jurisdiction request” (referred to hereinafter as a “CJ request”).¹⁴ When submitting a CJ request, the applicant is requesting that the DDTC remove the applicant's technology from the USML – thus transferring the technology to the jurisdiction of the Department of Commerce (DOC) and its Export Administration Regulations (EAR).

The benefit of a jurisdiction transfer to the DOC can be significant (depending on

¹¹ Res Communis, *supra* note 6.

¹² *Id.*

¹³ Leonard David, *Genesis-1: Reaching Escape Velocity from Red Tape*, Space.com, July 26, 2006, at http://www.space.com/business/technology/o60726_itar_genesis-1.html.

¹⁴ 22 C.F.R. §120.4.

the technology being transferred) because the EAR are notably less burdensome than are the controls under ITAR. Generally speaking, a company is far less likely to be required to seek a license from the DOC prior to the export of a controlled item (due to numerous exceptions to the license requirement and the lenient treatment of exports to friendly countries). That said, the EAR are similar to ITAR in one important respect, namely, that both the EAR and ITAR treat the sharing of controlled technology with a foreign national as an export (such sharing of information termed a “deemed export” in the EAR).¹⁵

V. BIGELOW AEROSPACE’S COMMODITY JURISDICTION REQUEST

On December 27, 2007, Bigelow Aerospace submitted a CJ request to the DDTC seeking to remove its expandable space platform technology from the USML.¹⁶ Although the DDTC usually strives to make a determination within sixty days of submission, a decision was not to be issued in this case for sixteen months. Michael Gold remained philosophical during what was unquestionably a suspenseful time for him and Bigelow Aerospace. When asked about the long wait, he showed no impatience, but instead insisted that he was more interested in a good decision rather than a speedy decision.

The suspense was broken on April 22, 2009 when Bigelow Aerospace announced that the DDTC had responded favorably to its CJ request.¹⁷ The DDTC had ruled that the presence of foreign nationals on a Bigelow space station was “non-licensable”

under ITAR.¹⁸ Michael Gold had succeeded in his argument that just because a person has seen a space station doesn’t mean that he or she can build one.

This ruling was rather unusual, in that the DDTC will typically decide to either remove the technology at issue from the USML (thus transferring jurisdiction over the EAR and the Department of Commerce) or to keep the technology on the USML – and continue to require licenses for export. In Bigelow’s case, the technology remained on the USML, but the requirements for a license, Technical Assistance Agreement, Technology Transfer Control Plan, and monitoring will no longer apply with respect to the mere presence of foreign nationals on board a Bigelow space station.

Although it may appear that Bigelow Aerospace fell short by not succeeding in having their technology removed from the USML, this ruling may turn out to be the best result for Bigelow since a transfer of their technology to the Department of Commerce would have likely meant that a license would have to have been sought under the EAR. However, under the “non-licensable” ruling, Bigelow does not have to apply for licenses from either the DDTC or the Department of Commerce.

Prior to this decision by the DDTC, the presence of foreign nationals on a Bigelow space station would have triggered the various burdens under ITAR. The continuation of this policy would have placed an extraordinary burden on Bigelow due to the expensive and time-consuming process of complying with these requirements for each foreign national present on a Bigelow space station. Bigelow’s successful CJ request has removed these obstacles and, as a result, has breathed new life into the private spaceflight industry.

It is worth noting that the DDTC ruling is not without its limits. For example,

¹⁵ 15 C.F.R. §734.2(b)(2)(ii).

¹⁶ *Space News*, “Bigelow Petitions State for Export Jurisdiction Change,” March 3, 2008; *Economist*, “Space Technology: Earthbound. Export Control in the Space Business has Gone Overboard,” Aug. 23, 2008.

¹⁷ Bigelow Aerospace has not released to the public either its commodity jurisdiction request or the DDTC’s response.

¹⁸ As Michael Gold describes it, the ruling covers not only the flight phase, but applies to the entire “passenger experience” (which has several aspects, from sales to training – and, ultimately, the flight).

prospective passengers who are nationals of the so-called “Section 126.1 countries” would still need a license from the appropriate agency before being able to enter a Bigelow space habitat.¹⁹ Section 126.1 of ITAR states that “[i]t is the policy of the United States to deny licenses and other approvals for exports and imports of defense articles and defense services, destined for or originating in certain countries . . . , [including] Belarus, Cuba, Iran, North Korea, Syria, and Venezuela” as well as to “countries with respect to which the United States maintains an arms embargo (e.g., Burma, China, Liberia, and Sudan).”²⁰ Whether foreign crew members will also be allowed to fly without a license could also conceivably depend on their duties on board and their area of expertise, since individuals with technical expertise who are engaged at work on board may be deemed as more capable of accessing and understanding the technology around them.

