Multilateral Solutions in an Era of Space Control: The International Code of Conduct and U.S. Space Security Policy

by

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A thesis submitted to McGill University
in partial fulfillment of the requirements of
the degree of **MASTER OF LAWS (LL.M.)**

Institute of Air and Space Law
McGill University
Montréal, Québec
August 2015

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Acknowledgements

My heartfelt gratitude goes to the United States Air Force for providing me this unique opportunity to pursue this degree, and in particular the JAG Corps leaders who encouraged and supported my application. I also wish to thank Michael Hoversten, James Rendleman, Lieutenant Colonel Paul Dawson, and Major Sarah Mountin for their insights and critical input on earlier drafts, and Kerianne Wilson for providing a French translation of the Abstract. Finally, thanks especially to my teacher and thesis supervisor, Professor Ram Jakhu.

Abstract

The United States relies on its space assets to a profound degree, and they are vulnerable to interference, damage, and destruction. The policy to protect these assets and assure the benefits they provide continues to evolve, due both to changing Presidential Administrations and the developing security threat posed by China and Russia. One policy element that has remained constant is the freedom to develop and use capabilities to defend and deter against acts of aggression in space. Within this context, policy-makers must now assess whether supporting and adopting the European Union's proposed International Code of Conduct for Outer Space Activities (ICOC) will contribute to, or hinder, the security of the space environment. This thesis examines the 2014 version of the ICOC with a view towards exploring how both its nature as a non-binding instrument and its specific provisions would interact with existing law and policy, with particular attention given to the U.S.'s ability to defend and deter against aggression in space as well as the implications on the future of space governance. It concludes that U.S. space security would benefit from stronger norms of behavior against harmful interference and debris-causing activities in space, and that the ICOC can contribute to this goal without placing excessive constraints on the freedom to develop security-related capabilities, despite various assumptions to the contrary. However, the domestic legal and political challenges of conducting U.S. foreign policy through non-binding instruments portend difficulties not only with the ICOC but also to the further development of "soft governance" in space more generally.

Résumé

Les États-Unis s'appuient fortement sur leurs biens spatiaux, qui sont vulnérables à l'interférence, les dommages et la destruction. La politique visant à protéger ces actifs et à assurer les bénéfices qu'ils fournissent continue à évoluer en raison des administrations présidentielles qui se succèdent et de la menace à la sécurité grandissante posée par la Chine et la Russie. Un élément de la politique qui, tout en demeurant constant, regagne en importance est la liberté de développer et d'utiliser des mécanismes de défense et de dissuasion contre les actes d'agression dans l'espace. Dans ce contexte, les décideurs politiques doivent maintenant évaluer si le Code de conduite international sur les activités spatiales (CDCI) proposé par l'Union européenne contribuera ou entravera la sécurité de l'environnement spatial. Cette thèse examine la version 2014 du CDCI. Elle explore la façon dont sa nature non contraignante et ses dispositions spécifiques pourraient interagir avec le droit et les politiques existantes, et ce en accordant une attention particulière à la capacité des États-Unis de se défendre et dissuader les actes d'agression dans l'espace, ainsi que les conséquences pour le futur de la gouvernance spatiale. Elle conclut que la sécurité spatiale américaine bénéficierait de normes de comportement plus robustes contre les interférences néfastes et les activités causant des débris spatiaux, et que contrairement à plusieurs hypothèses avancées le CDCI pourrait y contribuer sans constituer une contrainte trop importante pour la liberté de développer des mécanismes reliés à la sécurité. Cependant, les défis juridiques et politiques domestiques auxquelles font face les États-Unis dans la conduite de sa politique étrangère par l'intermédiaire d'instruments non contraignants laisse présager des difficultés non seulement avec le CDCI, mais aussi avec le développement ultérieur de la "gouvernance souple" dans l'espace en général.

Acronyms and Abbreviations

ASAT	Anti-satellite
BMD	Ballistic missile defense
CD	Conference on Disarmament
COPUOS	Committee on the Peaceful Use of Outer Space
EU	European Union
FMCT	Fissile Material Cut-Off Treaty
GGE	Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activity
HASC	House Armed Services Committee
IAC	Inter-Agency Space Debris Coordination Committee
ICJ	International Court of Justice
ICOC	International Code of Conduct for Outer Space Activities
ITU	International Telecommunications Union
JFCC SPACE	Joint Functional Component Command for Space
JSpOC	Joint Space Operations Command
NDAA	National Defense Authorization Act
NSP	National Space Policy
NSSS	National Space Security Strategy
PAROS	Prevention of an arms race in outer space
PPWT	Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects
SSA	Space Situational Awareness
SPR	Strategic Portfolio Review
UN	United Nations
NDAA	National Defense Authorization Act
TCBM	Trust and confidence building measures
US	United States
USG	United States Government
USSTRATCOM	United States Strategic Command

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Introduction

> *I know there are some who question the wisdom of these multilateral activities. They are worried that in establishing international norms of behavior we would limit our response options. Let me assure you, we do not intend to allow that to happen*.[1]

In 2014, President Obama signed the National Defense Authorization Act (NDAA) for Fiscal Year 2015. The bill requires the Secretary of Defense to update the 2011 National Space Security Strategy (NSSS) to "include a strategy relating to space control and space superiority for the protection of national security space assets."[2] Among the elements the updated strategy "shall address" are "the role of offensive space operations" and "countering offensive space operations."[3] The bill also provides that "a majority of such funds" dedicated to the space security and defense program "shall be allocated to the development of offensive space control and active defensive strategies and capabilities."[4] This increased emphasis on space control is inspired to a large degree by the sense of Congress – and of many others – that "the People's Republic of China and the Russian Federation are both developing capabilities to disrupt the use of space by the United States in conflict" and "a fully-developed multi-faceted space security and defense program is needed to deter and defeat any adversaries' acts of space aggression."[5]

In addition to the soon-to-be clarified plan for space control capabilities, the 2011 NSSS also calls for the promotion of "the responsible, peaceful, and safe use of space as the foundational step to addressing the congested and contested space domain and enabling other

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[1] US, *Military Space Programs, Hearing Before Subcommittee on Strategic Forces of the Senate Armed Services Committee*, 113th Congress (12 March 2014) at 3 (Written statement of Douglas Loverro, Deputy Assistant Secretary of Defense for Space Policy) [Loverro, *Military Space Programs Hearing*].
[2] *Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015*, Pub L No 113-291, 128 Stat 3292 at § 1606(a) (19 December 2014) [2015 NDAA].
[3] *Ibid* at § 1606(b)(3)-(4).
[4] *Ibid* at § 1607(a).
[5] *Ibid* at § 1601(a)(2)-(3).

aspect of our approach."[6] To this end, "[t]he United States will support development of data standards, best practices, transparency and confidence-building measures, and norms of behavior for responsible space operations."[7]

Currently, states are in the process of negotiating the terms of a proposed International Code of Conduct for Outer Space Activities (ICOC). Initiated by the European Union (EU) in 2008, the ICOC is a non-binding instrument intended to complement the existing outer space legal regime by providing rules of the road for conducting outer space activities. The Obama Administration supports the development of such a code as a means to join with other nations "to deal with threats posed by those who may wish to deny the peaceful use of outer space."[8]

Not everyone is persuaded that non-binding rules of the road should be a priority for the U.S., however. Among the concerns raised by skeptics are fears that the ICOC could equate to arms control, forbid crucial freedoms necessary for developing space control capabilities, dilute the right to self-defense, bind the U.S. through customary international law or domestic regulations, force the disclosure of sensitive information on space activities, and, in general, establish a misplaced reliance on idealistic notions of collective security – and do all of this without approval or even adequate input from Congress.

In this thesis, I will examine the 2014 version of the ICOC in an attempt to assess not simply whether the ICOC would enhance or hinder space security from a U.S. perspective, but also to address *how* and *why* it would make such impacts, as well as to explore what the domestic debate can teach us about developing space governance through non-binding "soft" law. It consists of three chapters. The first chapter established the background of the relevant law of

[6] US, Department of Defense & Office of the Director of National Intelligence, *National Space Security Strategy: Unclassified Summary* (2011) at 5 [2011 NSSS].
[7] *Ibid*.
[8] US, President of the United States, *National Security Strategy* (February 2015) at 13 [2015 NSS].

outer space and how it was developed, while the second chapter examines contemporary U.S. space security policy and how it is evolving to deal with new threats. These two chapters provide the necessary context for understanding the ICOC, which is the focus of the final chapter.

Chapter One: The Legal Developments Leading to the International Code of Conduct

The purpose of the following brief summary of the law of outer space is to provide a framework for understanding the legal context in which the ICOC was formed as well as for understanding how it would be situated in that context if adopted in a form substantially similar to the 2014 version. As detailed below, there currently exists an extensive canon of space law implemented through binding treaties developed in the United Nations (UN) Committee on the Peaceful Use of Outer Space (COPUOS). However, the ability of states to develop binding space treaties through the UN vanished several decades ago, and COPUOS has essentially lost its status as the primary forum for creating the law of outer space. Nonetheless, the need to regulate behavior in space continues to grow as new developments and emerging technologies test the limits of the existing legal regime and threaten the safety and security of the outer space environment. If the U.S. chooses to adopt the ICOC or something similar as a part of its strategy, it is imperative to understand what the ICOC may contribute to, or how it may alter, this legal context.

I. Creating Law for Outer Space Activities

A. The Process of Creating International Law

In order to understand how the ICOC might fit in alongside the existing canon of space law, the process for creating international law provides a useful starting point. Space law, after all, is nothing more than international law in a specialized field. In international law there are two principal methods for creating legally binding rules: treaties and custom.[9] Both, along with

[9] Antonio Cassese, *International Law*, 2nd ed (New York: Oxford University Press, 2005) at 153.

general principles of international law,[10] are recognized as valid sources of international law under Article 38 of the Statute of the International Court of Justice (ICJ), which is regarded as a complete and authoritative statement of the sources of international law.[11] There is no hierarchy between treaties and custom; both are equally binding.[12]

A key feature distinguishing treaties from custom is that custom is normally not the result of a deliberate lawmaking process.[13] Rather, customary international law comes about through the practice of states. Defined in Article 38 as "evidence of a general practice *accepted as law*", international customary law thus consists of two elements: state practice and the corresponding views of states.[14] More precisely, states must follow a certain uniform practice *and* do so not merely out of political or moral considerations but also because they believe it to be legally obligatory, which is to say, because they are convinced they are bound to do so.[15] Believing an action to be a legal necessity is also known as *opinio juris sive necessitatis*, or simply *opinio juris*. Identifying a binding custom is not always easy, however, as it requires determining what a state practice consists of, when it has become sufficiently uniform, and whether other states accept it as law. For these reasons, those who would declare that a practice has been established as customary international law bear a high burden of proof.[16] Pursuant to Article 38(d) of the

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[10] General principles of international law are "primarily abstractions from a mass of rules and have been so long and so generally accepted as to be no longer directly connected with State practice." Ian Brownlie, *Principles of Public International Law*, 6th ed (New York: Oxford University Press, 2003) at 18-19. Accepted principles of international law include the principle of Self-Preservation, the principle of Good Faith, and the juridical concept of Responsibility. Bin Cheng, *General Principles of International Law as Applied by International Courts and Tribunals* (London: Stevens & Sons Limited, 1953) at 26 [Cheng, *General Principles*].

[11] *Statute of the International Court of Justice*, 3 Bevans 1179, 59 Stat. 1031 at art 38 [*Statute of the ICJ*]; Brownlie, *ibid* at 5.

[12] Cheng, *General Principles*, *supra* note 10 at 22.

[13] Cassese, *supra* note 9 at 156.

[14] *Ibid* at 157.

[15] Malcolm N. Shaw, *International Law*, 6th ed (Cambridge: Cambridge University Press, 2008) at 84.

[16] See *The Case of the S.S. "Lotus" (France v Turkey)* (1927), PCIJ (Ser A) No 10 at 18 [Lotus case] ("Restrictions upon the independence of States therefore cannot be presumed"); see Brownlie, *supra* note 10 at 12.

ICJ Statute, the proof of a binding rule of customary law can be found in both judicial decisions and the teaching of the "most highly qualified publicists."[17] Once established, custom binds all states, whereas treaties bind only signatory states.

Often, the *opinio juris* needed to establish customary international law is not present at the outset of a practice. States may adhere to a particular practice for economic, military, or political reasons, and not because they "accept it as law." If the practice is increasingly accepted, or acquiesced, by other states then it may crystallize into customary international law.[18] Then again, it may not. Take, for example, the practice of restraint from the use of nuclear weapons. In 1996, the ICJ issued an advisory opinion on the threat or use of nuclear weapons.[19] Since the initial use of nuclear weapons against Japan in 1945, no state has used a nuclear weapon against another state despite a proliferation of states possessing nuclear weapons. Yet, states do not refrain from doing so out of a perceived legal prohibition; indeed, nuclear-armed states reserve the right to threaten and use nuclear weapons to defend themselves if warranted by the circumstances. Thus, the ICJ concluded, the abstention from the use of nuclear weapons may be an objective practice but lacks the subjective element necessary to have become customary international law.[20]

Distinguishing between treaties and customs is not always easy because they can often cover the same ground. For instance, the right of a state to use force in self-defense is codified in Article 51 of the UN Charter.[21] An inherent right to self-defense is also recognized to exist

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[17] *Statute of the ICJ*, *supra* note 11, at art 38(d).
[18] Cassese, *supra* note 9 at 157.
[19] *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, [1996] ICJ Rep 226.
[20] *Ibid* at 254-255.
[21] *Charter of the United Nations*, 26 June 1945, Can TS 1945 No. 7 art 51 [UN Charter].

independently in custom.[22] Thus, overlap between treaties and custom can occur when a treaty reflects practices that are already established by custom. In addition, an overlap can result when a treaty codifies a practice that is not customary international law at the time the treaty is made but later becomes customary through adherence to the practice and its acceptance as law. Despite any overlap that may exist, it is important to note that treaty and custom remain distinctly separate as sources of international law.[23] Accordingly, withdrawal from a treaty will not necessarily unburden a state from a legal restriction if that restriction also reflects customary international law.[24]

B. The Role of "Soft Law" and Non-Binding Political Agreements

Non-binding instruments, declarations, or agreements can play a role in foreign relations and also influence the development of international law, although the nature of their role is highly dependent on the circumstances. United Nations General Assembly resolutions, for instance, have value as a statement of how states *should* behave and they *may* influence the creation of legally binding rules in the future.[25] Similarly, political commitments that are not intended to be legally binding can help to coordinate action when states are unwilling to bind themselves legally, and can potentially harden into customary international law or soften opposition to the formation of treaties.[26] Trust and confidence building measures (TCBMs) are often generated with such a goal in mind. TCBMs can be used to complement binding treaties,

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[22] See *Military and Paramilitary Activities in and against Nicaragua* (*Nicaragua v. United States*), Merits, Judgment, [1986] ICJ Rep 14 at 94 [*Nicaragua*].
[23] Shaw, *supra* note 15 at 96-97; see *Nicaragua*, *ibid* at 95.
[24] See *Vienna Convention on the Law of Treaties*, 23 May 1969, 1155 UNTS 331 art 38 [*VCLT*].
[25] See Shaw, *supra* note 15 at 118.
[26] Curtis A. Bradley, *International Law in the U.S. Legal System* (New York: Oxford University Press, 2013) at 96.

lay the foundations for future legal agreements, and reduce mistrust, fear, and misunderstanding in a particular realm of activity.[27]

However, resolutions and political commitments are not law, and great care must be exercised in assessing their legal status.[28] As mentioned, practices set forth in political commitments or principles expressed in a resolution can potentially crystallize into customary international law, but first the high burden of ascertaining the existence of a state practice and accompanying *opinio juris* must be met.

