

# SPACE LAW & POLICY 2010

## SWF Summary

### INTRODUCTION

Space Law & Policy 2010 was a high-level seminar that examined the breadth and reach of space regulations on U.S. activities – civil, commercial, and governmental. The seminar took place at the Carnegie Endowment for International Peace building in Washington, DC on Tuesday, May 11, 2010. It opened with welcomes from representatives of each of the sponsoring organizations: Ray Williamson from Secure World Foundation (SWF), Clay Mowry from Arianespace, Corinne Jorgenson from the International Institute of Space Law (IISL), Jean-Michel Contant from the International Academy of Astronautics (IAA), and Kai-Uwe Schrogl from the European Space Policy Institute (ESPI).

### KEYNOTE ONE – Richard DalBello and Michael Mendelson

Welcomes were followed by Mowry's introduction of the seminar's first keynote address, which was delivered by Richard DalBello, Vice President of Legal and Government Affairs for Intelsat General and member of Secure World Foundation's Advisory Committee. In it, he focused on the efforts undertaken by his company in partnership with two other major commercial satellite operators (SES and Inmarsat) to establish the Space Data Association (SDA). He explained that as space becomes increasingly crowded, the need to identify and track where space objects are and will be grows increasingly urgent. Currently, this need is met primarily through SpaceTrack.org, which is maintained and updated by the Joint Space Operations Committee (JSpOC) at U.S. Strategic Command (STRATCOM). While this database is useful, the information it provides is limited. DalBello acknowledged this important service provided by the U.S. government, but also pointed out that private companies often know more details about the space environment than political entities do. As such, the private sector needs to be more involved in these tracking efforts. Intelsat teamed up with SES and Inmarsat to develop a private sector solution to the problems of tracking and sharing information about their space assets more efficiently and effectively. The outcome of their efforts was the SDA.

DalBello described the SDA's goals and methods. The SDA aims to standardize and compile in a uniform and confidential format the much more precise information about space objects known by their operators and merge this information database with the knowledge already gathered and maintained by JSpOC. The ultimate goal is not to replace the U.S. government's efforts, but rather to augment them in the hope of building a comprehensive and accurate database that can reduce and/or eliminate the threat of radiofrequency interference and potential collisions. After running a successful pilot program a few years ago, these three largest commercial satellite operators decided to move forward, create SDA, and invite others to join. Many other satellite operators and countries have already expressed interest in joining. The SDA's Space Data Center is headquartered on the Isle of Man and will be operated by Analytical Graphics and MANSAT.

DalBello was accompanied by Michael Mendelson, Assistant General Counsel for Intelsat General. In his remarks, Mendelson emphasized the multilateral nature of the SDA. Since membership is open to any interested party, it is important that the SDA does not appear beholden to any one particular state. The structure of the SDA's board and decision-making process reflects this priority. In addition, Mendelson

explained that the SDA's long-term goal of establishing data center facilities across the world will enhance operations and further reflect its multilateral nature. He underscored again the complementarity of this private sector effort with those already undertaken by governments and intergovernmental agencies and the willingness of the SDA to cooperate with these entities in ensuring a safe operating environment in space. For example, the SDA is already cooperating with the United States and is exploring how to include states and other governmental agencies as formal SDA members.

The keynote was followed by questions from the audience that addressed liability concerns, the cost-benefit analysis of the SDA endeavor, and membership requirements. In response to a question on liability, Mendelson refrained from going into detail since the SDA's liability protocol is not yet finalized, but he did mention that the system would incorporate checks and balances and would take all precaution in protecting the information it makes available to SDA members. Regarding cost-benefit analysis, Mendelson noted that the SDA hopes to be the most cost-effective option as compared to other individual tracking efforts. Many operators outsource or internalize this sort of tracking necessity, leading to redundant capabilities and spending among the various operators. Working together would cut down on individual costs in the long run. Lastly, DalBello stated that SDA membership is open to any space operator that is willing to contribute data. While there is not yet a specific membership category for government or military operators, the basic idea is that if they want to participate, the SDA will figure out a way for that to happen. DalBello reiterated that members will only have access to information that is relevant to the safe operations of their own space assets.

