PRIVATE IN HUMAN ACCESS TO SPACE AND INCENTIVE BASED REGULATION IN THE UNITED STATES

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Abstract

In recent years, private human access to outer space has become one of the most high profile future space activities. Numerous companies view “space tourism" as an industry that will lead to large financial gains. Nations have begun to court these companies in order to incentivize them to locate within that State's borders. This is often accomplished with favorable regulatory regimes, and arguably, the United States has led this charge with its Commercial Space Launch Amendments Act, but within the United States there is another layer of these sorts of regulations: individual states have been legislating and regulating to bring space flight companies within their own borders.

This paper will overview space laws and regulations found within individual states of the United States and evaluate how those states are leveraging these regulatory regimes in order to attract high profile companies offering private human access to outer space. These regimes come in numerous forms including liability waivers and favorable tax conditions.

Additionally, this paper will investigate how these regulations fit into the fabric of already existing law by examining issues of regulatory conflict with federal law, and it will also discuss whether these individual state laws have implications for the international treaty regime. A full understanding of the multiple layers of space regulation is important to parsing the various goals of the laws involved. In particular, laws and regulations made to create incentives differ in scope than law created to fulfill international obligations. These new sub-national regimes represent a new nuance in space law development.

I. Introduction

Recently, the body of space law has been experiencing rapid growth. This growth has come primarily at the national level as more States see the utility in adopting national space laws. However, another source for the growth in space law can be found at the sub-national level. While this has been occurring in a number of regions, it is most obvious in the United States where individual states[1] have been adopting legislation in an attempt to harness the benefits that space activity brings economically.

The rules created by sub-national entities tend to differ from national regulations in both the scope and the goals of the laws that have traditionally constituted the *corpus juris spatialis*. This paper will seek to examine and give the context for these laws. The first section of this paper will give a brief overview of the context in which these laws have been adopted. Next, it will examine and give a taxonomy of the types of laws that have been most prevalent. Then, it will move to a discussion of the scope and goals of these laws, and its final section will identify specific challenges presented by these laws.

This paper will focus on laws passed by states of the United States, but it should not be forgotten that this trend can be seen elsewhere in the world. The United States has been chosen because it is a prominent example, but

[1] For the purposes of this article when State is used with a capital “S” it will refer to a nation, when state is used with a lowercase “s” it will refer to a state of the United States.

the analysis attempts to place these laws in a global context.

II. Context

In today's society the idea of commercial space travel has captured the imagination of the media. News stories touting the possibilities and promise of the fledgling industry run frequently, and have not gone unnoticed by the public in general. Much of this fascination stems from concepts such as space tourism and moon mining. Many individuals believe that these industries hold great promise for society and some go as far as claiming that they are the key to civilization's future. This article does not seek to analyze whether the hype for the commercial space industry is justified or not. Instead, it will only use the phenomena as the context for emerging sub-national law.

As, the media has embraced stories about the commercial space industry, national governments have also taken note and created legislation acknowledging and enabling this industry. The prime example is the Commercial Space Launch Amendments Act (CSLAA)[2] in the United States. This act gave regulatory authority over commercial human space transportation activities to the Federal Aviation Administration (FAA).[3] While this law is important for its regulatory affect, it should be noted that it also has great importance as it recognizes and to some extent validates commercial space flight as a viable industry. Additionally, space policies have begun to embrace the commercial space industry. The most recent United States Space Policy adopts commercial space transportation as a critical part of the United States space transportation infrastructure.[4]

It would be absurd to think that sub-national governing bodies would not take notice of both the media hype and validation for the industry from their national counterparts. It is in this context that these entities began to adopt legislation concerning the commercial space industry. Likely, many have seen it as a unique opportunity to attract a high tech industry into their borders. It is in this context that these laws have been adopted, and this context is crucial to understanding the scope and goals analyzed in this paper below.

III. A Taxonomy of Sub-national Space Laws

There are a variety of types of sub-national space laws. This section will divide them into discrete types, describe their basic forms, and give examples of each type.

A. Industry Support

The first type of sub-national regulation is that of industry support. These are laws that seek to create an environment that supports the space industry by enhancing infrastructure and support. In general, these laws create space authorities and spaceports.

A good example is Space Florida. Space Florida is a space authority created by Florida Statute to "foster the growth and development

[2] Commercial Space Launch Amendments Act of 2004, Pub. L. No. 108-492, 118 Stat. 3974 (2004). *See generally* Timothy Hughes and Esta Rosenberg, *Space Travel Law (and Politics): The Evolution of the Commercial Space Launch Amendments Act*, 31 J. SPACE L. 1 (2005).

[3] *See Tracey Knutson, What is ''Informed Consent'' for Space Flight Participants in the Soon-to-Launch Space Tourism Industry?,* 33 J. SPACE L. 105, 105-106 (2007).