II. The Origin of the International Code of Conduct

A. The United Nations' Call for Transparency and Confidence Building Measures in Outer Space

The nominal inception of the ICOC dates back to December 6, 2006, when the UN General Assembly adopted a resolution inviting states to submit concrete proposals for outer space TCBMs.[29] The EU obliged. The following September, Portugal, on behalf of the EU, reported to the General Assembly the EU's intent to propose a code of conduct on space objects and space activities in order to strengthen the existing legal regime in outer space and codify

[27] Ram Jakhu, "Transparency and Confidence Building Measures for Space-Security" in Ajay Lele, ed, *Decoding the International Code of Conduct for Outer Space Activities* (New Delhi: Pentagon Security International, 2012) 35 at 36 [*Decoding the ICOC*].
[28] See Shaw, *supra* note 15 at 117-18.
[29] *Transparency and confidence-building measures in outer space activities*, UNGAOR, 61st Sess, UN Doc A/RES/61/75 (2006).

practices deemed worthy of emulation by others.[30] In December 2008, the EU Council released the first official draft of the EU Code.[31] In 2010 the EU Council released an updated draft.[32]

As a policy document, the ICOC is not particularly remarkable. It offers guidelines, not binding law. Moreover, it contains "nothing significantly new and essentially reiterates certain arbitrarily selected commitments that are already included in some binding agreements and some other non-binding resolutions and guidelines."[33] This is not entirely surprising. As will be seen in the next chapter, the UN General Assembly's call for TCBMs in outer space was undertaken in the context of the U.S.'s official policy of opposing any new binding constraints on its freedom of action in space as well as Russia and China's push for a binding treaty prohibiting the placement of weapons in space.[34] Thus, the EU Code of Conduct was designed to offer the middle ground in the form of non-binding guidelines, "with the aim of reaching a text that is acceptable to the greatest number of countries."[35]

The EU, working outside the structure of the UN, consulted several spacefaring states in the development of the code. Nevertheless, numerous states objected to being left out of the drafting process.[36] In response to this criticism, the EU embarked on a formal consultation

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[30] *Transparency and confidence building measures in outer-space activities, Report of the Secretary General,* Addendum, UNGAOR, 62nd Sess, UN Doc A/62/114/Add.1 (2007) at 5.
[31] Council of the European Union, GS, *Conclusions and draft Code of Conduct for outer space activities*, No. 17175/08 (2008) at Annex II [*Council Conclusions on 2008 draft Code*], online: <register.consilium.europa.eu/doc/srv?l=EN&f=ST%2017175%202008%20INIT>.
[32] Council of the European Union, GS, *Council Conclusions concerning the revised draft Code of Conduct for Outer Space Activities*, No. 14455/10 (2010) at Annex, online: <www.consilium.europa.eu/uedocs/cmsupload/st14455.en10.pdf>.
[33] Jakhu, "Transparency and Confidence Building Measures for Space-Security" in *Decoding the ICOC*, *supra* note 27 at 39.
[34] Canada, *Working Paper on the Merits of Certain Draft Transparency and Confidence-Building Measures and Treaty Proposals for Space Security*, UNCD, UN Doc CD/1865 (5 June 2009) at para 7.
[35] *Council Conclusions on 2008 draft Code*, *supra* note 31 at Annex I.
[36] Mohamed Hatem Elatawy, "ICOC: Recommendations for Further Elaboration" in Rajeswari Pillai Rajogopalan & Daniel A. Porras, eds, *Awaiting Launch: Perspectives on the Draft ICOC For Outer Space Activities* (New Delhi: Observer Research Foundation, 2014) at 53 [*Awaiting Launch*].

process. Consultations were held in Vienna in June 2012, in Kiev in May 2013, in Bangkok in November 2013, and in Luxembourg in May 2014. Ninety-five UN Member States participated in these open-ended consultations, leading to several updated iterations of the Code, by now referred to as the International Code of Conduct for Outer Space Activities.[37] The fifth and most recent publicly available version is dated March 31, 2014, before the final consultation in Luxembourg.[38] The EU hosted multilateral negotiations on the ICOC at the UN Headquarters in New York in late July of 2015.[39]

B. Developing the Foundational Principles of Space Law

The ICOC was not created in a vacuum but is rather the product of a legal and political context decades in the making. This context must be understood in order to appreciate the ICOC's position within it. The true origin of the ICOC, therefore, can be traced all the way back to October 4, 1957, when the Soviet Union launched Sputnik 1, the world's first satellite, into orbit. Using different design philosophies, the United States and Soviet Union worked hard over the next 15-20 years to achieve a series of engineering and technical feats. The competition was fully part of the Cold War struggle between the West and East, with each side pointing to space achievements as proof of the success of their own political and economic systems. Within months of Sputnik's launch, the UN General Assembly urged that the UN should work towards an agreement to ensure that outer space would be devoted exclusively to

[37] European External Action Service, Code of Conduct for Outer Space Activities, online: <eeas.europa.eu/non-proliferation-and-disarmament/outer-space-activities/index_en.htm>.
[38] *Ibid*.
[39] *Report of the Legal Subcommittee on its 54th session, held in Vienna from 13-24 April 2015*, LS COPUOS, 58th Sess, UN Doc A/AC.105/1090 at para 188.

peaceful and scientific purposes.[40] Following proposals from both the Soviet Union and the U.S., the UN convened an *ad hoc* committee, the Committee on the Peaceful Uses of Outer Space (COPUOS) in 1958.[41] The following year COPUOS met again on a two-year basis and increased its membership from 18 to 24.[42] Then, in 1961, the *ad hoc* committee became permanent.[43] With 28 members and two sub-committees, the Legal Sub-Committee and the Scientific and Technical Sub-Committee, COPUOS was instructed "to maintain close contact with all governmental and non-governmental organizations dealing with related issues as well as to collect data on the activities of member States in the field of the exploration and use of outer space."[44] COPUOS would become the primary mechanism for developing treaties related to the law of outer space.

One of COPUOS' first items of business was determining how it would go about making decisions. On March 19, 1962, COPUOS's Chairman announced:

> "I should like to place on record that through informal consultations, it has been agreed among the members of the Committee that it will be the aim of all members of the Committee and its subcommittees to conduct the Committee's work in such a way that the Committee will be able to reach agreement on its work without need for voting."[45]

COPUOS thus became the first of several UN committees to adopt the consensus rule. Under the consensus rule, states reach agreement without actually voting. It was deemed the

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[40] Carl Q. Christol, *The Modern International Law of Outer Space* (New York: Pergamon Press, 1982) at 13. [Christol, *Modern International Law*], citing *Regulation, limitation and balanced reduction for all armed forces and all armaments; conclusion of an international convention (treaty) on the reduction of armaments and the prohibition of atomic, hydrogen and other weapons of mass destruction*, GA Res 1148 (XII), UNGAOR, 12th Sess (1957).
[41] Manfred Lachs, *The Law of Outer Space: An Experience in Contemporary Law-making*, 50th Anniversary reissue, ed by Tanja Masson-Zwaan & Stephen Hobe (Leiden & Boston: Martinus Nijhoff Publishers, 2010) at 30.
[42] *Ibid*; see also Christol, *Modern International Law*, *supra* note 40 at 15.
[43] Lachs, *ibid* at 30.
[44] *Ibid*.
[45] Bin Cheng, *Studies in International Space Law* (New York, Oxford University Press, 1997) at 163 [Cheng, *Studies in Space Law*].

appropriate method to make decisions because, unlike a majority rules voting procedure, it ensures that no decision can be taken against the strong objection of the members that mattered most at the time, the U.S. and the Soviet Union.[46] In addition, it does not require unanimity, but rather only the absence of dissent, which is not the same as assent.[47] Furthermore, the consensus rule encourages debate and compromise.[48] Because no vote is taken, discussions can continue until such time as the Chairperson senses agreement, whereas a voting procedure could cut off discussion.[49] As a result, some contend that the consensus rule can result in more balanced treaties, thereby encouraging the maximum number of ratifications. However, the consensus rule also can compel negotiating parties to seek the lowest common denominator. The compromises necessary to reach a consensus can result in vaguely-worded concepts rather than concrete obligations.[50]

In December of 1963, the UN General Assembly adopted unanimously by resolution COPUOS's first significant document, the *Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space*.[51] The Declaration of Legal Principles "represents a major breakthrough in the development of space law" because it is the result of the U.S. and Soviet Union – with scarcely any consultation from the other members of

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[46] *Ibid* at 164.
[47] Francis Lyall & Paul B. Larsen, *Space Law: A Treatise* (Burlington: Ashgate Publishing Co, 2009) at 21.
[48] Nanadasiri Jasentuliyana, "The Lawmaking Process in the United Nations" in Nanadasiri Jasentuliyana, ed, *Space Law: Development and Scope* (Westport, CT: Praeger Publishers, 1992) 33 at 36.
[49] Eilene Galloway, "Consensus as a Basis for International Space Cooperation" in Mortimer D. Schwartz, ed, *Proceedings on the Twentieth Colloquium on the Law of Outer Space, International Institute of Space Law of the International Astronautical Federation* (American Institute of Aeronautics and Astrononautics, 1978) 106 at 107.
[50] David Tan, "Towards a New Regime for the Protection of Outer Space as the Province of All Mankind" (2000) 25 Yale J Intl L 145 at 165.
[51] *Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space*, GA Res 1962 (XVIII), UNGAOR, 18th Sess, UN Doc A/RES/18/1962 (1963) [*1963 Declaration of Legal Principles*]. A General Assembly resolution is not rendered more legally binding than any other recommendation by assuming the name declaration. See Cheng, *Studies in Space Law*, *supra* note 45 at 133.

COPUOS – reaching an understanding on the ground rules for the exploration of outer space to be followed not only by the two superpowers but by all states.[52] To summarize, it declared that states "should be guided by" the following principles:

1. "The exploration and use of outer space shall be carried on for the benefit and in the interests of all mankind."

2. "Outer space and celestial bodies are free for exploration and use by all States on a basis of equality and in accordance with international law."

3. "Outer space and celestial bodies are not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."

4. "The activities of States in the exploration and use of outer space shall be carried on in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding."

5. States "bear international responsibility" for outer space activities carried out both by governmental and non-governmental entities.

6. States shall conduct their outer space activities with "due regard for the corresponding interests of other States," and shall consult with other States if they believe their activities in outer space would cause potentially harmful interference with other States' peaceful use of outer space.

7. States shall register and maintain jurisdiction over their space objects.

8. Launching States will be liable for damages caused by their space objects.

9. States shall "regard astronauts as envoys of mankind" and render them assistance in the event of an emergency.

Prompted in part by the uncertainty of the outcome of the space race, the U.S. and Soviet Union, through COPUOS, sought to codify the principles conveyed in the 1963 Declaration into

[52] Cheng, *Studies in Space Law*, *supra* note 45 at 153.

a treaty.[53] The result is the 1967 *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies* (Outer Space Treaty).[54] The Outer Space Treaty essentially restates all the principles set down in the 1963 resolution, many verbatim, while adding a few others. Perhaps the most significant added provision in the Outer Space Treaty is Article IV, which declares that State Parties "undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction" and may not establish military fortifications or test weapons of any kind on the Moon or other celestial bodies, and celestial bodies shall be used "exclusively for peaceful purposes."

The 1967 Outer Space Treaty is regarded as the foundational document of space law. Generally, it establishes:

1. Outer space is the province of all mankind, free for exploration and use by all states (Article I);

2. No state may appropriate outer space as its own (Article II);

3. General international law and the UN Charter apply to all outer space activities (Article III);

4. Nuclear weapons and other weapons of mass destruction are prohibited in orbit (Art IV);

5. Astronauts are to be regarded as envoys of mankind (Article V);

6. All outer space activity is national activity for which states bear international responsibility (Art VI);

7. Launching states are liable if their space objects cause damage (Art VII);

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[53] James Clay Moltz, *The Politics of Space Security: Strategic Restraint and the Pursuit of National Interests* (Stanford, Stanford University Press: 2011) at 149 [Moltz, *Politics of Space Security*].

[54] *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, 27 January 1967, 19 UST 2410, 610 UNTS 205 (entered into force on 10 October 1967) [*Outer Space Treaty*].

8. States shall register and retain jurisdiction and control over their space objects (Article VIII);

9. States shall conduct outer space operations with due regard to the corresponding interests of other states and shall undertake appropriate consultations if it believes its activities would interfere with another state's outer space activities or if affected states request such consultations (Article IX);

10. States shall consider the requests of other states to observe space launches (Article X); and

11. States agree to inform the UN to the greatest extent practicable of its outer space activities (Article XI).

It is generally accepted that many of the principles contained in the non-binding 1963 Declaration of Principles and 1967 Outer Space Treaty have become customary international law.[55] Indeed, some even achieved the requisite *opinio juris* before being codified by treaty. This process began the moment the Soviet Union launched Sputnik I into orbit in 1957. The satellite continually passed over sovereign states, yet no state objected. "It seemed therefore justified to interpret their acquiescence as consent" and the practice "acquired the requisite features of legal certainty and stability," hence "before any written instrument had been agreed, important principles were established, their source being general practice accepted as law."[56] Consequently, in a remarkably short period of time, state practice and *opinio juris* established the customary international law recognizing the principle that a state's territorial sovereignty did not extend to outer space. Other principles established as custom even before the Outer Space Treaty are said to be the principle that space is free for exploration and use by all states, outer

[55] Sergio Marchisio, "The Evolutionary Stages of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS)" (2005) 31 J Space L 219 at 225 ("The universal acceptance of these principles has consolidated their customary value, which can hardly be questioned even by the strictest and most positivistic test of legal effectiveness").
[56] Lachs, *supra* note 41 at 126.

space is not subject to national appropriation, and states shall retain jurisdiction and control over their space objects.[57] Nevertheless, the need for a written treaty was apparent due to the fast pace of new developments and new activities giving rise to new issues, not least of all the placement of nuclear weapons in orbit.[58]

III. The Law, the Resolutions, and the Changing Role of COPUOS

A. The Treaty Phase

COPUOS built upon the success of the Outer Space Treaty by successfully negotiating four additional treaties on outer space, briefly summarized below simply to show the breadth of topics on which COPUOS was once able to negotiate treaties. The treaty-making phase of COPUOS would conclude with the negotiation of last of these treaties, the *Agreement Governing Activities on the Moon and Other Celestial Bodies* (Moon Agreement), in 1979.[59]

The *Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space* (Rescue and Return Agreement) entered into force on December 3, 1968 and has 94 ratifications.[60] The Rescue and Return Agreement provides that a party state agrees to rescue, render necessary assistance, and return any astronauts that land in its jurisdiction due to accident, distress, emergency, or unintended landing, as well as to return any recovered space objects.

The *Convention on International Liability for Damage Cause by Space Objects* (Liability Convention) entered into force on September 1, 1972 and has 92 ratifications.[61] The Liability

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[57] Vladlen S. Vereshchetin & Gennady M. Danilenko, "Custom as a Source of International Law of Outer Space" (1985) 13 J Space L 22 at 25.
[58] See Lachs, *supra* note 41 at 126.
[59] Marchisio, *supra* note 55 at 231.
[60] *Agreement on the Rescue of Astronauts and the Return of Objects Launched into Outer Space*, 22 April 1968, 19 UST 7570, 672 UNTS 1119 (entered into force on 3 December 1968).
[61] *Convention on International Liability for Damage Caused by Space Objects*, 29 March 1972, 24 UST 2389, 961 UNTS 187 (entered into force 1 September 1972) [*Liability Convention*].

Convention elaborates upon the liability provision under Article VII of the Outer Space Treaty. "Launching States" are liable to pay compensation if their space object is at fault for causing damage to the space object of another state. If a launching state's space object causes damage to the surface of the earth or to aircraft, then the launching state is absolutely liable whether or not it is as fault. The Liability Convention has been invoked on one occasion. In 1978, a Soviet satellite, COSMOS 954, crashed in a remote part of Canada.[62] Canada expressly sought compensation both on the basis of general international law and the Liability Convention for the cost of cleaning up the radiation contamination.[63] The Soviet Union agreed to pay 3 million Canadian dollars in settlement of the claim.[64]

The *Convention on Registration of Objects Launched into Outer Space* (Registration Convention) entered into force on September 15, 1976 and has 62 ratifications, including all major spacefaring states.[65] The Registration Convention establishes that launching states shall maintain a registry of their space objects and shall also furnish to the UN Secretary-General certain information about their space objects for a separate registry maintained by the UN and with full and open access. The information to be included is the launching state (if there are more than one, they must jointly determine which shall register the space object), an appropriate designator of the space object, the date and location of launch, the basic orbital parameters, and the general function of the space object. Launching states shall also notify the UN when registered objects are no longer in orbit.

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[62] Canada, *Disintegration of Cosmos 954 Over Canadian Territory in 1978*, Doc Ref: Canadian Department of External Affairs Communiqué No 27 (2 April 1981) at para 2.
[63] *Ibid* at para 14.
[64] *Ibid* at 1.
[65] *Convention on Registration of Objects Launched into Outer Space*, 14 January 1975, 28 UST 695, 1023 UNTS 15 (entered into force on 15 September 1976).