**PANEL ONE – The Commercial Space Legal Perspective – What are the top three biggest legal challenges for U.S. space industry?**

Patricia Cooper, President of the Satellite Industry Association (SIA), moderated the panel comprised of Sasha Field, Senior Vice President and Deputy General Counsel for Law and Public Policy at TerreStar Networks; Kalpak Gude, Vice President and Deputy General Counsel at Intelsat; Linda Kinney, Vice President of Law and Regulation at EchoStar Satellite; and Dean Manson, Senior Vice President, General Counsel and Secretary at Hughes Network Systems. Cooper opened by asking each panelist to discuss the three issues that most trouble them. Manson identified his most worrisome issue as the direction broadband policy is going in the United States. Particular concerns for Manson are how the Federal Communications Commission (FCC) categorizes broadband and the impacts this will have on the satellite industry, and export compliance, specifically with regard to the International Traffic in Arms Regulations (ITAR). For Gude, the most disconcerting issues include satellite anomalies like the Galaxy 15 event, satellite spectrum policy, the financial stability of customers and the overall health of economy, as well as ITAR. Field began by stating that her concerns would differ from the others since TerreStar Networks is a young company in comparison to the others represented on the panel. As a result, the issues that trouble her most included financing and capitalization, as well as keeping track of evolving data laws and relevant policy. However, she was also concerned with the current state of ITAR regulation in the space sector. Kinney also noted that her concerns would differ from the others because she works in a direct-to-home business, meaning that EchoStar directly services consumers with its satellite television services. She worries most about her company's internal legal budget, laws that do not accurately reflect technological or industrial change, and the difficulty of educating regulators about this changed environment.

Cooper added that SIA recognizes the need for a two-step process that educates decision-makers about the complexities of the satellite business while also eliciting a willingness to face them. The panelists agreed that education is key, whether it involves educating those within their companies that are unaware of the legal obstacles that may hinder business, or educating government officials and

policymakers about how satellite industry operates, or educating the financial sector on how satellite industry differs from other investment opportunities. The speakers argued that more should be done to anticipate the development of regulations and policies that will impact these companies' activities in order to more effectively allocate their limited legal budget. Gude remarked that he spends a significant amount of his time trying to educate internally about pertinent policies and how they affect day-to-day business. On the policy side, Manson pointed out that satellite considerations are rarely the fulcrum of policymaking that affects the satellite industry. The panelists emphasized the importance of helping policymakers better understand the industry in order to arrive at policy that is both rational and favorable for satellite companies. Kinney added that attempting to fit the satellite industry into a realm where wire-line is heavily involved in writing policy is like trying to fit a square peg into a circle. In order to get to policy that makes sense for them, satellite companies should team up to ensure their voice is heard, Kinney argued. Manson acknowledged that achieving this will be difficult since it requires policymakers to see issues from a new perspective. He suggested focusing on highlighting the ways in which satellite differs from wire-line in positive ways.

Cooper then turned the discussion toward ITAR. Satellite products are mandated by law to be on the U.S. Munitions List (USML), which has reduced greatly the international usage of U.S. satellite products and instigated a whole new industry of space companies who promote "ITAR-free" products. Many satellite companies feel the ITAR process is broken and needs reform because it hurts the international competitiveness of the U.S. satellite industry. Cooper asked the panelists to what extent would ITAR reform be useful in lieu of maintaining the current and familiar system? Gude admitted that some specifics of ITAR reform could actually be worse than what is currently in place, especially if policymakers lose sight of helping the U.S. space industrial base.

Next, Cooper noted the inherently international character of the satellite industry and asked how it affects the panelists' work. It both adds to and complicates the work of legal counsels, Field remarked, but keeps it interesting. Manson mentioned that the international nature of satellites requires them to be regulated in bodies like the International Telecommunication Union (ITU). While the ITU process can be complicated, it works fairly well in his opinion. Gude spoke about the difficulty of ensuring market access for large multinational satellite operators like Intelsat and many others. Cooper concluded the panel discussion by highlighting the frequent disconnect between policy and its intended consequences, which in turn, highlights the need for reexamination.

#### **KEYNOTE TWO – Ambassador Ciro Arévalo**

Contant introduced the second keynote speaker, Ambassador Ciro Arévalo, former Chair of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), who focused on his initiative to promote a UN Space Policy (UNSP). He began by identifying the many ways in which the UN has contributed to and benefitted from the space domain. While space is integral to UN activities, said Arévalo, it is rapidly changing as a result of three trends: globalization, regionalization, and privatization. An increasing number of countries are developing or extending their space capabilities, reaching out to establish regional space bodies, and growing more dependent on space.