VI. THE FUTURE IMPACT OF BIGELOW’S COMMODITY JURISDICTION REQUEST

The DDTC’s ruling on Bigelow’s CJ request has been heralded by other spaceflight companies as a major breakthrough that promises to significantly ease the regulatory burden on their operations.²¹ Marc Holzapfel, counsel to Virgin Galactic, called the ruling a “major development” that will enable space companies to avoid the “complicated, expensive, and dilatory export approval process.”²² Likewise, the chief counsel of SpaceX, Tim Hughes, praised the DDTC for adopting “a common-sense approach to ITAR.”²³

Although the DDTC’s ruling applies

only to Bigelow, it is likely that other space companies will receive the same response to similar CJ requests. There have been some (unconfirmed) reports that both SpaceX and Virgin Galactic have filed their own CJ requests that rely on Bigelow’s CJ request as precedent. If these companies receive a similar ruling from the DDTC, the space tourism/human space flight industry will suddenly have easier access to the market of foreign nationals – both as passengers on space tourism flights and potentially as crew members.

From a broader perspective, Bigelow’s successful CJ request may signal a paradigm shift in the application of ITAR – or at least provides an encouraging indication of the DDTC’s sensitivity to the needs of the commercial spaceflight industry. If the DDTC continues to exercise its discretion with an understanding of how to balance national security with commercial reality, the commercial space industry would likely benefit from a reasonable relaxation of export controls.

The success of the Bigelow CJ request may also point the way forward with respect to the greater challenge of reducing the ITAR burden on the commercial space industry as a whole. For example, space companies should consider cooperating in an orchestrated series of CJ requests that will have the effect of carving out certain commercial technologies from ITAR control. This reliance on the authority and discretion of the DDTC officers and other administrative staff is perhaps a more realistic alternative to formally amending the regulations. In the age of terrorism, politicians are wary of supporting a bill that eases the controls over munitions. By giving the DDTC officers an opportunity to tailor the application of the existing regulations in a reasonable manner, the burden of ITAR on commercial space enterprises could be reduced significantly. Since a CJ request only affects the operations of the requesting company, broad reform would require a large number of space companies to file their own request. This would be a daunting task, but is one

¹⁹ 22 C.F.R. §126.1.

²⁰ *Id.*

²¹ Natasha Loder, *Breaking News on US Export Control*, Overmatter, April 22, 2009, at <http://natashaloder.blogspot.com/2009/04/breaking-news-on-us-export-control.html>.

²² *Id.*

²³ *Id.*

that could be made easier if companies would share their CJ requests in order to enable other companies to submit similar requests. This would obviously require the sharing of valuable information with competitors – but would be done in order to achieve the greater goal of improving the competitiveness of the U.S. industry as a whole. A nonprofit organization might also be created to assist companies with their CJ requests. This flood of CJ requests could alone transform the ITAR regulatory environment – but it might also compel the formal amendment of the ITAR regulations so that commercial space technology would be removed from the USML, and thus spared from the crushing weight of ITAR compliance.

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Mon Nov 4 15:45:03 2019

Citations:

Bluebook 20th ed.

Mark J. Sundahl, Bigelow Aerospace's Commodity Jurisdiction Request under ITAR and its Impact on the Future of Private Spaceflight, 52 Proc. Int'l Inst. Space L. 462 (2009).

ALWD 6th ed.

Mark J. Sundahl, Bigelow Aerospace's Commodity Jurisdiction Request under ITAR and its Impact on the Future of Private Spaceflight, 52 Proc. Int'l Inst. Space L. 462 (2009).

APA 6th ed.

Sundahl, M. J. (2009). Bigelow Aerospace's Commodity Jurisdiction Request under ITAR and its Impact on the Future of Private Spaceflight. Proceedings of the International Institute of Space Law, 52, 462-470.

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Mark J. Sundahl, "Bigelow Aerospace's Commodity Jurisdiction Request under ITAR and its Impact on the Future of Private Spaceflight," Proceedings of the International Institute of Space Law 52 (2009): 462-470

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