Finally, the aforementioned Moon Agreement opened for signature on December 18, 1979 and entered into force on July 11, 1984.[66] It has only 16 ratifications, none of which comes from a major spacefaring state. The Moon Agreement declares that the Moon and other celestial bodies and their natural resources are the "common heritage of mankind."[67] When exploitation of these natural resources become feasible, the Moon Agreement obliges State Parties to undertake to establish an international regime for the purpose of managing the development of the resources. Because the resources are the common heritage of mankind, the Moon Agreement also provides for their "equitable sharing by all State Parties in the benefits derived from those resources."[68]

B. The Move Away From Binding Law

After the conclusion of the Moon Agreement, the political will to negotiate new space treaties evaporated. Consequently, COPUOS began what has retrospectively been characterized as a "soft law" phase – developing principles which the General Assembly in turn adopted as resolutions.[69]

The first resolution to resulting from this phase is notable because it represents the only instance where COPUOS could not follow the informal consensus rule. The 1982 *UN Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting* suggested that states shall not directly broadcast television signals into other states

[66] *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, 18 December 1979, 1363 UNTS 3 (entered into force on 11 July 1984) [*Moon Agreement*].
[67] *Ibid* at art 11.
[68] *Ibid*.
[69] Marchisio, *supra* note 55 at 232.

without the other state's consent. The U.S. and some other western states would not support what they perceived to be an infringement on the freedom of direct broadcasting.[70]

Subsequent General Assembly resolutions developed through COPUOS include the 1986 *UN Principles Relating to Remote Sensing of the Earth from Outer Space*[71]; the 1992 *UN Principles Relevant to the Use of Nuclear Power Sources in Outer Space*[72]; the 1996 *Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries*[73]; the 2007 *Space Debris Mitigation Guidelines of the COPUOS*[74]; and the 2008 *Recommendation on Enhancing the Practice of States and International Intergovernmental Organizations in Registering Space Objects*.[75]

Since abandoning efforts to develop new treaties, COPUOS has also focused its attention on broadening the acceptance of the existing space treaties and their application. In a time when consensus on negotiating new space law treaties could not be reached, the Legal Subcommittee was not inclined to take on more forward-looking agenda items fear that new discussion would either result in disagreeable regulations or, more likely, simply languish on the agenda for years.[76] Rather, it added a new agenda item which simply "tried to find out why many States had

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[70] See Ricky J. Lee, "Reconciling International Space Law with the Realities of the Twenty-First Century" (2000) 4 Sing J Int'l & Comp L 194 at 218.
[71] *Principles Relating to Remote Sensing of the Earth from Space*, GA Res 41/65, 1986, UN Doc A/RES/41/65.
[72] *Principles Relevant to the Use of Nuclear Power Sources in Outer Space*, GA Res 47/68, 1992, UN Doc A/RES/47/68.
[73] *Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries*, UN Res 51/122, 1996, UN Doc A/RES/51/122.
[74] See *International Cooperation in the Peaceful Used of Outer Space*, GA Res 62/217, 2007, UN Doc A/RES/62/217 at para 26 (endorsing the COPUOS Space Debris Mitigation Guidelines).
[75] *Recommendations on Enhancing the Practice of States and Intergovernmental Organizations in Registering Space Objects*, GA Res 62/101, 2008, UN Doc A/RES/62/101 [*Recommendations on Enhancing Registration*].
[76] Kai-Uwe Schrogl, "A New Impetus for Space Law Making: The 1999 reform of UNCOPUOS and How It Works" in *Proceedings of the Forty-Third Colloquium on the Law of Outer Space, International Institute of Space*

not yet ratified the outer space treaties."[77] Seeking also to maintain some relevance and revitalize itself, in 1999 COPUOS overhauled its agenda structure to feature "work plans" in which items could be discussed across a controlled multi-year period towards a clearly defined goal.[78] Thus, member states now had the opportunity to consent to adding relevant agenda items without fear that the item would either become law or languish forever. The result of this phase has been resolutions designed to clarify how best to apply the concept of "Launching State" as expressed in the Registration Convention and the Liability Convention and to encourage states to comply with their obligation to register their space objects.[79]

C. The Declining Relevance of COPUOS and its Legal Subcommittee

Despite the revisions to the agenda structure in 1999, the role of COPUOS in the development of space law, and that of the Legal Subcommittee in particular, has continued to erode. The prevalence of legal and quasi-legal instruments being developed through alternative fora demonstrates COPUOS's growing irrelevance. For instance, the International Telecommunications Union, which regulates the frequency spectrum used by satellites as well as orbital slots in geosynchronous orbit (GSO), meets every three or four years and updates its binding, treaty-level documents, even while using the consensus rule.[80] Also, in 2012, the International Institute for the Unification of Private Law negotiated and opened for signature the Space Assets Protocol for the Convention on International Interests in Mobile Equipment (Berlin

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Law of the International Astronautical Federation (American institute of Aeronautics and Astronautics, 2001) 96 at 98 [Schrogl, "A New Impetus"].

[77] *Ibid*.

[78] *Ibid* at 98-99.

[79] See Marchisio, *supra* note 55 at 240-41; see also *Application of the Concept of the "Launching State"*, UN Res 59/115, 2005, UN Doc A/RES/59/115; *Recommendations on Enhancing Registration*, *supra* note 75.

[80] See Audrey Allison, *The ITU and Managing Satellite Orbital and Spectrum Resources in the 21st Century* (New York: Springer, 2014) at 10.

Space Protocol).[81] The Berlin Space Protocol does not yet have enough signatories to enter into force, yet it nevertheless represents a rare modern instance of states having negotiated a binding instrument for developing space law.[82] Examples of "soft law" developed outside of COPUOS include the 2002 Hague Code of Conduct Against Missile Proliferation and the Inter-Agency Space Debris Coordination Committee (IADC), the informal group of leading space agencies that negotiated voluntary debris mitigation guidelines in 2002, a modified version of which COPUOS and the UN General Assembly then endorsed in 2007. Finally, the ICOC, which originated out of the European Union, has thus far avoided development within COPUOS.

Even when COPUOS does develop instruments impacting outer space activities, the Legal Subcommittee is often marginalized. For instance, the Space Debris Mitigation Guidelines were discussed in the Scientific and Technical Subcommittee and then went directly to the Main Committee for adoption in 2007, all without any debate within the Legal Subcommittee.[83] Similarly, the Working Group on Long Term Sustainability is currently on the agenda in the Scientific and Technical Subcommittee but the Legal Subcommittee has no involvement, despite the obvious presence of legal issues.[84]

The current Chairman of the Legal Subcommittee, Kai-Uwe Schrogl, states that COPUOS is no closer to regaining its status at the forefront of developing space law. He attributes this to the trend of bypassing the COPUOS altogether, the side-lining of the Legal Subcommittee even within COPUOS, and the continued unwillingness of states to add relevant

[81] See Schrogl, *A New Impetus*, *supra* note 76 at 101.
[82] UNIDROIT, Space Protocol, online: Status <http://www.unidroit.org/status-2012-space>.
[83] Kai-Uwe Schrogl, "The new debate on the working methods of the UNCOPUOS Legal Subcommittee" (2014) 105:1 Acta Astronaut 101 at 102.
[84] *Ibid*.

issues of space law to the agenda, even despite the revisions to the agenda structure in 1999.[85] In an attempt to engender discussion on how to revitalize the Legal Subcommittee, the German delegation submitted a proposal in the 2014 session designed to address the agenda method that had become "neither reactive nor dynamic"[86] and the problem of attendance during the annual two-week sessions.[87] "The two main features of the proposal were intended to provide a more flexible way to take up issues of interest, without the necessity of making to make them formal agenda items with associated workplans," Schrogl explains.[88] Under the proposal, preparatory groups involving experts could have substantive debates the first week, to include scientific and technical issues, thereby closing the gap between the Legal and Scientific and Technical Subcommittees. The government representatives would then have the option of attending only the second week, when they could still benefit from the work of the preparatory group, thereby reducing the travel burdens for smaller delegations.

The German proposal, which was revised twice through inputs from other countries, initiated a lively debate in the Legal Subcommittee while also providing delegations a rare forum to "express their general understanding of the role of the (Legal Subcommittee) and their expectations with regard to its work and products."[89] However, as characterized by Schrogl, the African nations were generally skeptical, the U.S. was opposed to the proposal, and when the German delegation held informal consultations on its proposal at the COPUOS Main Committee in June 2014 it did not gain traction.[90] "With this result, the (Legal Subcommittee) will enter a

[85] *Ibid*.
[86] *Ibid* at 105, citing Germany, *Proposal for a renewal of the structure of the agenda and organization of work of the Legal Subcommittee*, UNCOPUOS, 53rd Session, Item 14, UN Doc A/AC.105/C.2/L.293/Rev.1 (2014) at para 3.
[87] *Ibid* at 102.
[88] *Ibid*.
[89] *Ibid* at 103.
[90] *Ibid* at 104.

difficult period," Schrogl concedes, "characterized by the understanding for the need of change but no emerging consensus on how to accomplish this." It is in this context that some hope the ICOC will provide a way for states to deliberate responsible behavior for space activities and achieve the results that have been elusive in COPUOS.

IV. Working Outside COPUOS for Arms Control in Space

A. Stalemate in the Conference on Disarmament

The question of arms control in space was a motivating factor for the involvement of the UN since the very inception of the space age.[91] Throughout the Cold War and up to the present, it has remained a central aspect of space security. The difficulties in addressing arms control in the Conference on Disarmament (CD) warrants attention for its relevance to what are currently the two most prominent proposals for new multilateral agreements dealing with space: the ICOC and the draft Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects (PPWT), proposed jointly by China and the Russian Federation. Because the draft PPWT is an arms control treaty and the ICOC is regarded as an alternative to the PPWT, the ICOC is often judged by what it does or does not do to prevent the weaponization of outer space. Accordingly, it is instrumental to examine the UN's stalled progress on arms control in space as well as China and Russia's contribution to the debate.

In 1978, the UN General Assembly established a multilateral negotiation forum called the Committee on Disarmament. Initially, the CD consisted of the U.S., the Soviet Union, France, the United Kingdom, and China, along with 35 additional states.[92] By 1984 the CD – now the Conference on Disarmament – consisted of 66 Member States.[93] Like COPUOS, the CD

[91] Christol, *Modern International Law*, *supra* note 40 at 13.
[92] Detlev Wolter, *Common Security in Outer Space and International Law* (Geneva: United Nations, 2006) at 56.
[93] *Ibid*.

operates by consensus for both substantive and procedural matters.[94] In order to undertake substantive discussions, it must agree to create an *ad hoc* committee dedicated to a particular priority item. Moreover, it must agree to renew the committee as an agenda item each year.[95] Since its inception, the CD has at various times included as its major agenda items the topics of general and complete nuclear disarmament, the prohibition of the production of fissile material (the Fissile Material Cut-Off Treaty, or FMCT), security guarantees for non-nuclear States, and the prevention of an arms race in outer space (PAROS).[96] As explained further below, the consensus method, combined with the Member States' insistence on linking agenda items on which they place divergent priority, hobbles the CD's ability to function.

Although COPUOS was the forum that successfully developed one of the original provisions on arms control in space – barring the placement of nuclear weapons in orbit or on the moon under Article IV of the Outer Space Treaty – the CD has been the primary forum for multilateral discussions on arms control in space since 1983. In 1980, delegations within COPUOS began to convey concern about the growing dangers of the militarization in outer space. Western nations, and the U.S. in particular, opposed addressing questions of arms control in COPUOS, believing instead that arms control in outer space was inherently intertwined with general arms control on earth and, accordingly, should be addressed in other fora such as the CD, if at all.[97] For several years, states continued to call for discussions in either the CD, or COPUOS, or both. By December 1983, at the session of the UN General Assembly, opinion coalesced around a proposal requesting the CD establish an *ad hoc* working group to undertake

[94] *Ibid* at 59.
[95] *Ibid*.
[96] *Ibid*.
[97] Nandasiri Jasentuliyana, *International Space Law and the United Nations* (The Hague, Netherlands: Kluwer Law International, 1999) at 76-77.

negotiations for an agreement to prevent an arms race in outer space.[98] It was adopted with 183 voting in favor, the U.S. opposed, and the United Kingdom abstaining.[99]

The U.S. finally acquiesced to the creation of an *ad hoc* committee to discuss the peaceful uses of outer space in the CD in 1985.[100] However, for the following ten years, the committee debated its own mandate rather than substantive issues. The U.S. opposed a mandate for any new space treaties, instead insisting that the legal regime of outer space, along with relevant existing arms control provisions, were sufficient in light of the lack of an actual arms race in outer space. By contrast, the rest of the world felt it necessary to negotiate a new legal instrument to solidify their conception of the principle of the peaceful use of outer space.[101] Finally, in 1995, Western states, at the behest of the U.S., began to insist that any renewal of the *ad hoc* PAROS committee be linked to the creation of an *ad hoc* committee on other topics, such as nuclear nonproliferation and progress towards an FMCT.[102] No consensus could be reached, and the PAROS committee within the CD was essentially abandoned as a result.[103] In addition, the insistence of other states to include PAROS in the CD's agenda, combined with Pakistan's unwillingness to begin FMCT negotiations, resulted in a stalemate at the CD itself, preventing any substantive negotiations from occurring at the CD since 1998.[104] Not until 2009 could the CD agree on a formal program of work.[105] This achievement was possible because the U.S., under the new Obama Administration, agreed to establish a working group to discuss PAROS

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[98] *Ibid* at 90.
[99] *Ibid*; see *Prevention of an Arms Race in Outer Space*, GA Res 38/70, 1983, UN Doc A/RES/38/70.
[100] Wolter, *supra* note 92 at 61.
[101] *Ibid* at 65.
[102] *Ibid* at 66; see Moltz, *Politics of Space Security*, *supra* note 53 at 279.
[103] Wolter, *supra* note 92 at 66.
[104] *Ibid* at 67.
[105] *Decision for the establishment of a Programme of Work for the 2009 session*, (29 May 2009) UN Doc CD/1864.

(but *not* to negotiate a treaty), while other states dropped their insistence on linking the working group to formal treaty negotiations.[106] The work program also included an agreement to begin negotiations on a Fissile Material Cutoff Treaty, which Pakistan had been opposing. When work was to begin, however, Pakistan reversed course and obstructed any substantive discussions.[107] The CD remains deadlocked.

B. Russia, China, and the PPWT

Despite the lack of consensus in the CD, China and Russia continued to push for progress on PAROS in the early 2000s. In 2003, China dropped its insistence on formal treaty negotiations in favor of mere discussions on PAROS, a compromise to which, as noted above, the U.S. agreed in 2009.[108] China and Russia together issued several working papers to the CD, culminating in 2008 when they submitted the first draft of a proposed treaty, the PPWT.[109]

The main thrust of the PPWT is Article II, which states in the 2008 draft:

> The State Parties undertake not to place in orbit around the Earth any objects carrying any kinds of weapons, not to install such weapons on celestial bodies and not to place such weapons in outer space in any other manner; not to resort to the threat or use of force against outer space objects; and not to assist or induce other States, groups of States or international organizations to participate in activities prohibited by this Treaty.[110]

The PPWT of 2008 defines "weapons in outer space" as "any device placed in outer space, based on any physical principle, which has been specifically produced or converted to destroy, damage

[106] Theresa Hitchens, "Multilateralism in Space: Opportunities and Challenges for Achieving Space Security" (2010) 4:2 Space and Defense 3 at 16.
[107] *Ibid* at 17.
[108] Moltz, *Politics of Space Security*, *supra* note 53 at 279.
[109] Russian Federation & People's Republic of China, *Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects* (29 February 2008), UN Doc CD/1839 [2008 PPWT].
[110] *Ibid* at art II.

or disrupt the normal functioning of objects in outer space, on the Earth or in the Earth's atmosphere.[111] A weapon is placed in outer space if it "orbits the Earth at least once, or follows a section of such an orbit before leaving this orbit, or is permanently somewhere in outer space."[112]

The U.S. circulated within the CD a letter expressing its concerns over the PPWT.[113] Article II of the draft, the U.S. noted, would prohibit the use of force against other states' space objects, but not against one's own objects, provided the use of force came from a weapon not placed in outer space.[114] Moreover, the prohibition against "use of force" included temporary, reversible effects such as frequency jamming.[115] Additionally, there are no prohibitions on the research, testing, or deployment of terrestrial-based anti-satellite weapons.[116] To the extent that such terrestrial-based ASATs could substitute for space-based weapons, the draft treaty's prohibition on space-based weapons would be irrelevant.[117]

In 2014, China and Russia presented a revised draft PPWT to the CD.[118] This new version includes seemingly minor changes in language that have significant implications. Article II was revised to read:

> The State Parties to this Treaty undertake
>
> - Not to place any weapons in outer space;

[111] *Ibid* at art I(c).
[112] *Ibid* at art I(d).
[113] US, *Letter Dated 19 August 2008 From the Permanent Representative of the United States of America Addressed to the Secretary-General of the Conference Transmitting Comments on the Draft "Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force Against outer Space Objects (PPWT)" as Contained in Document CD/1839 of 29 February 2008*, UN Doc CD/1847.
[114] *Ibid* at para 4i.
[115] *Ibid* at para 5i.
[116] *Ibid* at para 9.
[117] *Ibid* at para 9iii.
[118] Russian Federation & People's Republic of China, *Draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects* (10 June 2014), UN Doc CD/1985 [2014 PPWT].

- Not to resort to the threat or use of force against outer space objects of State Parties to the Treaty;

- Not to engage, as part of international cooperation, in outer space activities that are inconsistent with the object and purpose of this Treaty;

- Not to assist or induce other States, groups of States, international, intergovernmental or non-governmental legal entities established, registered or located in territory under their jurisdiction and/or their control, to participate in activities inconsistent with the object and purpose of this Treaty.

The definitions contained in Article I were revised to read:

For the purposes of this Treaty:

a. The term "outer space object" means any device placed in outer space and designed for operating therein;

b. The term "weapon in outer space" means any outer space object or component thereof which has been produced or converted to destroy, damage, or disrupt the normal functioning of objects in outer space, on the Earth's surface or in its atmosphere, or to eliminate human beings or components of the biosphere which are important to human existence, or to inflict damage on them by using any principles of physics;

c. A device is considered to have been "placed in outer space" if it orbits the Earth at least once, or follows a section of such an orbit before leaving that orbit, or is permanently located in outer space or on any celestial bodies other than Earth;

d. The term "use of force" means any action intended to inflict damage on an outer space object under the jurisdiction and/or control of other States, and the term "threat of force" means the clear expression in written, oral, or any other form of the intention to commit such an action. Actions taken in accordance with special agreements with States that provide for actions on the request of such States to stop uncontrolled flight by outer space objects under the jurisdiction and/or control of the requesting States shall not be regarded as the use or threat of force.