Such trends have led to the understanding in COPUOS of the need to develop standards for long-term space sustainability. Arévalo recognized the mercurial nature of the term "sustainability." For some, it means ensured access to space, while for others, it means security. He argued that these various interpretations should be considered in developing any kind of UNSP. It should also address the questions of how to preserve space as a global commons for peaceful and universally beneficial purposes and how to preserve it for the long term in the most fair and equitable manner. The UNSP

would seek to answer these questions by integrating UN space operations and activities in a more holistic manner, encouraging mutual interdependence among the various space actors, and fostering harmonization.

Some guidelines he suggested for the UNSP were: activities in outer space should be conducted for peaceful purposes and for the benefit of all mankind, space should be used in a fair and responsible manner and in accordance with international law, UN space activities should be coordinated across agencies and departments, regional and inter-regional cooperation with regard to space activities should be encouraged, the international community should help all countries access the benefits afforded by space, and the UN should assist states in developing domestic space policies. In order to arrive at such a UNSP, international cooperation should be reinforced, responsible use of space should be promoted, the UN Office of Outer Space Affairs should be strengthened, and dialogue between spacefaring and non-spacefaring states and among UN agencies should increase. Arévalo stated that he has presented this UNSP concept in international and regional fora around the world where it has been well-received. The development of the UNSP will progress further this year.

**PANEL TWO – International Aspects – How do you view the development of the international legal regime for space and is it sufficient?**

The second panel was moderated by Ben Baseley-Walker, Legal and Policy Advisor for the Secure World Foundation, with panelists Ken Hodgkins, Deputy Director of the Space and Advanced Technology Office at the U.S. Department of State; Kai-Uwe Schrogl, Director of the European Space Policy Institute; and André Farand, Head of the Launchers and Exploration Legal Matters Office of the European Space Agency (ESA). Hodgkins began the discussion by acknowledging that while the current set of international space treaties is robust, it lacks enforcement mechanisms and may not entirely address recent developments in the space environment. In order to evaluate the current legal regime, the international community must determine what it hopes to accomplish and how best to do so.

Currently, Hodgkins argued, space situational awareness (SSA) should be our top priority because it is crucial for space sustainability. He outlined several steps to take in confronting this pressing issue. First, a common set of terms must be established and agreed upon. Second, lessons can be learned from private sector initiatives like SDA. Third, there must be a way to verify that SSA information being provided by an independent entity is both reliable and accurate. There is currently a space sustainability working group within COPUOS that is looking at constructing voluntary best practice guidelines for operating in space for the long term. Hodgkins wondered if continuing to follow the non-binding, voluntary instrument paradigm of the past 50 years would be sufficient. If it is not, Hodgkins asked what can or should be done to change it. Moreover, with commercial actors playing such a substantial role in space, he wondered how international organizations and governments can engage them more in their processes.

Schrogl focused on the European Union (EU) and discussed three aspects that affect its space policy: the recently ratified Lisbon Treaty, national regulation and legislation, and the EU's proposed international Code of Conduct for outer space activities. The Lisbon Treaty, which came into force in December 2009, solidified the important role played in space by the European Union. While Europe as an entity is now a space actor in its own right and should increase its participation in international dialogues relating to outer space, European institutions are not yet prepared to assume this expanded role, Schrogl commented. A part of this preparation process will involve harmonizing national space legislation and regulations, especially in authorization and licensing. The scattered nature of present national policies is harming European competitiveness, he added. Furthermore, the regulatory challenges faced by

Europeans are similar to those faced by space industry in the United States. Export control hinders technological development and competitiveness, while concerns about privacy rights and issues trouble the European space field as well.

In response to another shared concern, the EU has been working closely with the United States on SSA, Schrogl pointed out. In addition, it has embarked on its own contribution to the international space regime by proposing an International Code of Conduct dealing with space activities. The first draft was issued a year and a half ago and has been adopted by all 27 EU member states. To promote the Code as an alternative to traditional multilateral agreements, the EU did not present it in the usual international fora like the Conference on Disarmament or COPUOS. Rather, the EU brought together like-minded states to draft the Code and will invite interested parties to sign on. The Code is meant to be a novel way of approaching space regulation that does not focus on the state as the primary player, but rather attempts to inform the behavior of any space actor, Schrogl concluded.