[4] NATIONAL SPACE POLICY OF THE UNITED STATES OF AMERICA at 10 (June 28, 2010). The policy requires the government to "[p]urchase and use commercial space capabilities and services to the maximum practical extent when such capabilities and services are available in the marketplace and meet United States Government requirements," and to only "[d]evelop governmental space systems only when it is in the national interest and there is no suitable, cost-effective U.S. commercial or, as appropriate, foreign commercial service or system that is or will be available." *Id.* It should be noted that this policy was adopted after many of the laws discussed in this paper were adopted, but in this context it shows the continued validation of the industry by the government.

of a sustainable and world-leading aerospace industry in this state. "[5] In order to accomplish this the legislature has vested the authority with the power "to lend money for its purposes, to issue revenue bonds, and to 'own, acquire, construct, develop, create, reconstruct, equip, operate, maintain, extend, and improve' infrastructure vital for space activities including launch pads, spaceports, and other facilities."[6]

Another type of industry support is the building of infrastructure. This infrastructure most often comes in the form of a spaceport. Several states have adopted this particular strategy. The most prominent has been New Mexico and its Spaceport America. Spaceport America is the result of the 2005 Spaceport Development Act which creates a Spaceport Authority[7] and gives it a variety of powers so that it can work toward the development of a spaceport in New Mexico.[8] The spaceport itself was then funded by local option sales taxes by the counties[9] and municipalities[10] nearest the spaceport.

Numerous states have adopted such strategies: Alaska,[11] California,[12] Hawaii,[13] Oklahoma,[14] and Wisconsin.[15]

B. Economic Incentives

Economic incentives are often given to the commercial space industry by states. These laws create industry specific financial incentives. Most often these come in the form of tax breaks for the industry.

A good example of this can be found in the 2008 Zero G, Zero Tax bill in Virginia.[16] Under this bill there will be no state "taxation on profits made from launching private individuals into space (or simulating the launch for training purposes) or on profits made from 'resupply services contracts for delivering payload . . . entered into with the Commercial Orbital Transportation Services [COTS] division of the National Aeronautics and Space Administration [NASA] or other spaceflight entity.'"[17] As can be seen this law creates a reduction of tax liability for a company operating in the state of Virginia engaging in specific activities. These sorts of statutes can be drawn much differently. For instance, In California there are tax exemptions for the sale of space flight property,[18] in Florida there are tax incentives for job creation activities,[19] and in Oklahoma they come in the form of *ad valorem* exemptions.[20]

Tax incentives have a proven record of attracting industry as can be seen in Orbital Sciences decision to locate its launch operations in the State of Virginia in response to Virginia's Zero G Zero Tax bill.[21]

C. Industry Protection

In industry protection activities the law seeks to protect the industry from liability third parties. So far, these have come almost

[5] FLA. STAT. § 331.302(1).
[6] P.J. Blount, *If You Legislate It, They Will Come: Using Incentive-Based Legislation to Attract the Commercial Space Industry,* AIR & SPACE LAWYER, v. 22, no. 3, 20, 19-20 (2009).
[7] N.M. Stat. 58-31-4 (2011).
[8] N.M. Stat. 58-31-5 & 58-31-6 (2011).
[9] N.M. Stat. 7-20E-25 (2011).
[10] N.M. Stat. 7-19D-15 (2011).
[11] Alaska Stat. 14.40.821 (2011) (creating the Alaska Aerospace Corporation).
[12] CAL GOV'T CODE § 13999 (2009) (Creating the California Spaceport Authority).
[13] Haw. Stat. §§201-71-201-75 (2011)
[14] Okla. Stat. § 85.3 (2011).
[15] Wis. Stat. §§ 114.61-114.78 (2011).
[16] VA. CODE §§ 58.1-322 and 58.1-402 (2011).
[17] Blount, *supra* note 6, at 20-21.
[18] Cal Rev & Tax Code § 6380 (2010).
[19] FLA. STAT. § 288.1045 (2011).
[20] FEDERAL AVIATION ADMINISTRATION, STATE SUPPORT FOR COMMERCIAL SPACE ACTIVITIES 22 (2009).
[21] Official Site of the Governor of Virginia, News Release, Governor Kaine Announces 125 New Jobs for Virginia: Orbital Sciences Corporation to Invest $45 million for Assembly and Launch Infrastructure of New Rocket in the Commonwealth (June 9, 2008), http://www.governor.virginia.gov/MediaRelations/NewsReleases/viewRelease.cfm?id=679.

exclusively in the form of informed consent waivers that protect commercial human space transportation industry actors from lawsuit by the space flight participants that choose to participate in these activities.