Thus, the revised draft PPWT would prohibit the placement of weapons in space, which are defined as space objects that can destroy, damage, or disrupt the normal functioning of an

object in space or on earth. In other words, states cannot jam or spoof or otherwise disrupt space objects *from satellites in orbit or spacecrafts in space*. The use of force against space objects of State Parties is also prohibited, but this is defined as actions "intended to inflict damage," and, importantly, not actions intended to disrupt. Hence, jamming, spoofing, or otherwise temporarily disrupting satellites is permissible under the PPWT so long as it is done *from earth*, because such actions generally are not seen as constituting a use of force. Furthermore, it suggests that such temporary disruptions could never warrant the use of force in self-defense. The PPWT, consequently, would significantly negate any advantage a state might gain from developing offensive or defensive capabilities in space, while permitting a wide range of disruptive activities against those space assets provided the activity originates from Earth. Arguably, China and Russia's objective in proposing the PPWT is to constrain the U.S.'s development of space capabilities in order to restore a strategic balance.[119] In any event, the U.S. representative at the CD said the revised PPWT remains "fundamentally flawed," in part because it continues to lack a verification mechanism and does not restrict developing or stockpiling ASAT weapons launched from Earth.[120]

Despite the PPWT's flaws, it figures heavily in the debate over the future of space security because the majority of UN Member States fear an arms race in outer space. Every year since 1981, the UN General Assembly has passed with nearly unanimous approval a resolution calling on states to prevent an arms race in outer space.[121] The U.S. (and sometimes Israel and one or two other countries, depending on the political climate) consistently abstains or objects.

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[119] See Isabella Sourbès-Verger, "Space Code of Conduct: What is at Stake?" in *Decoding the ICOC*, *supra* note 27, 82 at 83.
[120] Jeff Foust, "U.S. Dismisses Space Weapons Treaty as 'Fundamentally Flawed'", *SpaceNews.com* (11 September 2014), online: <spacenews.com/41842us-dismisses-space-weapons-treaty-proposal-as-fundamentally-flawed/>.
[121] Wolter, *supra* note 92 at 60.

Similarly, in 2014 the General Assembly passed a "No First Placement of Weapons in Outer Space" resolution with 126 in favor, 4 opposed, and 46 abstentions.[122] This resolution "encourages all States, especially space-faring nations, to consider the possibility of upholding as appropriate a political commitment not to be the first to place weapons in outer space."[123]

The widespread opposition to the weaponization of outer space, as reflected by these resolutions, explains why, by proposing an arms control treaty, both China and Russia have enjoyed "a significant boost in (their) soft power within the UN framework, especially among non-space faring nations."[124] To many, the PPWT is "not a serious diplomatic initiative"[125] or, instead, a "propaganda ploy ... because it would outlaw U.S. deployment of space-based missile defense interceptors (the main Russian and Chinese goal), but not prohibit debris-generating ASAT tests or prevent the proliferation of ASAT capabilities, the most important arms control objectives for other spacefaring states."[126] Despite this, it "allows China and Russia to dominate international public diplomacy"[127] when it comes to outer space security. For instance, as explained in the next section, the U.S. now claims to be willing to consider arms control proposals that are equitable, effectively verifiable, and enhance the security of all nations, but it also asserts to have "not yet seen any legally-binding proposals that meet these criteria."[128]

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[122] *No first placement of weapons in outer space*, GA Res 69/32, UNGAOR, 69th Sess, UN Doc A/RES/69/32 (2014); details for recorded vote online at: gafc-vote.un.org/UNODA/vote.nsf/d523afe92781d4d605256705006e0a5d/7bf7b15e993f988185257dc10070d788?OpenDocument&ExpandSection=3>.
[123] *Ibid*.
[124] Michael Listner, "Geopolitical Challenges to Implementing the Code of Conduct for Outer Space Activities", *E-International Relations* (26 June 2012), online: < www.e-ir.info/2012/06/26/geopolitical-challenges-to-implementing-the-code-of-conduct-for-outer-space-activities/>.
[125] Michael Krepon, "Norm-Setting for Outer Space", *SpaceNews.com* (8 September 2014), online: <spacenews.com/41789norm-setting-for-outer-space/>.
[126] Nancy Gallagher, "Space Governance and International Cooperation" (2010) 8:2-3 Astropolitics 256 at 266.
[127] Soloman Belay Tessema, "ICOC: African Perspectives" in *Awaiting Launch, supra* note 36 at 187.
[128] Jeff Foust "U.S. Dismisses Space Weapons Treaty Proposal As 'Fundamentally Flawed'" *SpaceNews.com* (11 September 2014), online: <spacenews.com/41842us-dismisses-space-weapons-treaty-proposal-as-fundamentally-flawed/>.

Meanwhile, the U.S. makes no attempt to assist in formulating a satisfactory proposal, whereas China and Russia can at least claim the credit for having submitted a concrete, albeit deeply flawed, draft treaty. Consequently, the success of a non-binding alternative, such as the ICOC, would harm China and Russia's geo-political interests because it could erode their newfound soft-power in the CD while at the same time nullifying the PPWT.[129]

[129] Fermin Romero Vazquez, "EU Efforts for an ICOC: A Mexican Perspective," in *Awaiting Launch, supra* note 36 at 150-151.

Chapter Two: Contemporary U.S. Outer Space Security Policy – Finding a Place for a Code of Conduct

We now turn to an examination of contemporary U.S. space security policy. U.S. policy continues to evolve, recalibrating its various elements to achieve the optimal balance in the face of developing threats. The factors driving this evolution, together with how those factors interact with the existing legal regime, must be understood in order to assess the merit of the ICOC and how it might contribute if given a role to play.

I. The Bush Years: "Renewed Space Nationalism"

A. The Rumsfeld Commission Report and ABM Treaty Withdrawal

The domestic debate over whether to sign on to the ICOC comes at a time when the U.S. is at a heightened awareness of the threats to its assets in outer space. If we are to understand the direction of the policy evolution and the role a code of conduct may have in it, it is instructive to review the contemporary policy positions, starting with that under President George W. Bush. The period from around 2000 to 2008, under the Bush Administration, represents what author James Clay Moltz has characterized as "renewed U.S. space nationalism."[130] Moltz posits that, up until the Bush era, the U.S. and the Soviet Union had come to recognize the condition of mutual interdependence in the space environment, which resulted in the acceptance of strategic cooperative restraint in outer space activities.[131] Beginning with the election of President Bush, the U.S. began to emphasize unilateral solutions to threats in space while deemphasizing cooperative measures.[132] Two significant milestones in this transition were the so-called

[130] Moltz, *Politics of Space Security*, *supra* note 53 at 259.
[131] *Ibid* at 65.
[132] *Ibid* at 331-32.

"Rumsfeld Commission" report in 2001 and the U.S.'s withdrawal from the 1972 Anti-Ballistic Missile (ABM) Treaty.

On January 11, 2001, the Congressionally-appointed Commission to Assess United States National Security Space Management and Organization issued its report.[133] The Executive Summary warned:

> An attack on elements of U.S. space systems during a crisis or conflict should not be considered an improbable act. If the U.S. is to avoid a "Space Pearl Harbor" it needs to take seriously the possibility of an attack on U.S. space systems. The Nation's leaders must assure that the vulnerability of the United States is reduced and that the consequences of a surprise attack on the U.S. space assets are limited in their effects.[134]

The bipartisan Commission, chaired by Donald Rumsfeld until his appointment as Secretary of Defense on December 28, 2000, unanimously concluded that conflict in space was a "virtual certainty" and the U.S. must take the steps necessary to develop the capabilities to ensure superior space capabilities both to deter and defend against hostile acts in and from space.[135] Of course, when a future event is declared to be a certainty, it is imperative to prepare for it.[136] While recognizing the sensitivity surrounding the notion of weapons in space, the Commission called for the vigorous pursuit of capabilities that would give the President the option to deploy weapons in space in order to deter threats to U.S. interests.[137]

For many, and political conservatives in particular, one such capability essential for ensuring national security was the creation of a national missile defense system. However, the

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[133] US, *Report of the Commission to Assess United States National Security Space Management and Organization*: *Pursuant to Public Law 106-65* (11 January 2011) [*Rumsfeld Commission Report*].
[134] *Ibid* at viii-ix.
[135] *Ibid* at x.
[136] Joan Johnson-Freese, *Space as a Strategic Asset* (New York: Columbia University Press, 2007) at 9 [Johnson-Freese, *Space as a Strategic Asset*].
[137] *Rumsfeld Commission Report*, *supra* note 133 at 17.

1972 ABM Treaty with the Soviet Union committed both countries "not to deploy ABM systems for the defense of the territory and not to provide a base for such a defense."[138] Developing, testing, or deploying ABM systems or components that were sea-based, air-based, or space-based was prohibited.[139] The existence of such a missile defense system, according to proponents of the treaty, would undermine the deterrent effect achieved through mutually assured destruction, and withdrawal from the treaty, they said, would instigate a nuclear arms race.

Critics of the ABM Treaty within the Bush Administration argued that the rationale for the Cold War deterrence posture based upon mutually assured destruction had lapsed since the demise of the Soviet Union, and a new capability was needed to deter and defend against modern, less predictable threats.[140] The terrorist attacks of September 11, 2001, provided the impetus to finally withdraw.[141] In December 2001 President Bush gave notice of the U.S.'s intent to withdraw from the ABM Treaty on the basis that it hindered the U.S.'s ability to protect against future terrorist or rogue-state missile attacks.[142] The withdrawal took effect six months later, and the U.S. became free, at least legally, to develop a missile defense system and place weapons in space. Conservatives celebrated the end of a "civilian-led commitment to vulnerability,"[143] yet, for some, withdrawal from the bilateral ABM Treaty "symbolically ended

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[138] *Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems*, 26 May 1972, 23 UST 3435, TIAS 7503, 944 UNTS 13 art 1 (entered into force 3 October 1972; US withdrew effective 13 June 2002).
[139] *Ibid* at art 5.
[140] Remarks of Douglas Feith, "The 10th Anniversary of the Anti-Ballistic Missile Treaty Withdrawal" *The Heritage Foundation* (14 February 2013) ["10th Anniversary ABM Treaty Withdrawal"], online: Douglas Feith <www.heritage.org/research/lecture/2013/02/the-10th-anniversary-of-the-anti-ballistic-missile-treaty-withdrawal>.
[141] See Johnson-Freese, *Space as a Strategic Asset*, *supra* note 136 at 109.
[142] US, White House, Office of the Press Secretary, "Announcement of Withdrawal from the ABM Treaty (13 December 2001), online: <www.acq.osd.mil/tc/treaties/abm/ABMwithdrawal.htm>.
[143] Remarks of Ambassador Robert Joseph, "The 10th Anniversary of ABM Treaty Withdrawal" *supra* note 140.

the era of restraint between the two main space powers since 1972, during which time both agreed not to test or deploy space-based missile defenses of components."[144]

The Rumsfeld Commission Report and the withdrawal from the ABM Treaty reflected a move towards a more aggressive and unilateral approach to space security policy that emphasized freedom of action in space over arms control and diplomatic approaches. Aspects of this policy were later formalized in the 2006 U.S. National Space Policy.[145]

B. The 2006 National Space Policy

The 2006 U.S. National Space Policy (2006 NSP) was the first since President Bill Clinton's in 1996 (1996 NSP). Key principles of the new policy include:

- The United States considers space systems to have the rights of passage through and operations in space without interference. Consistent with this principle, the United States will view the purposeful interference with its space systems as infringement on its rights;

- The United States considers space capabilities – including the ground and space segments and supporting links – vital to its national interests. Consistent with this policy, the United States will: preserve its rights, capabilities, and freedom of action in space; dissuade or deter others from either impeding those rights or developing capabilities intended to do so; take those actions necessary to protects its space capabilities; respond to interference and deny, if necessary, adversaries the use of space capabilities hostile to U.S. national interests.

- The United States will oppose the development of new legal regimes or other restrictions that seek to prohibit or limit U.S. access to or use of space. Proposed arms control agreements or restrictions must not impair the rights of the United States to conduct research, development, testing, and operations or other activities in space for U.S. national interests.[146]

[144] James Clay Moltz, "Reigning in the Space Cowboys" (2003) 59:1 Bulletin of the Atomic Scientists 61 at 62.
[145] US, President of the United States, *U.S. National Space Policy* (31 August 2006) [2006 NSP].
[146] *Ibid* at para 2.

The NSP thus placed a premium on freedom of action and takes the significant step of expressly opposing any new legal regime that could limit the U.S.'s use of space. The effect of the 2006 NSP was summarized by Michael Krepon and Michael Katz-Hyman in an article presented before the House Subcommittee on National Security and Foreign Affairs:

> What do we do about satellites that are absolutely essential and extraordinarily vulnerable? The Bush Administration's answer is to maximize freedom of action to, from, and through space, while opposing the development of new legal regimes or arms control initiatives broadly defined that might impair U.S. efforts to 'control' space.[147]

Domestic response to the 2006 NSP was largely split along ideological lines. According to some, the NSP was largely consistent with its 1996 predecessor. It reaffirmed the U.S.'s commitment to the use of outer space by all nations for peaceful purposes, encouraged cooperation with others, supported the strict adherence to existing international agreements regarding the use of outer space as well as the right to free passage through an in space without interference, and rejected any claims of sovereignty in outer space.[148] As was noted at a Congressional hearing in 2007, the 2006 NSP's goal of denying freedom of action to adversaries is not unique, and "draws its origins from the earliest days of the space program."[149] As will be seen, this goal remains an element in the NSP of President Bush's successor, although expressed in more diplomatic terms.

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[147] US, *Weaponizing Space: Is Current U.S. Policy Protecting Our National Security? Hearing before the Subcommittee on National Security and Foreign Affairs of the Committee on Oversight and Government Reform, House of Representatives*, 110th Congress (23 May 2007) at 3 [*Weaponizing Space Hearing*], citing Michael Krepon & Michael Katz-Hyman, "Space Responsibility", *Defense News* (16 October 2006).
[148] See *Weaponizing Space Hearing*, *ibid* at 32-33 (Testimony of Major General James B. Armor, Director, National Security Space Office).
[149] *Weaponizing Space Hearing*, *ibid* at 94 (Testimony of Jeff Kueter, President, George C. Marshall Institute).

As indicated, the 2006 NSP did differ from its predecessor in that it expressly opposed the development of any new legal restrictions in outer space. However, advocates argued that the existing legal regime for outer space was sufficient because there was no arms race in outer space and, in any case, "arms control is not a viable solution to the challenges posed by potential adversaries to counter the U.S. advantage in space."[150] Without a functional definition for space weapons or viable verification measures, it was noted, arms control negotiations would result in loopholes and restrictions on practical uses of space systems.[151] Notably, as these positions suggest, arguments in support of the 2006 NSP's emphasis on freedom of action reflexively equated any kind of restrictions on space activity with arms control, a critique to which the ICOC has been subjected.

Critics of the 2006 NSP noted that its tone and points of emphasis signified a departure from preceding NSPs, even though much of the language remained the same.[152] In contrast to the 1996 NSP, the 2006 NSP "reads as strongly unilateral, dismissive of other nation's rights, and as casting doubt on the spirit, if not the letter, of the 1967 Outer Space Treaty," according to critic Theresa Hitchens.[153] Some in the international community were also critical of the 2006 NSP, which they viewed as a repudiation of the principles of cooperative security in space and harmful to space security.[154] As one article for the politically moderate *The Times* of London

[150] *Weaponizing Space Hearing*, *ibid* at 38-39 (Written Testimony of Major General Armor Director, National Security Space Office).
[151] *Ibid* at 39.
[152] Moltz, *Politics of Space Security*, *supra* note 53 at 296.
[153] *Weaponzing Space Hearing*, *supra* note 147 at 72 (Written Testimony of Theresa Hitchens, Director, Center for Defense Information).
[154] See Joan Johnson-Freese, "The 2010 National Space Policy: Down to Earth?" (2011) 5:1 Space and Defense 23 at 25.

commented, "[t]he new National Space Policy that President Bush has signed is comically proprietary in tone about the U.S.'s right to control access to the rest of the solar system."[155]

Despite these criticisms, it should be noted that even though the 2006 NSP emphasized the freedom of action to protect U.S. interests in space, it did not go so far as to call overtly for the placement of weapons in space. Moltz describes the 2006 NSP as walking up to that line but not quite crossing it, "thus suggesting not only the strengthened hand of supporters of military space forces since the last Clinton policy in 1996 but also the continued power of opponents of weaponization."[156] Congressional support for elaborate space-based missile defense systems had waned since the heady days of the withdrawal from the ABM treaty due in part to costs, political considerations, and questions of technical feasibility.[157] At the Pentagon, too, there was an "evolving shift" away from umbrella-type missile defenses towards "acquiring the *selective* ability to take out individual satellites and stray missiles" due to a growing awareness that testing, deploying, and using space weapons could create harmful debris.[158] In early 2007, China underscored this concern with an ASAT test that had significant environmental consequences. Balancing the freedom to use kinetic weapons in space with the potentially deleterious effects of space debris remains a crucial consideration for policy-makers as they evaluate the adequacy of the existing legal regime and the utility of political commitments like the ICOC.