Farand provided an overview of ESA's three-layer legal regime. The first tier comes from the convention that established ESA and deals primarily with issues of bilateral and multilateral program agreements among European states and between Europeans and international partners. The second layer is comprised of those rules and regulations adopted by the European Council. This takes into account terms and conditions for ESA personnel, data exchange and information sharing, technology transfer, and procurement. The third layer refers to those regulations established by the Agency's Director-General, and which deal with security regulations, the organization of the directorate, and additional personnel rules. Farand questioned whether more legislation and regulation need be adopted since there is already a substantial amount present. He argued that considerable effort and time should be dedicated to keeping the current regime up-to-date with world events and technological developments instead of adding more.

Previous U.S. policy expressed that the current international space legal regime is sufficient. One audience member asked the panel whether this was still the case. Hodgkins replied that the Barack Obama administration is currently reviewing its space policy and is approaching this review with a clean slate mindset. The perspective thus far is that international cooperation should be pursued and that the United States will be open to new international instruments so long as they are both verifiable and in the interest of the United States. The question of adequacy is also being addressed. The current administration feels the present regime is sufficient in some ways, but lacking in others. These gaps reflect how much technology has evolved and how much more crowded the space environment has become in the 50 years since the regime was created, and will be addressed as the United States moves forward with its policy review.

**PANEL THREE – United States Government – Space law in government daily life: successes and failures.**

The third panel was moderated by Scott Pace, Director of the Space Policy Institute at the George Washington University, and featured Margaret Roberts, Senior Attorney in the Office of General Counsel at NASA; Karl Kensinger, Associate Chief of the Satellite Division at the FCC; and Phil Meek, a private attorney, retired member of the U.S. Air Force (USAF), and member of Secure World Foundation's Advisory Committee. Pace outlined how space-related regulation and legislation emerges in the United States. He pointed out that while international law is important, it often reflects domestic processes. The U.S. process begins with policy at the Executive level, becomes legislation in Congress where funding and finances are determined, and is written into code at the bureaucratic level. This process and the aims of the U.S. government are often at odds with the stable, predictable, and transparent legal

framework desired by the private sector. Pace explained further that sometimes, in export control issues for example, the regulation is intended to remain ambiguous to permit agency flexibility. He added that human spaceflight is another example of an area where stable and predictable standards prove elusive since they often need to be recreated with each new vehicle. If a flight followed every rule currently laid out, it would never take off. Pace does not see a need for new major international treaties, but does believe more could be done to incorporate the existing regime into domestic regulatory processes in a way that effectively balances national and international interests.

Next, Roberts discussed legal issues at NASA, with the first being the legal mechanisms in place to permit the International Space Station to reach NASA's goal of full and early utilization as a National Laboratory. Designating the ISS as a National Lab created significant opportunities, she stated. Part of reaching full utilization requires that NASA make these opportunities widely known and accessible. The second legal issue Roberts identified was handling the legal aspect of transportation programs to the ISS and the various legal avenues these programs can be implemented through. NASA has been criticized for not performing as well as it should on the third and last issue, technology transfer. However, Roberts explained, NASA owns very little of the intellectual property it utilizes, which hinders its ability to participate in technology transfers.

Kensinger spoke about the FCC's role as one domestic implementer of international rules regarding space. He detailed three specific areas relevant to space law in which the FCC is involved. First, the FCC looks at orbital debris and focuses on collision risk and end-of-life operations. Second, the FCC works significantly with industry on propulsion technology issues. Third, the FCC cooperates internationally to a limited degree on multiple ITU jurisdiction matters. These informal, operational arrangements were rare seven or eight years ago but have grown increasingly frequent since.

For Meek, there are two major challenges facing the military side of space activities. The first is that U.S. military space operations constantly undergo organizational change and the current system leaves much to be desired in Meek's opinion. He explained that currently, the highest-ranking officers in charge of space are only at mid-level and thus lack necessary influence in securing funds and talented personnel. In addition, these officers often do not have much or any background in space affairs. This poses a serious problem since the U.S. military relies so heavily on space. Meek believes there is a better way for the U.S. military to maximize the benefits afforded by space operations. The second challenge Meek discussed deals with the codes of conduct, best practice guidelines, and other behavioral norm proposals on the table regarding space operations. Whether they are non-binding or not, the United States will be held to a high standard of adherence. As a result, Meek emphasized that word selection and usage is critical and should be approached cautiously. In addition, the goals of these proposals need to be clearly identified. Meek questioned whether the goal of these instruments is to acquire as many signatories as possible, even if it means avoiding clarification of grey areas. If this is the case, it will be difficult to measure compliance, he added. While these proposals can be beneficial, a significant amount of time must be dedicated to developing and defining terms and choosing words wisely, he finished.