These waivers are generally modeled on the federal regulations promulgated by the FAA.[22] While the FAA regulations protect space flight operators from federal tort claims, state statutes seek to protect space flight operators from state tort liability. This has become an important issue for the space flight operators. Since there are no standards to describe what is or is not a best practice, the industry has good reason to fear the damaging effects of a law suit in such a dangerous enterprise. To this end at least four states have adopted these waivers: Florida,[23] New Mexico,[24] Texas,[25] and Virginia.[26] These statutes require that space flight participants sign a waiver that puts them on full notice of the dangers of the activity that they plan to take part in and that there is no civil liability remedies for injuries or death that occur as a result of these activities. The result being that a space flight participant is precluded from recovering in a negligence lawsuit in the case of injury or death.

IV. Scope and Goals

A. Lawmaking at the National Level

Space law at the national level is motivated by a variety of factors. One of the primary reasons for adopting national space law as well as one of the primary concerns in adopting national space law is compliance with international obligations.[27] While licensing regimes in general can accomplish many goals that a State would be interested (creating revenue streams, creating control over non-governmental actors, national security goals, etc.), it also ensures that a State is in compliance with the Outer Space Treaty's obligation to authorize and continually supervise non-governmental actors.[28] Licensing regimes also allow States to put preconditions on licenses that help States to fulfill international obligations. For example, the Federal Communications Commission (FCC) includes the requirement that non-governmental actors include orbital debris mitigation plans in their application for a license.[29] Thereby, the State uses the licensing system to ensure that non-governmental actors do not cause a State to violate its obligations under the treaty.

Compliance with international law is a primary factor in State lawmaking. Breach of international obligations comes with the risk of liability and international responsibility. There are also secondary risks involved with breaches of obligations such as damage to the space environment, loss of confidence in the space law system, and destabilization of international order and diplomatic processes. The space treaties are, at their core, security treaties and as such they are part of the matrix that seeks to enhance international peace and security. Disruption in this system is a high risk for States, especially when it can have direct flow down effects to the disarmament and arms control regime as well as other areas of law.

B. Lawmaking at the Sub-national Level

The new trend in space law making found at the sub-national level has an

[22] 14 C.F.R. § 460.1 *et seq*. (2008).
[23] FLA. STAT. § 331.501 (2011).
[24] N.M. Stat. Ann. §§ 41-14-1 – 41-14-4 (2011).
[25] Tex. Civ. Prac. & Rem. Code §§100A.001-100A.003 (2011).
[26] VA. CODE §§ 8.01-227.8-8.01-227.10 (2011).
[27] That is to say, States adopt space laws to ensure that they comply with international law, and in adopting space law indirectly connected to international obligations that a primary concern is that that law also complies with a State's international obligations.
[28] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies Art. VI, opened for signature Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].
[29] 47 CFR 25.114(c)(14) (2011)

inherently different set of priorities in its adoption. These political units are using legislation not to fulfill international obligations but to instead lure the space industry into their borders. National laws have long had fostering the economic growth of the space industry as one of their goals, but this has always been balanced by the need to fulfill international obligations. Sub-national legislation differs in that its scope and in the goals it seeks to achieve are wholly unrelated to the international regime.

The scope of these laws generally does not regulate in the sense of placing limitations on the subjects of the law. Instead it tends to give rights and benefits to the class that it governs. Whereas national legislation creates both benefits and obligations, sub-national regulation almost always exclusively benefits the private industry. There is for good reason for this: the goals of the legislation are different.

Legislation at the sub-national level has the goal of creating incentives for doing business within the borders of a specific region.[30] These laws, rarely if ever, seek to create compliance with international space law. In fact, in general, they do not have to. So it is not that they are noncompliant, but the obligation of compliance vests in the State, not the sub-State.[31] Since State legislation protects the State's interests, sub-national actors lack a specific need to create compliance mechanisms. For instance, New Mexico government does not need to provide authorization and supervision because the United States government is already providing it through its complex licensing regime. The result is that sub-national lawmaking tends to result in enabling rules as opposed to prescriptive ones, which is fundamentally different from the lawmaking process at the national level.

A good example of this can be seen in the FAA waivers in the Human Spaceflight Requirements. These waivers have a complex set of goals, the primary goal is to not prematurely hamper the commercial human space flight industry with regulation before it is understood exactly what regulation is needed.[32] They also though sought to protect the public from dangerous activities.[33] Industry and public welfare are at the heart of the Space Flight Regulations. State waivers are different, in that they seek neither to ensure any sort of safety standards nor to regulate the activity in any substantive way. Instead the primary goal is to protect the company from liability as a way of making that States territory a beneficial one in which to do business.

V. Challenges

A. Compliance with International Law

The primary challenge to such regulation is immediately obvious: if these laws

[30] States have also attempted to do this at the national level. Australia adopted a comprehensive space law in an attempt to attract the space industry (it failed). *See* Stephen Freeland, *Sensing a Change? The Re-Launch of Australia's Space Policy and Some Possible Legal Implications*, 36 J. SPACE L. 381, 389-390 (2010). Other States, such as Tonga, have attempted the "no law here route," wherein they advertise the lack of regulation as a means to attract the industry. TongaSat Services, *available at* http://www.tongasat.com/services/index.htm (last visited Oct. 3, 2011).