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[155] *Ibid* at 26, citing Bronwen Maddox, "America Wants it All – Life, the Universe, Everything", *The Times [of London]* (19 October 2006).
[156] Moltz, *Politics of Space Security*, *supra* note 53 at 296-97.
[157] *Ibid* at 295.
[158] *Ibid*.

II. Weapons and Debris Events Shaping the Space Security Debate since 2007

A. China's 2007 ASAT Test

Since the release of the 2006 NSP, several notable incidents and events have influenced the space security debate. The first occurred on January 11, 2007, when China destroyed its own Fengyun weather satellite with a modified ballistic missile.[159] It was the first kinetic ASAT test since 1985, when the U.S. launched an antisatellite multistage missile from an F-15 Eagle fighter aircraft and destroyed a U.S. gamma ray spectroscopy satellite, Solwind P78-1. The Chinese test's impact resulted in the worst single debris contamination incident to date in Low Earth Orbit (LEO), resulting in nearly 3,400 distinct pieces of trackable, catalogued debris and an estimated 150,000 pieces of smaller, untrackable debris, all of which poses a threat to spacecraft and satellites.[160] Due to the satellite's altitude of 860 km at the time of destruction, much of the debris will remain orbiting the earth for decades.[161]

B. Operation Burnt Frost

On February 20, 2008, the U.S. shot down its own falling satellite to prevent it from returning to earth and landing in a populated area, where the toxic propellant it carried, hydrazine, could pose a danger to people.[162] Dubbed Burnt Frost, the operation entailed destroying the satellite using a missile launched from a Navy destroyer.[163] The impact occurred at a low orbit and almost all of the resultant debris was destroyed upon re-entering the

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[159] *Space Sustainability: A Practical Guide* at 10, online: Secure World Foundation <swfound.org/resource-library/publications/2014/05/space-sustainability-a-practical-guide/>.
[160] "Fengyun-1C Debris Cloud Remains Hazardous", *NASA Orbital Debris Quarterly* 18:1 (January 2014) at 2.
[161] *Ibid* at 3.
[162] Robert Gates, *Duty: Memoirs of a Secretary at War* (New York: Alfred A Knopf, 2014) at 250.
[163] *Ibid*.

atmosphere.[164] In a presentation to the COPUOS Scientific and Technical Subcommittee, a NASA representative deemed the operation fully compliant with Guideline 4 of the 2007 COPUOS Space Debris Mitigation Guidelines.[165] Guideline 4 advises states to "avoid intentional destruction and other harmful activities" and further specifies "when intentional break-ups are necessary, they should be conducted at sufficiently low altitudes to limit the orbital lifetime of resulting fragments." Preserving the freedom to conduct such an operation is an important consideration for the U.S. if it is to enter into new legal or political agreements regulating the use of outer space.

In contrast to China's lack of consultation prior to their 2007 ASAT test, the U.S. notified COPUOS both before and after conducting the operation.[166] However, it is interesting to note that these were mere notifications and not consultations made pursuant to Article IX of the Outer Space Treaty; the U.S. felt there was no likelihood of harmful interference to the space activities of other states, a trigger for the requirement to consult.[167] Chapter three will discuss in more detail the consultation procedure in Article IX and how it compares to a similar procedure in the ICOC.

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[164] *Report of the Committee on the Peaceful Use of Outer Space*, UNCOPUOS, 63rd Sess, Supp No 20, UN Doc A/63/20 (2008) at para 18.
[165] US, NASA, *Space Debris Assessment for USA-193: Presentation to the 45th Session of the Scientific and Technical Subcommittee* (2008) at 4, online: <www.unoosa.org/pdf/pres/stsc2008/tech-16.pdf>.
[166] *Report of the Scientific and Technical Subcommittee on its forty-fifth session, held in Vienna from 11-22 February 2008*, STSC COPUOS, 51st Sess, UN Doc A/AC.105/911 (2008) at para 15, online: <www.unoosa.org/pdf/reports/ac105/AC105_911E.pdf>.
[167] Department of Defense, News Briefing, "DoD News Briefing with Deputy National Security Advisor Jeffrey, Gen. Cartwright and NASA Administrator Griffin" (14 Feb 2008) (Remarks of Ambassador James Jeffrey), online: <www.defense.gov/transcripts/transcript.aspx?transcriptid=4145>.

C. Cosmos-Iridium Collision

On February 10, 2009, two intact satellites, Iridium 33 and Cosmos 2251, collided while crossing paths at a right angle to each other 790 km above Siberia.[168] Iridium 33 was a functioning communications satellite registered to the U.S., while Cosmos 2251 was a non-functioning communications satellite – space debris, really – registered to Russia.[169] A year after the collision, the resultant debris cloud had reached 1,740 trackable pieces, which accompanies the even larger debris cloud created by the aforementioned China's 2007 ASAT test, all concentrated in the heart of LEO and threatening the safety of space objects.[170] As an indication of the continuing consequences of the collision, as well as the growing importance of sharing space situational awareness (SSA) data, in October 2014 the International Space Station was forced to maneuver out of the path of a piece of debris, eight centimeters in diameter, resulting from the collision over five years previous.[171]

D. Chinese and Russian BMD and ASAT Developments Since 2007

China has not conducted any additional kinetic ASAT tests since 2007. However, China conducted additional tests in 2010, 2013, and 2014, which the Chinese characterize as ballistic missile defense (BMD) tests rather than ASAT tests. "Given the nearly symbiotic nature of missile defense/ASAT technology, China has seemed to learn that missile defense testing was politically acceptable, while ASAT testing was not," according to Dr. Joan Johnson-Freese of the Naval War College.[172] The test in 2013 involved launching an object over 30,000 km into space,

[168] "Satellite Collision Leaves Significant Debris Cloud", *NASA Orbital Debris Quarterly News* 13:2 (April 2009) at 1.
[169] *Ibid*.
[170] "Update on Three Major Debris Clouds", *NASA Orbital Debris Quarterly News* 14:2 (April 2010) at 4.
[171] "International Space Station Performs Fourth and Fifth Debris Avoidance Maneuvers of 2014", *NASA Orbital Debris Quarterly News* 19:1 (January 2015) at 1.
[172] US, US-China Economic and Security Review Commission, *Hearing on China's Space and Counterspace Program* (18 February 2015) [*US-China Economic and Security Review*] (Written testimony of Dr. Joan Johnson-

near geosynchronous orbit, before returning to earth hours later.[173] The 2013 test "did not receive the international attention that followed the January 2007 ... [y]et it should be disconcerting to U.S. defense planners because it further corroborates China's continuing intention to develop and maintain the capacity to kinetically target U.S. space systems that are positioned even in high Earth orbits," testified Dr. Ashley Tellis before a Congressional committee.[174] The 2014 test involved a missile designed to destroy satellites in LEO, although it was purported to be a missile defense test. Nevertheless, "[d]espite China's claims that this was not an ASAT test," remarked Assistant Secretary of State Frank Rose, "let me assure you the United States has high confidence in its assessment that the event was indeed an ASAT test."[175]

Russia is also known to be developing counterspace capabilities.[176] These include "directed energy" capabilities that could track or temporarily blind satellites, as well as the capability to perform complex maneuvers in space.[177] For instance, Russia launched an undeclared object, COSMOS 2499, in May of 2014 along with three declared military communications satellites.[178] The mysterious object, originally thought to have been mere

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Freese, Professor, Naval War College, at 7), online: <www.uscc.gov/Hearings/hearing-china%E2%80%99s-space-and-counterspace-programs-webcast>.

[173] Andrea Shalal, "U.S. Report Details China's Work on Anti-Satellite Weapons", *Reuters* (8 May 2015), online <www.reuters.com/article/2015/05/08/usa-defense-china-space-idUSL1N0XZ2HZ20150508>.

[174] US, *People's Republic of China's Counterspace Program and the Implications for U.S. National Security*, *Joint Hearing before the Subcommittee on Strategic Forces and the Subcommittee on Seapower and Projection Forces of the House Armed Services Committee*, 113th Congress (28 January 2014) at 29 [*Hearing on China's Counterspace Program and Implications for U.S.*] (Written testimony of Dr. Ashley Tellis, Senior Associate, South Asia Program, Carnegie Endowment for International Peace).

[175] Department of State, Remarks, "Ballistic Missile Defense and Strategic Stability in East Asia" (20 February 2015) (Remarks by Frank Rose to Federation of American Scientists workshop), online: <www.state.gov/t/avc/rls/2015/237746.htm>.

[176] US, *Hearing On Fiscal Year 2016 National Defense Authorization Budget Request for National Security Space Activities*, *Subcommittee on Strategic Forces of the House Armed Services Committee,* 114th Congress (25 March 2015) at 4 [*House Hearing on 2016 NDAA for Space Activities*] (Written Testimony of Lt General John W. Raymond, Commander, Joint Functional Component Command for Space).

[177] *Ibid*.

[178] *Ibid* at 5.

debris, then began to conduct rendezvous maneuvers.[179] The U.S. Air Force concluded the object was a microsatellite, which Russia subsequently registered.[180] When conducted without transparency, such maneuvering capabilities foster concerns that Russia is testing techniques not merely for repairing their own satellites, but also for observing, disabling, or destroying the satellites of others.

These tests have received less attention and condemnation from the world community because they were non-kinetic and created no debris. For the U.S., China's 2007 test raised awareness of the dual threats posed by China and space debris, while subsequent non-destructive tests and technological developments by both China and Russia have contributed to an increased focus on threats from potential adversaries. As detailed below, the U.S.'s space security policy is evolving accordingly. The attention given to China and Russia and the consequent need for space control capabilities in turn raises questions about the utility of the ICOC and will be addressed in Chapter three.

III. A New Era of U.S. Space Security Strategy – "Congested, Contested, and Competitive"

A. The 2010 U.S. National Space Policy

The U.S. is not a unitary actor, so its inter-agency decision-making process can result in policies that reflect compromises among various schools of thought.[181] Appropriately, then, the U.S.'s space security policy reflects an evolving balance of competing ideas on collective

[179] *Ibid*.
[180] *Ibid*.
[181] Brian Weeden, "The End of Sanctuary in Space: Why America is Considering Getting More Aggressive in Orbit", *War is Boring* (7 January 2015), online: <medium.com/war-is-boring/the-end-of-sanctuary-in-space-2d58fba741a> [Weeden, "End of Sanctuary"].

security, freedom of action, the threat of space debris, and the increasingly provocative space activities on the part of adversaries, to name just a few examples. This evolution is apparent in President Obama's 2010 National Space Policy (2010 NSP), the first formal NSP revision since 2006.[182] The 2010 NSP set forth five principles:

- It is the shared interest of all nations to act responsibly in space to help prevent mishaps, misperceptions, and mistrust. The United States considers the sustainability, stability, and free access to, and use of, space vital to its national interests. Space operations should be conducted in ways that emphasize openness and transparency to improve public awareness of the activities of government, and enable others to share in the benefits provided by the use of space.

- A robust and competitive commercial space sector is vital to continued progress in space. The United States is committed to encouraging and facilitating the growth of a U.S. commercial space sector that supports U.S. needs, is globally competitive, and advances U.S. leadership in the generation of new markets and innovation-driven entrepreneurship.

- All nations have the right to explore and use space for peaceful purposes, and for the benefit of all humanity, in accordance with international law. Consistent with this principle, "peaceful purposes" allows for space to be used for national and homeland security activities.

- As established in international law, there shall be no national claims of sovereignty over outer space or any celestial bodies. The United States considers the space systems of all nations to have the rights of passage through, and conduct operations in, space without interference. Purposeful interference with space systems, including supporting infrastructure, will be considered an infringement of a nation's rights.

- The United States will employ a variety of measures to help assure the use of space for all responsible parties and, consistent with the inherent right of self-defense, deter others from interference and attack, defend our space systems and contribute to the defense of allied space systems, and, if deterrence fails, defeat efforts to attack them.[183]

[182] US, President of the United States, *National Space Policy of the United States of America* (28 June 2010) [2010 NSP].
[183] *Ibid* at 3.

The 2010 NSP signals, at least rhetorically, a more cooperative approach to space security than its predecessor. Whereas the 2006 NSP expressly opposed "the development of new legal regimes or other restrictions that seek to prohibit or limit U.S. access to or use of space," the 2010 NSP adopts a more diplomatic tone, indicating the U.S. will "pursue bilateral and multilateral transparency and confidence-building measures to encourage responsible action in, and the peaceful use of, space."[184] With regard to arms control treaties, the U.S. will consider proposals "if they are equitable, effectively verifiable, and enhance the national security of the United States."[185]

Additionally, freedom of action is no longer emphasized to the same degree as in the past. The 1996 NSP called for the development of capabilities to ensure freedom of action in space and to deny such freedom of action to adversaries so long as it was "consistent with treaty obligations."[186] The 2006 NSP called for the same capabilities but, in an interesting omission, without any reference to treaty obligations.[187] The 2010 NSP, by contrast, dropped any reference to the term "freedom of action."

B. The 2011 National Space Security Strategy

Following the 2010 NSP, the U.S. released the unclassified summary of its National Space Security Strategy in January 2011 (2011 NSSS), signed by the Secretary of Defense and Director of National Intelligence and outlining the manner in which the 2010 NSP would be executed.[188] The 2011 NSSS emphasized that space has become "increasingly *congested*,

[184] *Ibid* at 7.
[185] *Ibid* at 7.
[186] US, President of the United States, *National Space Policy* (19 September 1996) at National Security Space Guidelines 6(g) [1996 NSP].
[187] 2006 NSP, *supra* note 145 at 1-2.
[188] 2011 NSSS, *supra* note 6 at i.

contested, and *competitive*" (emphasis original to NSSS), a phrase that has since become ubiquitous in literature on outer space.[189] It summarized the new space security strategy as follows:

> - We seek to address *congestion* by establishing norms, enhancing space situational awareness, and fostering greater transparency and information sharing. Our words and deeds should reassure our allies and the world at large of our intent to act peacefully and responsibly in space and encourage others to do the same.
>
> - We seek to address the *contested* environment with a multilayered deterrence approach. We will support establishing international norms and transparency and confidence-building measures in space, primarily to promote spaceflight safety but also to dissuade and impose international costs on aggressive behavior. We will improve and protect vital U.S. space capabilities while using interoperability, compatibility, and integration to create coalitions and alliances of responsible space-faring nations. We will improve our capability to attribute attacks and seek to deny meaningful operational benefits from such attacks. We will retain the right and capabilities to respond in self-defense, should deterrence fail.
>
> - We seek to address *competition* by enhancing our own capabilities, improving our acquisition processes, fostering a healthy U.S. industrial base, and strengthening collaboration and cooperation.[190]

The 2011 NSS set forth a five-pronged strategic approach: 1) Promote the responsible, peaceful, and safe use of space; 2) Provide improved U.S. space capabilities; 3) Partner with responsible nations, international organizations, and commercial firms; 4) Prevent and deter aggressions against U.S. space infrastructure; and 5) Prepare to defeat attacks and to operate in a degraded environment.[191]

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[189] *Ibid* at 1.
[190] *Ibid* at 13.
[191] *Ibid* at 5.

The first strategic element, promoting the responsible, peaceful, and safe use of space, involves encouraging other space-faring nations to apply the same common sense standards the U.S. follows on issues like space debris limitation, launch notification, on-orbit maneuvering, and collision avoidance.[192] More precisely, the NSSS states the U.S. would lead by example and "support development of data standards, best practices, transparency and confidence building measures, and norms of behavior for responsible space operations."[193] It adds, "[w]e will consider proposals and concepts for arms control measures if they are equitable, effectively verifiable, and enhance the national security of the United States and its allies … we believe setting pragmatic guidelines for safe activity in space can help avoid collisions and other debris-producing events, reduce radiofrequency interference, and promote security and stability in the space domain – all of which are in the interests of all nations."[194]

The second strategic element, improving space capabilities, is aimed towards making space architectures more resilient in order to assure the benefits they provide.[195] This can be achieved through a combination of adequate protection, increased number of satellites, service diversity, appropriate distribution, disaggregation, and operational ambiguity, as well as the ability to replenish lost or degraded capabilities, "all to create a service that can stand up to an adversary's attack."[196]

Partnering with like-minded space-faring nations, the third strategic element, will help to increase resilience in space architecture. By securing agreements to share allies' space navigation systems such as Japan's Quasi Zenith Satellite system or the European Union's

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[192] Loverro, *Military Space Programs Hearing*, *supra* note 1 at 3.
[193] 2011 NSSS, *supra* note 6 at 5.
[194] *Ibid* at 5-6.
[195] Loverro, *Military Space Programs Hearing, supra* note 1 at 6.
[196] *Ibid*.