### **KEYNOTE THREE – NASA Deputy Administrator Lori Garver**

Williamson introduced the third and final keynote speaker, Lori Garver, Deputy Administrator of NASA. Garver began by discussing Obama's space initiative, which she believes will enable NASA to explore new worlds, develop more innovative technologies, foster new industries, increase our understanding of Earth, expand our presence in the solar system, and inspire the next generation of explorers. Garver stated that the initiative will aid NASA in continuing to fulfill its original "Constitution," the National Aeronautics and Space Act of 1958, and the fundamental goals outlined within it: expand knowledge of

Earth, space, and the atmosphere; improve space vehicles; develop and operate space vehicles to carry living organisms; conduct long range studies on aerospace opportunities, benefits, and challenges; and preserve the role of the United States as a space leader.

To meet these goals in conjunction with the President's new initiative, NASA will continue to highlight exploration and team up with commercial partners, Garver said. The private sector procurement program, Commercial Orbital Space Transportation Systems (COTS), not only aids NASA in meeting its goals by drawing on already existing resources, but also spurs new industry, according to Garver. Obama's plan dedicates \$6 billion over the next five years to support the COTS program as well as various other activities, all with the ultimate aim of ensuring safe, reliable, redundant, and sustainable access to low Earth orbit (LEO). The President's budget will improve U.S. space industrial competitiveness by fostering research and development and updating national launch infrastructure.

She stated that by 2015, the President will make a decision about the new heavy lift vehicle that will enable human spaceflight beyond LEO. Until then, NASA will invest in research to facilitate that decision with a focus on the most cost-effective and safe methods of exploring multiple destinations. Initial efforts will focus on developing liquid engine technology that reduces overall costs. These efforts will be part of a broader examination of propulsion technology, including exploring novel or untested propellants. With the hope of boosting the next generation of engineers and scientists, Garver continued, NASA intends to engage the private and civil sector in this research and development. She invited their input as NASA moves forward in these many endeavors.

Beyond domestic projects and engagement, Garver went on, the President's new plan stresses international cooperation. As a result, NASA can continue reaping the benefits of external collaboration. The plan will allow the International Space Station to reach its full potential and permit NASA to strengthen partnerships with other countries and in non-traditional international programs like AERONET, SERVIR, and GLOBE. Going forward, NASA will enhance international partnerships in future human space exploration under the auspices of a common vision, named the Global Exploration Roadmap. NASA has also increased its cooperation with non-traditional and non-spacefaring nations, as they grow increasingly dependent on space-based resources for daily activities.

To facilitate this array of innovative projects and programs, the Obama administration established the Export Control Reform Initiative, which will address some of the barriers to international competition faced by the U.S. space industrial base. Garver pointed out that it is in NASA's purview to not only develop and advance these diverse programs of research, technology, and capacity, but also to make that knowledge widely available. The President's initiative will draw on NASA's resources to implement education programs to inspire, educate, and equip the next generation of scientists and engineers. In all of these ways and many more, under Obama's new plan, NASA will be able to continue serving the country and fulfilling its mandate laid down over 50 years ago.

Garver's remarks were followed by a question from an audience member who wanted to know what will happen to the current NASA infrastructure built for the Apollo program. Garver acknowledged the need to modernize NASA infrastructure and indicated that increased funding had been set aside for doing just that. Another participant asked about the possibility of NASA receiving financial support from other international organizations like the World Bank. Garver thought a collaboration between such organizations and the International Space Station would be possible on projects that help to meet societal needs. She concluded by responding to a last remark on the need for better inter-agency coordination, which she agreed must become more efficient. She pointed out that the current

Administration understands that need and has begun to address the lack of cohesion among those governmental bodies that rely on and operate in space.

## **CONCLUSION**

Space Law & Policy 2010 demonstrated the unique, international, and complex characteristics of space law and policy. The first portion of the day illuminated the need to educate policymakers and satellite industry in order to arrive at policy, legislation, and regulation that best reflects the unique attributes of satellite operations and space activities. The seminar also highlighted the irreversibly international character of space. This interdependent reality necessitates a collaborative approach to building a coherent international legal regime to govern space. With that said, the last presentations showed just how complicated this can be. It is important to remember, in tackling this task, that law is a means to an end and not an end in itself. Shaping law and policy is a constant balancing act between varying interests. As such, policymakers should measure their words and actions as it directly affects the private sector and other actors.