[31] Traditionally, international law has had the State as its primary subject. As such the State is bound by International law and it is the State's duty to ensure that the actions of the entities that it controls do not cause the State to breach its international obligations. This traditional view has been challenged in that some parts of international law have begun to govern individuals directly such as international criminal law. The State however still remains central to the workings of international law and as such, for the purposes of this paper, that it is incumbent on the State to ensure that entities within it's borders do not breach the international obligations created by international law. This is especially so in International Space Law since Article VI of the Outer Space Treaty shifts greater responsibility to the State for actions of others within its boundaries.

[32] Hughes and Rosenberg, *supra* note 2, at 46.

[33] *Id.*

do not ensure compliance with international space law, then might they create situations in which breaches occur? In short the answer is most likely no. States should always ensure compliance with international law via their domestic legislation. Sub-state entities, should in general be preempted from breaching international law. In monist systems this is a fairly easy task since, when accepted by a State, international law becomes binding law on the subjects of the State – including the sub-national actors.

In dualist systems this becomes more difficult. In these systems, international law needs to be affirmatively enacted in order to make the law binding on the subjects of the State. For instance, in the United States if a treaty is not self-executing it does not become the law within the nation without enabling legislation, yet the State itself is still bound by the treaty.[34] If such enabling legislation is not enacted, then these obligations may not be able to be enforced in national courts; however, this does not absolve States in cases of breaches. An example of this is the case of *Medillin v. Texas* case. In that case the United States Supreme Court ruled that the obligations of the Vienna Convention on Consular Relations were not binding on the state of Texas, because the United States Congress had failed to adopt enabling legislation.[35] However, the International Court of Justice found the United States to be in breach of its treaty obligations for Texas' actions in the *Avena* case. [36]

As stated, it is in a State's interest to ensure compliance with international law, therefore States must be sure to not only enact the proper national legislation, but also to work with its sub-national actors to make sure that the laws that are passed at that level are compliant.

B. Conflicts with National Law and Policy

There is also the possibility of conflicts with laws at the national level. Normally, such laws will be pre-empted by national laws, but there are times when conflicts occur that do not necessarily result in pre-emption. For example, this author has argued before that there may be conflicts between the International Traffic in Arms Regulations (ITAR) and the Human Spaceflight Requirements, in that for the informed consent waiver to function as expected ITAR protected data may need to be conveyed to space flight participants.[37] The same would be true of the similar waivers at the state level, which could render the waivers ineffective.

Similarly there could be conflicts between state law and national policy that results in conflicts, but conflicts of law and policy should be handled through a cooperative process that takes place between sub-national and national government. It is important that States work with their sub-national units to ensure that there is a unified effort in space activities. The space authorities that many states are creating can help to coordinate cooperation in this area.

C. Shortsightedness

Many of these laws are adopted to encourage the flashier elements of the commercial space industry, like space launches and space tourism. However, the space industry is a high-tech and diverse industry. Sub-national actors need to be aware of this and embrace the full spectrum of space activities in order to achieve their goals.

[34] While treaties "may comprise international commitments . . . they are not domestic law unless Congress has either enacted implementing statutes or the treaty itself conveys an intention that it be 'self-executing' and is ratified on these terms." Medellin v. Texas 552 U.S. 491, 505 (2008).

[35] *Id.* The court also held that ICJ Decisions are not binding on U.S. courts. *Id.*

[36] *Avena* (Mexico v. United States 2008 I.C.J. 311 (2008).

[37] P.J. Blount, *Informed consent v. ITAR: Regulatory conflicts that could constrain commercial human space flight*, 66 ACTA ASTRONAUTIC 1608-1612 (2010). For an alternate view see Mark Sundahl, *Space Tourism and Export Controls: A Prayer for Relief,* 74 J. Air. L. & Commerce 581-618 (2011).

This is a challenge for the space community. The community must ensure that the government is properly educated about the many facets of the industry and that support for the industry as a whole becomes central to government action. In fact the space authorities contemplated in these laws can have a great deal of leverage in gaining benefits for the less high profile elements of the space industry.

VI. Conclusion

While this paper has focused mainly on the United States, there are international corollaries such as the laws adopted in the Isle of Man and Curacao. It is likely that these sorts of regulations will become more prominent, especially if the space industry lives up to the hype surrounding it. States and their sub-national actors often have different interests and goals in mind when adopting laws, but they should work together in order to ensure that they are not in conflict.

This new trend creates new challenges, since it creates a new layer of space law, but it also creates new opportunities for the commercial space industry, which may lead to success.