Galileo, for example, any ability an adversary has to deny the U.S. the benefit of space-enabled positioning, navigation, and timing is greatly reduced.[197] Moreover, partnering improves resiliency while also reducing the investment cost to the U.S.[198]

Promoting the responsible use of space, increasing resilience through improved space capabilities, and partnering with like-minded nations and organizations are all aimed at achieving the fourth strategic element, deterring aggression.[199] Pursuant to this logic, if these combined measures can deny an adversary the benefit of attacking assets in space, then it won't attack. Deterrence is aided by the ability to attribute attacks in space, particularly when potential adversaries know that their actions can be observed. This is the rationale behind the decision both to develop and declassify the Air Force's Geosynchronous Space Situational Awareness Program (GSSAP).[200]

The fifth and final strategic element is to defeat attacks and to operate in a degraded environment if deterrence fails. "While our long-term intent is to move to more resilient and more defendable space architectures," Douglas Loverro explains, "we have over a decade before those systems will even begin to deploy, and we need to protect ourselves and our on-orbit systems now."[201] As the NSSS states, the U.S. will retain the right and capabilities to defend itself, and a response may take place in a domain other than space.[202]

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[197] *Ibid* at 8.
[198] *Ibid* at 9.
[199] *Ibid*.
[200] *Ibid* at 10.
[201] *Ibid*.
[202] Gen Robert Kehler, "Implementing the National Space Security Strategy" (2012) 6:1 Strategic Studies Quarterly 18 at 25; see also US, Department of Defense, *Directive 3100.10*, *Space Policy* (18 October 2012) at 4(b) [DODD 3100.10].

C. A Role for the Code of Conduct

Utilizing cooperative measures to achieve rules of the road for outer space activity is presented as a foundational aspect of the U.S.'s space security policy under the 2010 NSP and 2011 NSSS. One method of doing so is developing a code of conduct. Accordingly, on January 17, 2012, Secretary of State Hillary Clinton issued a statement declaring the U.S.'s decision to join with the EU and other nations in further developing the EU's draft Code of Conduct.[203] The statement was issued days after the State Department had announced that it would not support the 2010 version of the EU Code because it was "too restrictive."[204] The decision to participate in the ICOC's development included the caveat that the U.S. would not enter into any code of conduct "that in any way constrains our national security-related activities in space or our ability to protect the United States and our allies."[205] Notably, therefore, the importance of freedom of action remains a fundamental part of U.S. space policy to be balanced alongside the emphasis on cooperative measures. The following day, January 18, 2012, a Pentagon spokesman issued a press release saying the Pentagon "supports the concept" of code of conduct and that the EU's draft was "a promising basis for an international code" that could "enhance U.S. national security by encouraging responsible space behavior by reducing risks of mishaps, misperceptions, and mistrust."[206]

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[203] Hillary Rodham Clinton, Secretary of State, Press Statement, "International Code of Conduct for Outer Space Activities" (17 January 2012) [Clinton Press Statement], online: <www.state.gov/secretary/20092013clinton/rm/2012/01/180969.htm>.

[204] Viola Gienger, "EU's Space-Conduct Code Rejected by U.S. as 'Too Restrictive'", *BloombergBusiness* (12 January 2012), online: <www.bloomberg.com/news/articles/2012-01-12/eu-s-space-conduct-code-rejected-by-u-s-as-too-restrictive->.

[205] Clinton Press Statement, *supra* note 203

[206] Lisa Daniel, "Defense, State Agree to Pursue Conduct Code for Outer Space", *American Forces Press Service* (18 January 2012), online: <www.defense.gov/news/newsarticle.aspx?id=66833>.

Advocates of a code of conduct assert that it could "enhance U.S. national security by serving as one of the most visible and political ways in which nations commit to acting responsibly in space" and that nations acting contrary to a code "could expect to be isolated as rogue actors."[207] Put another way, "without norms, there are no norm-breakers,"[208] or "speed limits don't stop speeders … but it lets you know who they are."[209] In the assessment of the Council on Foreign Relations, "an international code would be the most significant normative step that captures the interests of almost all spacefaring countries while shaping and promoting sustainable outer space conduct."[210]

D. Space Control

Although the 2011 NSSS placed a rhetorical emphasis on diplomacy rather than freedom of action, it would be inaccurate to conclude that unilateral measures are altogether absent from the national security space strategy. Far from it. As previously noted, Secretary Clinton assured that the U.S. would not enter into a Code if it constrained national security related activities.[211] In addition, in October 2012 the Department of Defense issued Directive number 3100.10, *Space Policy*, to update DoD policy in accordance with the 2010 NSP and 2011 NSSS.[212] It reiterated the various aspects of the NSSS while also addressing the policy of space control, mentioned briefly in the NSP but not in the (unclassified) version of the NSSS:

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[207] Ambassador Gregory Schulte & Audrey Schaffer, "Enhancing Space Security by Promoting Responsible Behavior in Space" (2012) 6:1 Strategic Studies Quarterly 9 at 14.
[208] Michael Krepon, "Norm-Setting for Outer Space" (9 September 2014), *Arms Control Wonk* (blog), online: <krepon.armscontrolwonk.com/archive/4264/norm-setting-for-outer-space>.
[209] "A Conversation with General C. Robert Kehler" (30 May 2012), online: Council on Foreign Relations <www.cfr.org/united-states/conversation-general-c-robert-kehler/p35267>.
[210] Micah Zenco, *Policy Innovation Memorandum No. 10: A Code of Conduct for Outer Space* (November 2011) Council on Foreign Relations, online <www.cfr.org/space/code-conduct-outer-space/p26556>.
[211] Clinton Press Statement, *supra* note 203.
[212] DODD 3100.10, *supra* note 202 at para 1.

> Space control plans and activities will balance protecting and defending U.S. space capabilities, as well as contributing to the defense of allied space systems, with maintaining capabilities to deter and, if necessary, defeat efforts to interfere with or attack U.S. or allied capabilities. Space control plans and capabilities will enable a broad range of response options and provide for the continued sustainable use of space.[213]

Accordingly, the doctrinal measures for space control implemented under the Bush Administration and updated as recently as 2013 remain applicable. According to joint doctrine, the space control mission is characterized as follows:

> Space control supports freedom of action in space for friendly forces, and when necessary, defeats adversary efforts that interfere with or attack US or allied space systems and negates adversary space capabilities. It consists of offensive space control (OSC) and defensive space control (DSC). OSC are measures taken to prevent an adversary's hostile use of US/third-party space capabilities or offensive operations to negate an adversary's space capabilities used to interfere with or attack US/allied space systems. DSC are operations conducted to preserve the ability to exploit space capabilities via active and passive actions, while protecting friendly space capabilities from attack, interference, or unintentional hazards.[214]

Hence, the U.S. has maintained its policy of using both active and passive, offensive and defensive measures to protect its ability to use space, even though the space control mission has not been the primary focus of the Obama Administration's space security policy. Indeed, when the Deputy Defense Secretary remarked in April 2015 that "we must continue to emphasize space control as challenges arise," his comments were noted as potentially reflecting a shift in policy, as discussed in Section IV below.[215]

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[213] *Ibid* at para 4(j)(5).
[214] US, Department of Defense, *Joint Publication 3-14: Space Operations* (May 29, 2013) at xi; online: Executive Summary <www.dtic.mil/doctrine/new_pubs/jp3_14.pdf>.
[215] Colin Clark, "DepSecDef Work Invokes 'Space Control;' Analyists Fear Space War Escalation" *Breaking Defense* (15 April 2015), online: <breakingdefense.com/2015/04/depsecdef-work-invokes-space-control-analysts-fear-space-war-escalation/>.

E. The 2015 National Security Policy

Having been reelected in 2012, President Obama continued the 2010 National Space Policy's emphasis on cooperative measures in his updated February 2015 National Security Strategy (2015 NSS).[216] In the brief section on space security, it notes, "[a]s countries increasingly derive benefits from space, we must join together to deal with threats posed by those who may wish to deny the peaceful use of outer space."[217] It goes on to state, "[w]e are expanding outer international space cooperation activities in all sectors, promoting transparency and confidence-building measures such as an International Code of Conduct on Outer Space Activities, and expanding partnerships with the private sector in support of missions and capabilities previously claimed by governments alone."[218] Coming nearly three years after Secretary Clinton's statement on the ICOC, the 2015 NSS's by-name reference the ICOC signals continued support for the process, if not necessarily the document in its current form. Nevertheless, while the 2015 NSS maintains that a code of conduct has an important role to play in dealing with threats to U.S. satellites, not everyone is convinced.

IV. Revisiting the U.S. Space Security Strategy

A. Objections to the Code of Conduct

An influential group of detractors have mobilized in opposition to the importance the Obama Administration has placed on developing a code of conduct for outer space activities. Political opposition was apparent as early as 2011 when, on February 2, 37 Republican Senators, led by Senator John Kyl of Arizona, sent a letter to Secretary Clinton expressing concern that the Administration was planning to negotiate and sign the EU Code, and urged her to first consult

[216] *2015 NSS, supra* note 8.
[217] *Ibid* at 13.
[218] *Ibid*.

the Senate.[219] These objections were amplified in the days after Secretary Clinton announced support for the ICOC development process. On January 17, 2012, Representative Mike Turner of Ohio issued a press release conveying his concern that the ICOC was an arms control agreement and that it should not be imposed without Congressional approval.[220] Citing "analysis provided to the HASC (House Armed Services Committee) by the Joint Staff," Representative Turner also expressed concern that the ICOC, while supposedly non-binding, would have binding impacts on military operations in space.[221]

The following day, Republican Senators John Kyl and Jeff Sessions, along with Representatives Mike Turner and Joe Heck, sent a letter to President Obama conveying similar concerns. "Such an international agreement could establish the foundation for a future arms control regime that binds the United States without approval from Congress," the letter stated.[222] The letter also cited the potential that the ICOC could result in regulations that would affect the commercial space sector, thereby implicating interstate commerce which the Congress has the authority to regulate under the Constitution.[223] Senator Sessions would later elaborate upon the aspect of the ICOC he found troubling in a committee hearing on military space programs:

> I would like to be confident that the United States Government, Department of Defense is not making commitments with regard to what we plan to do that will bind us and maybe make it impossible for us to effectively maintain our space and

[219] Colin Clark, "Senators Warn Clinton on Space Code", DoD Buzz (4 February 2011), online: <www.dodbuzz.com/2011/02/04/senators-warn-clinton-on-space-code/>.
[220] Representative Mike Turner, Press Release (17 January 2012), online: <//turner.house.gov/media-center/press-releases/turner-statement-on-the-administration-s-intention-to-sign-onto-eu-code>.
[221] *Ibid*.
[222] Timothy Farnsworth, "U.S. Backs Effort to Draft Space Code", *Arms Control Association* (2 March 2012), online: <www.armscontrol.org/act/2012_03/US_Backs_Efforts_to_Draft_Space_Code>.
[223] Michael Listner, "Congressional Opposition to a Code of Conduct for Space", *The Space Review* (6 February 2012), online: <www.thespacereview.com/article/2018/1>.

> missile defense capability that we need because we need to be able to dominate space, really.[224]

Opponents of the proposed Code targeted a broader audience on March 8, 2012, when former Bush Administration officials John Bolton and John Woo penned an article in the opinion pages of the *New York Times*. Bolton and Woo asserted that support for the proposed EU Code of Conduct was an attempt by the Obama Administration to circumvent the role of the U.S. Congress in making treaties.[225] Moreover, the article asserted, the EU Code would impede advances in space technology while exempting security activities confined only to self-defense, a term "often defined narrowly to include only cross-border attacks," and interfere the with the U.S.'s ability to develop antiballistic missile systems in space, test antisatellite weapons, and gather intelligence.[226] An analysis from the Department of Defense, the article noted, concluded that the Code, if implemented, would "most likely have an adverse impact on military operations." This is likely the same analysis, not publicly available, referenced in Representative Turner's press release. Bolton and Woo also alleged the Code would restrict some peaceful, dual-use technologies, like the multistage rockets used to launch commercial satellites.[227]

In addition, Bolton and Woo imply that the Code could become binding without Senate ratification on the basis that several of President Obama's advisors, when they were academics, "loudly proclaimed that simply signing treaties without the Senate's consent helped form binding 'customary international law.'"[228] Seeking this outcome and "abusing presidential prerogatives

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[224] US, *Hearing To Receive Testimony on Military Space Programs In Review of the Defense Authorization Request for Fiscal Year 2013 and the Future Years Defense Program*, *before Subcommittee on Strategic Forces Committee on Armed Force, United States Senate*, 112th Congress (21 March 2012), at 19.
[225] John R. Bolton and John C. Woo, "Hands Off the Heavens", *The New York Times* (8 March 2012) ["Hands Off the Heavens"], online: <www.nytimes.com/2012/03/09/opinion/hands-off-the-heavens.html?pagewanted=print&_r=0>.
[226] *Ibid*.
[227] *Ibid*.
[228] *Ibid*.

in order to abide by a European code of conduct that erodes American sovereignty eliminates the Senate's important constitutional role," they concluded.[229]

B. Legislating Opposition to the Code Through the NDAA

Unsatisfied by the Obama Administration's assurances that it would consult with Congress before signing on to a code of conduct, law-makers turned their objections into legislation. An early draft of the National Defense Authorization Act (NDAA) for the Fiscal Year 2013 included section 913, which would have prohibited the use of funds to implement any international agreements on space activities that has not been ratified by the Senate or authorized by statute.[230]

The White House's Office of Management and Budget responded with a detailed objection to Section 913 in Statement of Administration Policy:

> The Administration strongly objects to section 913, which prohibits the expenditure of funds by the Secretary of Defense or the Director of National Intelligence to implement or comply with an international agreement concerning outer space activities unless such agreement is ratified by the Senate or authorized by statute. The Administration is participating in the development of a non-legally binding International Code of Conduct for Outer Space Activities (Code), which is not an international agreement concerning outer space activities. The Code would not impose any legal obligations on the United States, nor would it restrict the exercise of the U.S.'s rights of individual and collective self-defense. Instead, it would enhance U.S. national security by encouraging responsible space behavior and singling out those who act otherwise, reducing the risk of misunderstanding and misconduct in space. The Administration is concerned that this provision would create confusion about the legal status of the Code and lead our international partners to conclude that the U.S. will treat the Code as an international agreement, greatly complicating negotiations. Furthermore, section 913 encroaches on the Executive's exclusive authority to conduct foreign relations and could severely hamper U.S. ability to conduct bilateral space cooperation activities with key allies.[231]

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[229] *Ibid*.
[230] *National Defense Authorization Act for Fiscal Year 2013*, *House Report 112-479* (11 May 2012), online: <www.congress.gov/congressional-report/112th-congress/house-report/479/1>.
[231] US, Office of Management and Budget, *Statement of Administration Policy: H.R. 4310 – National Defense Authorization Bill for FY 2013* (15 May 2012) at 5 [*Statement of Administration Policy*], online: <www.whitehouse.gov/sites/default/files/omb/legislative/sap/112/saphr4310r_20120515.pdf>.

The Administration thus objected to the bill's implicit characterization of the ICOC as an international agreement as well as the confusion that could result from characterizing it as such. The final version of the NDAA, signed into law on January 3, 2013, contained a revised version of Section 913 but still imposed restrictions on the President:

> Sec. 913. Limitation on International Agreements Concerning Outer Space Activities.
>
> (a) If the United States becomes a signatory to a non-legally binding international agreement concerning an International Code of Conduct for Outer Space Activities or any similar agreement, at the same time as the United States become such signatory –
>
> (1) the President shall submit to the congressional defense committees, the Permanent Select Committee on Intelligence of the House of Representatives, and the Select Committee on Intelligence of the Senate a certification that such agreement has no legally-binding effect or basis for limiting the activities of the United States in outer space; and
>
> (2) the Secretary, the Chairman of the Joint Chiefs of Staff, and the Director of National Intelligence shall jointly submit to the congressional committees a certification that such agreement will be equitable, enhance national security, and have no militarily significant impact on the ability of the United States to conduct military or intelligence activities in space.[232]

To reiterate, the President has to certify that an expressly non-binding agreement is in fact non-binding, and officials in the Administration have to assuage Congress' concerns through additional certifications. Upon signing the NDAA, the President issued a statement expressing opposition to certain provisions.[233] Section 913 was one of several provisions singled out because they "could interfere with my constitutional authority to conduct foreign relations of the United States."[234] "In these instances," the statement continued, "my Administration will

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[232] *National Defense Authorization Act for Fiscal Year 2013*, Pub L No 112-239, 126 Stat 1632 (2 January 2013) § 913.
[233] US, White House, Office of the Press Secretary, "Statement by the President on H.R. 4310" (3 January 2013), online: <https://www.whitehouse.gov/the-press-office/2013/01/03/statement-president-hr-4310>.
[234] *Ibid*.

interpret and implement these provisions in a manner that does not interfere with my constitutional authority to conduct diplomacy."[235] As both the early and final versions of Section 913 demonstrate, the President's ability to enter into the ICOC without a clear procedure for Congressional oversight remains an issue for skeptics of the ICOC.

C. Recalibrating the Obama Administration's Space Security Policy

While many critics have taken aim at the ICOC in particular, others have directed their opinions towards the National Space Security Strategy more generally, challenging the wisdom and efficacy of a space security policy that relies so fundamentally on collective action and strategic restraint, particularly in light of Russia and China's developments in counterspace capabilities. For those who share this perspective, a rebalancing of the competing theories that comprise the space security policy is in order.

One such perspective is exemplified by the views of Christopher Stone, who argues that the 2011 NSSS operates under a non-traditional and inadequate notion of deterrence, in part because it does not emphasize the assuredness of a retaliatory strike.[236] He encapsulates his critique of the NSSS in his claim that its ideas are:

> predicated on the belief that, like the idealist view of international relations, security and deterrence in space can be achieved through the international system and institutions, such as treaties and codes of conduct. Thus, deterrent effect is not based on any overt threat of retaliation or prevention of damage to space systems from attack through active defenses, but through implied threat of isolation through the international community of nations.[237]

[235] *Ibid*.
[236] Christopher Stone, "Security Through Vulnerability? The False Deterrence of the National Security Space Strategy", *The Space Review* (13 April 2015), online: <www.thespacereview.com/article/2731/1>.
[237] *Ibid*.

Stone argues, essentially, that relying on a code in the hope that it would isolate rule breakers politically, rather than promising to retaliate against them, ignores historical and contextual realities and may encourage weapon proliferation in space and invite attack.

Certainly, Stone's view is also not without detractors. The authors of the "layered deterrence" theory on which the 2011 NSSS is based would later retort that Stone's analysis focuses too exclusively on the need for an overt threat of retaliation, largely because it fails to recognize the fundamental differences between deterrence in the Cold War era and deterrence in the space domain.[238] For example, they note that if an attacker temporarily blinds a satellite "in order to gain an advantage at a critical time, it is unclear that the threat of retaliation in kind will be much of a deterrent" because the attacker's goal will have been achieved.[239] Similarly, they respond that it is not idealism but rather realism to recognize that a potential adversary is unlikely to be persuaded that causing reversible interference with a satellite will invite a kinetic retaliatory strike from the U.S.[240] Or, as phrased elsewhere, "retaliatory threats against space or terrestrial targets would be of low credibility and limited utility compared with other ways of changing cost-benefit calculations."[241] In any event, the divergence of views reflects the vigorous ongoing debate over the future of space security policy.

In the political arena, Senator David Vitter and Representative Doug Lamborn articulated their skepticism of the current space policy in their November 12, 2014, letter addressed to Frank Rose, the Deputy Assistant Secretary of State for Space and Defense Policy. Citing concern over the rising threats of anti-satellite weapons in the hands of adversaries, they conveyed "the

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[238] Ambassador Roger G. Harrison and Lt Col (ret) Deron R. Jackson, "Space Deterrence: A Response", *The Space Review* (22 June 2015), online: <www.thespacereview.com/article/2775/1>.
[239] *Ibid*.
[240] *Ibid*.
[241] Nancy Gallagher, "Space Governance and International Cooperation" (2010) 8:2-3 Astropolitics 256 at 265.

Administration would do better to focus on real solutions to these threats, as opposed to more feel good measures like the European Union's (EU) Code of Conduct."[242] Equating the EU Code to "arms control," the law-makers expressed concern that it would have operational impacts on the military and hinder the development of missile defense systems.[243] They also sought more information about the "debris-generating kinetic energy ASAT testing moratorium" the President was supposedly negotiating without the involvement of the Department of Defense, as well as more details about "how such agreement will ensure full freedom of action for the United States to take needed defensive and other action in space."[244]

Unsatisfied that the existing policy would provide "real solutions" to threats in space, Congress again used the NDAA to address its concerns. The NDAA for fiscal year 2015, signed into law in December 2014, imposes two similar provisions – one originating from the House version of the bill, the other originating from the Senate version of the bill, and both included in the final version – designed to force the Administration to expound upon its plans for space control capabilities.[245]

Section 1601 of the 2015 NDAA conveys the sense of Congress that "the People's Republic of China and the Russian Federation are both developing capabilities to disrupt the use of space by the United States in conflict" and "a fully-developed multi-faceted space security and defense program is needed to deter and defeat any adversaries' acts of space aggression."[246]

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[242] David Vitter and Doug Lamborn, letter to Frank Rose (12 November 2014), online: <www.vitter.senate.gov/newsroom/press/sen-vitter-rep-lamborn-warn-administration-not-to-weaken-missile-defense>.
[243] *Ibid*.
[244] *Ibid*.
[245] *See* US, House Armed Services Committee and Senate Armed Services Committee, *Joint Explanatory Statement to Accompany the National Defense Authorization Act for Fiscal Year 2015* (undated), online: Joint Explanatory Statement <www.armed-services.senate.gov/fy-2015-ndaa>.
[246] 2015 NDAA, *supra* note 2 at § 1601(a)(2)-(3).

Accordingly, it orders the Secretary of Defense to submit to the congressional defense committees "a report containing an assessment of the ability of the Department of Defense to deter and defeat any act of space aggression by an adversary.[247] It further ordered a study "of potential alternative defense and deterrent strategies in response to the existing and projected counterspace capabilities of China and Russia" to include "an assessment of the congruence of such strategies with the current United States defense strategy and defense programs of record, and the associated implications of pursuing such strategies."[248]

Section 1606 directs the Secretary of Defense to update the 2011 NSSS to "include a strategy relating to space control and space superiority for the protection of national security space assets."[249] Among the elements the updated strategy "shall address" are "the role of offensive space operations" and "countering offensive space operations."[250] In addition, section 1607 provides that "a majority of such funds" dedicated to the space security and defense program "shall be allocated to the development of offensive space control and active defensive strategies and capabilities."[251]

Thus, Congress is forcing the Executive branch to recalibrate the balance of means used for achieving its policy objectives. It will be recalled that the 2010 NSP, like its predecessors, does call for the capabilities to exercise space control, which incorporates offensive and defensive measures through both active and passive actions. The 2011 NSSS, however, made no reference to space control – at least in the unclassified version – and it prioritizes cooperation, the development of norms of responsible behavior, and the development of passive capabilities

[247] *Ibid* at § 1601(b).
[248] *Ibid* at § 1601(c).
[249] *Ibid* at § 1606(a).
[250] *Ibid* at § 1606(b)(3)-(4).
[251] *Ibid* at § 1607(a).

to achieve resiliency for space architecture. While the NSSS outlines a strategy that calls for the capabilities to respond in self-defense to attacks against space assets if deterrence fails, it does not elaborate upon how. Instead, it provides, in the words of critic Christopher Stone, "very broad and nebulous statements indicating a lack of will and capability to respond forcefully."[252] Now, in light of China and Russia's provocative activities in space, Congress has signaled that passive deterrence measures will take a backseat. The majority of funding, and therefore the priority, will go to "offensive space control and active defensive strategies and capabilities."

Congressional action is not the only impetus for reevaluating the elements of the space security strategy and their corresponding budgets. In May of 2014 the Department of Defense convened a Strategic Portfolio Review (SPR) of space to determine if its strategy was suitable and whether the budget properly reflected that strategy.[253] While the details are classified, the SPR "highlighted that whereas previously DoD and the Intelligence Community have focused primarily on providing capability from space … now we must focus on the equally demanding and more complex task of assuring and defending our space capabilities against aggressive and comprehensive counterspace programs of others."[254] To achieve these active space control capabilities, the Department of Defense requested $30.7 billion in its unclassified 2016 space defense budget, three times the amount requested in 2013.[255]

What does this mean for the ICOC? Amending the budgetary priorities and recalibrating how the pieces of the strategy fit together is not the end of the road for pursuing rules of the road

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[252] Stone, *supra* note 236.
[253] See US, *Hearing On Fiscal Year 2016 National Defense Authorization Budget Request for National Security Space Activities*, *Subcommittee on Strategic Forces of the House Armed Services Committee*, 114th Congress (25 March 2015) at 5 (Written Statement of Douglas Loverro, Deputy Assistant Secretary of Defense for Space Policy).
[254] *Ibid*.
[255] Colin Clark, "U.S. Presses Russia, China on ASAT Tests, Space Control Spending Triples", *BreakingDefense.com* (16 April 2015), online: <breakingdefense.com/2015/04/space-control-spending-triples/>.

in space. Secretary of the Air Force Deborah Lee James has cautioned that "we need to get our heads around the fact that space might not always be a peaceful sanctuary" yet she simultaneously expresses support for the notion of a code of conduct.[256] "I think we ought to, certainly, in my personal opinion, have such a code ... I would like to see a code of conduct," she remarked before a Congressional panel.[257] Still, others see little of value in a code of conduct. "The Code will not help reduce space threats to our national security," Dr. Robert Butterworth asserted before a congressional panel in 2014.[258] He further reasoned that

> The Space Code of Conduct offers no practical support for the United States' efforts and could prove diplomatically troublesome. The Code is silent about important definitions and any procedures for monitoring, verification, and sanctions; it calls for sharing information about national security strategies and programs; it calls for complying with and promoting a treaty the U.S. Senate refused to ratify; and as an excuse for the dangerous deficiencies in its drafting, it declares that it is not legally binding.[259]

As these positions suggest, opinions can vary about what the ICOC can contribute to national space security and whether it can, or should, be situated within the evolving balance of strategic policy elements. Indeed, it is not always easy to differentiate between preconceived assumptions and reality-based analysis. With so much at stake, assessments should be based on the later. To that end, we now turn to an analysis of the 2014 version of the ICOC.

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[256] Stew Magneson, "Air Force to Boost Budget to Prepare for Conflicts in Space", *National Defense Magazine* (June 2015), online: <www.nationaldefensemagazine.org/archive/2015/June/Pages/AirForcetoBoostBudgettoPrepareforConflictsinSpace.aspx>.

[257] US, *Hearing to Receive Testimony on Military Space Programs in Review of the Defense Authorization Request for Fiscal Year 2016 and the Future Years Defense Program, Subcommittee on Strategic Forces of the Senate Armed Services Committee*, 114th Congress (29 April 2015) at 46 (Testimony of Deborah Lee James, Secretary of the Air Force).

[258] *Hearing on China's Counterspace Program and Implications for U.S., supra* note 174 at 59 (Testimony of Dr. Robert L. Butterworth, President, Aries Analytics, Inc.).

[259] *Ibid* at 60.

Chapter Three: So, What's Really in the ICOC?

As the foregoing demonstrates, some praise the notion of a code of conduct as a positive contribution to enhancing space security and believe a code could help to fill a void in the existing regulatory structure. Critics, meanwhile, often portray the ICOC as the enemy of the real security solutions. They have expressed various reservations, including concerns that the ICOC is arms control, or it could become binding customary law through implementation, or it would restrict the U.S.'s freedom to embrace the policies and develop the capabilities needed to protect against adversaries – and that it could do all or any of this without approval from Congress. But which of these disparate positions can withstand scrutiny, and which are mere assumptions? And what can this debate tell us about using non-binding instruments to develop space governance? Building upon the background of law and policy established in the preceding chapters, this chapter examines the 2014 version of the ICOC in order to determine what it would do, what it would not do, and why.

I. Structure and Contents

A brief overview of the structure and contents of the ICOC is an apt starting point. The latest publicly available version of the ICOC is dated March 31, 2014.[260] The ICOC begins with a preamble, like a treaty, setting forth numerous motivating factors behind the development of the Code.[261] Section I then states the purpose, scope, and general principles of the ICOC.

[260] European External Action Service, Code of Conduct for Outer Space Activities, online: <eeas.europa.eu/non-proliferation-and-disarmament/outer-space-activities/index_en.htm> (providing a brief historical summary and a link to the latest version of the ICOC).
[261] EU, *Draft International Code of Conduct for Outer Space Activities* (31 March 2014), at Preamble [ICOC], online: <www.eeas.europa.eu/non-proliferation-and-disarmament/pdf/space_code_conduct_draft_vers_31-march-2014_en.pdf>.

Intended to enhance the safety, security, and sustainability of outer space activities, the Code addresses activities of all space objects, without differentiating between military or civilian. It expressly states that it is "not legally binding" and intended to be "complementary to the normative framework regulating outer space activities." Section I also calls on "Subscribing States" to "reaffirm their commitment to the existing treaties of space law to which they subscribe" and "reiterate" their support to encourage efforts to promote the universal adoption and adherence not only to such treaties but also numerous declarations and principles expressed in various UN General Assembly Resolutions. It does not, however, call for compliance to any treaties to which a Subscribing State is not a party.[262]

Section II addresses measures to be taken while conducting outer space activities to reduce harmful interference and the creation of space debris. Subscribing States resolve to minimize the risk of causing harmful interference to other state's peaceful use of space and to refrain from conducting any activities in space that would bring about damage or destruction to space objects unless justified by safety considerations, self-defense, or in order to reduce the creation of space debris.

Section III addresses cooperative mechanisms. These include agreeing to notify "to the greatest extent practicable" other states potentially affected by scheduled maneuvers, launches, re-entry events, malfunctions, and predicted conjunctions posing a collision risk.[263] Also, Subscribing States resolve to share, on an annual basis and "where appropriate," information on their space strategies and policies, space research and application programs, and best practices.

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[262] But see *China's Counterspace Program Hearing*, *supra* note 174 at 60 (Testimony of Dr. Robert Butterworth, asserting an identical provision in a previous version of the ICOC "calls for complying with and promoting a treaty the U.S. Senate refused to ratify").
[263] ICOC, *supra* note 261 at para 5.1.

Subscribing States are also encouraged to organize with other Subscribing States voluntary events such as expert visits, observations of launches, and conferences.[264] A third cooperative mechanism is a consultation mechanism. Subscribing States that are or may be affected by activities contrary to the Code may request consultations with the offending Subscribing State with a view to achieving a mutually acceptable solution.[265]

Section IV would introduce a new forum wherein Subscribing States would meet annually to define, review, and further develop the Code. It would operate under the consensus rule on both substantive and procedural matters, and the results of the meeting would be brought to the attention of the UN General Assembly, COPUOS, and the CD.[266]

II. The Legal Status of the ICOC – More Than Just a Political Commitment?

A. The Lingering Question of Congressional Approval

Back in 2012, John Bolton and John Woo objected that President Obama was "ordering our military and intelligence agencies to comply with international agreements without the 'technicality' of Senate approval."[267] More recently, Senator David Vitter echoed this sentiment when he said, "I firmly believe any international agreement on a code of conduct for space should be submitted for Senate advice and consent as part of its treaty powers, and not be an

[264] *Ibid* at para 6.4.
[265] *Ibid* at para 7.1.
[266] *Ibid* at para 8.1-8.4.
[267] "Hands Off the Heavens", *supra* note 225.

"executive agreement" that sidesteps that process."[268] When it comes to non-binding agreements, however, the process is far from clear.

As previously noted, there are two principal sources of international law: treaties and customs. The Vienna Convention on the Law of Treaties (VCLT), which is recognized under customary international law as authoritative, defines treaty as "an *international agreement* concluded between States in written form and governed by international law...whatever its particular designation."[269] (emphasis added). The U.S. uses the term "treaty" slightly differently. Specifically, Article II section 2 of the Constitution uses the word "Treaties" to describe the type of international agreements concluded by the President with the advice and consent of two-thirds of the Senate. In addition to Article II treaties, international agreements can also be concluded by executive agreements.

There are three kinds of executive agreements: Executive agreements authorized by a pre-existing Article II treaty; Congressional-executive agreements which are approved by both houses of Congress either in advance of or subsequent to conclusion by the President; and sole-executive agreements, which are concluded by the President alone.[270] By far, most binding international agreements in the United States are concluded by some form of executive agreement as opposed to the Article II treaty-making process. For example, between 1990 and 2000 the U.S. concluded 249 treaties and 2,857 executive agreements.[271] According to the

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[268] US, *Nomination of Frank Rose and Official Correspondence From the Department of State on Proposed European Union Code of Conduct for Outer Space Activities*, Congressional Record Volume 160, No 156 (2 Jan 2015) at S6935-S6937 (Remarks by Senator David Vitter), online: <www.gpo.gov/fdsys/pkg/CREC-2015-01-02/html/CREC-2015-01-02-pt1-PgS6935-2.htm>.
[269] *VCLT, supra* note 24 at art 2(1)(a).
[270] Bradley, *supra* note 26 at 75.
[271] Oona A. Hathaway, "Treaties End: The Past, Present, and Future of International Lawmaking in the United States" (2008) 117 Yale LJ 1236 at 1287.

Restatement (Third) of Foreign Relations Law, "the prevailing view is that the Congressional-executive agreement can be used as an alternative to the treaty method in every instance"[272] Indeed, this is borne out by practice, as "the instruments are both used in several areas of law."[273] However, most, if not all, arms control agreements are concluded using the Article II process.[274] This is true despite the 1961 Arms Control and Disarmament Act, which indicates that congressional-executive agreements are an equally valid means for concluding arms control agreements, as discussed further below.[275]

Regardless of one's view on when the Article II method is more appropriate than some form of executive agreement, both are legitimate methods for concluding international agreements – which is to say, *treaties* in the international sense of the word – with other states. Thus, the position that, as a matter of law, the ICOC must be subject to approval by the advice and consent of the Senate pursuant to Article II relies on the premise that the ICOC is an "international agreement" in substance if not in name. This premise is incorrect.

International agreements are not the same as political commitments. The VCLT states that international agreements are "governed by international law," thereby indicating a legally binding effect.[276] Similarly, the Restatement (Third) of Foreign Relations Law specifies that an "international agreement" is "an agreement between two or more states or international

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[272] The American Law Institute, *Restatement of the Law (Third), The Foreign Relations Law of the United States* (St. Paul: American Law Institute Publishers, 1987) at § 303 [*Restatement (Third) of Foreign Relations Law*]. See also Hathaway, *ibid* at 1246; but see John C. Yoo, "Laws as Treaties? The Constitutionality of Congressional-Executive Agreements" (2001) 99 Mich L Rev 757 (arguing that both methods are constitutional but have their own mutually exclusive zones of authority).
[273] Hathaway, *supra* note 271 at 1270.
[274] See Hathaway, *ibid* at 1261-62.
[275] *Arms Control and Disarmament Act of 1961*, 2 USC §§ 2551 *et seq* (1961) [*Arms Control and Disarmament Act*].
[276] *VCLT*, *supra* note 24 at art 2(1)(a).

organizations that is *intended to be legally binding* and is governed by international law."[277] (emphasis added). By contrast, a political commitment is a non-legally binding agreement in which the state parties intend to establish commitments of an exclusively political or moral nature.[278] Federal regulation codifies this definitional difference. In 1972, Congress passed the Case-Zablocki Act, requiring the executive branch to publish all the international agreements concluded each year.[279] The regulation implementing the statute specifies that parties to an international agreement "must intend their undertaking to be legally binding" and that "[d]ocuments intended to have political or moral weight, but are not intended to be legally binding, are not international agreements."[280]

The fundamental distinction between an international agreement and a political commitment is a matter of the intent of the parties.[281] With the former, states manifest the intent to be legally bound; with the latter, the intent not to be legally bound. The ICOC leaves no doubt on this matter, expressly stating that it is "not legally binding."[282] Thus, by definition, it is a political commitment and not an international agreement. Accordingly, the ICOC need not be subject to the Article II procedure as though it were an international agreement. Indeed, a political commitment *should not* be subjected to the treaty-making process because doing so would signal the intent that it be legally binding, in which case it would cease to be a political commitment.[283] In other words, claims that the ICOC should be subject to the treaty-making process, as opposed to claims that the ICOC should have some measure of political support from

[277] *Restatement (Third) of Foreign Relations Law*, *supra* note 272 at § 301(1).
[278] Duncan Hollis & Joshua Newcomer, "'Political' Commitments and the Constitution" (2009) 49 Va J Int'l L 507 at 517.
[279] *Case-Zablocki Act of August 22, 1972*, 1 USC § 112a.
[280] 22 CFR § 181.2(a)(1).
[281] *Restatement (Third) of Foreign Relations Law, supra* note 272 at § 301 comment (e).
[282] ICOC, *supra* note 261 at para 1.4.
[283] See Hollis & Newcomer, *supra* note 278 at 549.

Congress, simply fail to acknowledge the distinction between political commitments and international agreements. Furthermore, as the Obama Administration noted in 2012, treating the ICOC as an international agreement "would create confusion about the legal status of the Code and lead our international partners to conclude that the U.S. will treat the Code as an international agreement, greatly complicating negotiations."[284]

This is not to say that Congress necessarily has no role in the adoption of a political commitment such as the ICOC. Despite their fundamental legal distinction, international agreements and political commitments can have much in common. Both put U.S. credibility on the line.[285] Also, oftentimes the consequences of a breach are effectively indistinguishable.[286] Because of the lack of enforcement mechanisms in many international treaties, "the differences between the sanctions associated with breaching hard law agreements and breaching soft law agreements may not be substantial."[287] For instance, violation of the Outer Space Treaty might result in political repercussions such as "naming and shaming." However, with the possible exception of a claim for liability, a breach of the Outer Space Treaty would likely not result in legal repercussions, despite the fact that the treaty is binding law, in part because it contains no enforcement or dispute resolution mechanisms. Accordingly, even though the ICOC is not – and should not be – subject to the requirement of needing advice and consent of the Senate as though it were a treaty, it is appropriate for a political commitment like the ICOC to be subject to Congressional checks, albeit checks that are "distinct from" and "lesser than" the requirement for the approval of two-thirds of the Senate.[288]

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[284] *Statement of Administration Policy*, *supra* note 231.
[285] See Hollis & Newcomer, *supra* note 278 at 542.
[286] See *ibid*.
[287] Bradley, *supra* note 26 at 96.
[288] Hollis & Newcomer, *supra* note 278 at 514.

Establishing an agreeable role for Congress is not easily accomplished in practice, however, and illustrates a broader problem with attempts to provide international governance in space through non-binding political commitments. As previously mentioned, the specter of entering into the ICOC without Congressional input has already prompted Congress to implement, through Section 913 of the 2013 NDAA and over the objection of the President, an *ad hoc* measure requiring assurances both on the non-binding nature of any future agreement as well as the national security concerns of Congress. That episode raises the question of whether Congress and the President will have to devise new methods for allowing Congressional input each time a President seeks to conduct foreign policy through a non-binding instruments.

The recent negotiations on nuclear development between Iran and the P5+1 (U.S., France, United Kingdom, Russia, China, and Germany) indicate that devising a satisfactory means for Congressional oversight will continue to be a problem, at least when it comes to highly politicized foreign policy issues. Leery of the prospect of a deal reached without Congressional approval, Republican Senator Tom Cotton and 46 of his Republican colleagues in the Senate signed an open letter to the leaders of Iran explaining that any agreement not approved by Congress as either an Article II treaty or a Congressional-executive agreement would be "nothing more than an executive (political) agreement" that Congress, supposedly, could modify or a future president could revoke.[289] Secretary of State John Kerry responded, "the Senators' letter erroneously asserts that this is a legally binding plan. It is not."[290] The plan being negotiated was intended to be a non-binding political commitment, not an international

[289] US, Senator Tom Cotton, *Open Letter to the Leaders of the Islamic Republic of Iran* (9 March 2015), online: <www.cotton.senate.gov/content/cotton-and-46-fellow-senators-send-open-letter-leaders-islamic-republic-iran>.
[290] Terence P. Jeffrey, "Kerry on Iran Nuke Deal: 'We're Note Negotiating a Legally Binding Plan'" *cnsnews.com* (11 March 2015), online: <www.cnsnews.com/news/article/terence-p-jeffrey/kerry-iran-nuke-deal-we-re-not-negotiating-legally-binding-plan>.

agreement, and therefore, according to Secretary Kerry, Congress does "not have the right to modify an agreement reached executive-to-executive."[291] Subsequently, Congress passed the Iran Nuclear Agreement Review Act of 2015 (Nuclear Review Act), which ensures Congress would have the authority to disapprove any action involving any measure of statutory sanction relief by the U.S. pursuant to any agreement with Iran, regardless of whether the agreement takes the form of a political commitment or otherwise.[292] This is warranted, the bill explains, because "it is the sense of Congress that … because the sanctions regime was imposed by Congress ... it is critically important that Congress have the opportunity … to consider and, as appropriate, take action affecting the statutory sanctions."[293]

The Nuclear Review Act does not give Congress authority to disapprove the agreement, only the authority to disapprove the domestic implementation of certain aspects of the agreement – authority that, to a large extent, Congress already possesses, even with respect to political commitments.[294] Accordingly, it has rankled some conservative commentators who assume Congress has – and has relinquished – authority either to deem the deal a treaty or insist that the President submit it as an executive agreement subject to Congressional approval. For instance, in defending the Act, Republican Senator John McCain said there was no way to force the Obama Administration to submit any deal for approval of two-thirds of the Senate because "(t)hey're the ones that label it. It is not a treaty. We can't designate it."[295] Mark Levin, a

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[291] *Ibid*.
[292] *Iran Nuclear Agreement Review Act of 2015*, Pub L No 114-17, 129 Stat 201, at § (h)(1) [*Nuclear Review Act*].
[293] *Ibid* at § (c)(1)(E).
[294] See David Golove, "Congress Just Gave the President Power to Adopt a Binding Legal Agreement with Iran (14 May 2015) *Just Security* (blog), online: <justsecurity.org/23018/congress-gave-president-power-adopt-binding-legal-agreement-iran/>.
[295] Kerry Picket, "Levin Unleashes on McCain Iran Vote – He Voted to 'Surrender Power to Obama'" *The Daily Caller* (15 July 2015), online: <dailycaller.com/2015/07/15/exclusive-levin-unleashes-on-mccain-iran-vote-he-voted-to-surrender-power-to-obama/>.

conservative radio host and attorney, disputed McCain's position, arguing instead that "(t)he president doesn't get to designate whether the Senate is involved in the treaty process or not … (t)he Senate could have taken up this agreement as a treaty and had a full debate." As this debate suggests, conducting foreign policy through the use of non-binding political commitments leaves many questions unresolved, not least of all the question of how to incorporate input from Congress in a manner that can avoid political brinksmanship.

The debate surrounding both Section 913 of the 2013 NDAA and the Nuclear Review Act reflects a general trepidation, if not outright confusion for many, over the legal status of political commitments and whether, when, and in what manner Congress can exercise oversight. In both cases, Congress created *ad hoc* legislation designed to ensure its concerns are addressed, yet the bills go about accomplishing this in dissimilar ways. While much of the debate is undoubtedly motivated by political differences, it can also be concluded that these issues are exacerbated by the lack of a clear process for making and implementing policy in such a manner.

B. The ICOC and "Arms Control"

The aforementioned Arms Control and Disarmament Act must also factor into the analysis of whether the ICOC requires any particular method of approval by Congress. This act provides that:

> No action shall be taken pursuant to this chapter or any other Act that would obligate the United States to reduce or limit the Armed Forces or armaments of the United States in a militarily significant manner, except pursuant to the treaty-making power of the President set forth in Article II Section 2, Clause 2 of the Constitution or unless authorized by the enactment of further affirmative legislation by the Congress of the United States.[296]

[296] *Arms Control and Disarmament Act*, *supra* note 275 at § 2573(b).

This provision, contained in the U.S. Code at Chapter 35 – Arms Control and Disarmament, is substantially similar to the version that originally became law in 1961. "The enactment of further affirmative legislation by the Congress," constitutes a Congressional-executive agreement, evidently equating Article II treaties to Congressional-executive agreements.[297] Indeed, this language has been "cited by members of Congress for the proposition that Article II treaties and Congressional-executive treaties are equally appropriate measures for arms control agreements."[298] Nevertheless, as noted, the vast majority of arms control agreements are concluded pursuant to Article II, not Congressional-executive agreements.

Given that this provision requires the use of either of two methods for concluding an international agreement, it is evident that its intent is to preclude the use of the third method, the sole-executive agreement, for achieving arms control. Clearly, therefore, this provision contemplates arms control agreements as *international agreements*. This is confirmed elsewhere in Chapter 35, where it states:

> The terms "arms control" and "disarmament" mean the identification, verification, inspection, limitation, control, reduction, or elimination, of armed forces and armaments of all kinds *under international agreement* including the necessary steps taken under *such an agreement* to establish an effective system of international control, or to create and strengthen international organizations for the maintenance of peace. [299] (emphasis added).

Accordingly, the Arms Control and Disarmament Act does not support the assertion that the ICOC requires the advice and consent of the Senate – or congressional approval, for that matter – on the basis of being arms control because the ICOC is *not* an international agreement.

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[297] Jack S. Weiss, "The Approval of Arms Control Agreements as Congressional-Executive Agreements" (1991) 38 UCLA L Rev 1533 at 1570.
[298] *Ibid*.
[299] *Arms Control and Disarmament Act*, *supra* note 275 at § 2252(a).

Furthermore, because the ICOC is not an international agreement, it cannot be said to be arms control under the codified meaning of the term.

That the ICOC is not actually arms control is relevant not only for determining the legitimate means of adoption, but also because its deficiency as an arms control agreement is often suggested as a basis for discrediting it. As previously mentioned, Congressional subcommittees have been told how the ICOC does not serve U.S. national security interests because it "is silent about important definitions and any procedures for monitoring, verification, and sanctions."[300] Similarly, Dr. Phillip Saunders reasoned before the U.S.-China Economic and Security Review Commission that "[w]hile a space code of conduct could have value in supporting development of norms of responsible behavior, I am skeptical about the prospects for arms control to produce meaningful, verifiable restrictions on the development, testing, and deployment of counter-space weapons."[301] To be sure, the ICOC does not define space weapons, nor does it contain procedures for monitoring, verification, or any of the things a good arms control agreement might be expected to do. This is because it is not, and does not purport to be, arms control, and so when compared to arms control it is bound to come up lacking. As will be shown below, the ICOC does not seek to restrict entirely developing, testing, or using weapons in space, but rather to restrict doing so irresponsibly or illegally. For instance, the ICOC would not inhibit the testing of an ASAT weapon or BMD missile, just testing in a manner that would create harmful debris – an outcome that is, incidentally, entirely verifiable.[302] Regardless, a

[300] *Hearing on China's Counterspace Program*, *supra* note 174 at 60 (Testimony of Robert L. Butterworth).
[301] *US-China Economic and Security Review, supra* note 172 (Written testimony of Dr. Phillip Saunders, Director, Center for the Study of Chinese Military Affairs, Institute for National Strategic Studies, National Defense University, at 6).
[302] See part IV(A), *below*.

flawed comparison to arms control is unlikely to yield a fair assessment of the ICOC and will only distract from genuine assessments on the merits.

C. The Question of Customary International Law

Even though the ICOC is not a binding international agreement governed under international law, it has raised concern that some of its provisions could conceivably become binding as customary international law in a way that would be problematic for U.S. policy and practice. As previously stated, creating customary international law requires two elements: the practice of states and *opinio juris*, which is the belief that the practice is legally obligatory. It is difficult to distinguish when a practice is followed out of convenience, habit, self-interest, or political expediency, and when it is followed out of a sense of legal obligation.

When it comes to developing customary law in space, the *opinio juris* of the U.S. plays an outsized role. Generally, in the making of customary international law, "it is always the will of the dominant section that prevails" and the dominant section is comprised of "those who have the capability, the intention, and the determination of making their will prevail."[303] For instance, when the U.S. and the Soviet Union together agreed upon the principle that outer space would not be subject to national appropriation, the principle quickly became a matter of customary international law because, as the only spacefaring states, the Soviet Union and the U.S. had the will and capability to uphold and enforce it.[304] By contrast, the sixteen non-spacefaring states that have ratified the 1979 Moon Agreement do not have the weight to transform the legal status of the Moon and its resources into the "common heritage of mankind" because the dominant

[303] Cheng, *Studies in Space Law*, *supra* note 45 at 183.
[304] See *ibid* at 189.

states do not assent and have not signed the treaty. Despite the principle of sovereign equality, states are not equal when it comes to the creation of customary international law.[305] Consequently, the predominant weight of states must support a norm, and not necessarily a predominant number of states, before that norm can become binding on all states.[306] In outer space, no nation has more weight than the U.S.

When states enter into a treaty or a political commitment, they regard the provisions as legally or politically binding upon themselves, but they do not normally regard the provisions as legally binding on non-parties.[307] That is, they do not normally view the provisions as customary international law. For this to change, the rules in question must be accepted as rules of customary international law by the dominant section, whether those states are parties to the agreement or not.[308] Similarly, principles adopted as resolutions by the UN General Assembly may or may not develop binding force depending on whether the dominant section is in support. As Professor Cheng writes:

> The usefulness of resolutions which are rammed down the throat of the dominant section of international society by a purely numerical majority in the United Nations, whether from East or West, North or South, is more than dubious.[309]

In light of the U.S.'s stature in outer space, it can be concluded that the ICOC will not crystalize into binding customary international law against the will of the U.S. or in a manner that would constrain U.S. space activities. As a preliminary matter, this concern assumes that the ICOC imposes new restrictions that would require the U.S. to alter its policies in some way. This is not entirely true, as will be discussed below. Additionally, such concerns fail to account for the role

[305] *Ibid*.
[306] *Ibid* at 190.
[307] See *ibid*.
[308] *Ibid* at 191.
[309] *Ibid* at 211.

the U.S. plays in the development of customary law in space. Whether the ICOC becomes customary law will not be determined solely by the attitudes of, for example, its European creators. In other words, customary law in space will not be imposed upon the U.S. by any numerical majority of other nations. The ICOC will become customary international law only if the most dominant actor in space, the U.S. itself – with the added consideration of others in the dominant section such as China and Russia – begins to regard it as not just politically binding but *legally* binding, and not just on subscribing states but on *all* states. This is implausible, given that the ICOC expressly states it is non-binding. Moreover, pursuant to the aforementioned 2013 NDAA, the President for added measure must certify as such were he to enter into the political agreement. Furthermore, the U.S. presumably would not view the ICOC as legally binding if doing so would render its own practices illegal. Hence, developing *new* customary law in outer space contrary to the existing policies and practices of the U.S. would be exceedingly difficult so long as the U.S. maintains the "capability, intention and determination in making its will prevail" in outer space.

The more plausible concern, on the other hand, is not that the ICOC could conflict with existing practice but rather that it might comport to existing practice or contribute to new practices. If the U.S. adheres to a policy and practice of, for example, avoiding harmful interference, and the ICOC affirms and solidifies this practice, then the ICOC could conceivably contribute to establishing the *opinio juris* for that practice, making it problematic for the U.S. to later reverse its policy.

As an illustration of this potential scenario, consider as an example the principles conveyed in Article I and II of the Outer Space Treaty. As noted above, the U.S. and the Soviet Union, as the dominant space actors of the time, together established what was quickly

recognized as the customary laws recognizing the freedom of states to use and explore outer space and prohibiting the national appropriation of outer space. These principles were later articulated in articles I and II of the Outer Space Treaty, respectively, and now bind states through two separate sources of law: treaty and custom. In his influential book *Astopolitik*, noted theorist of space doctrine Dr. Everett Dolman called for withdrawal from the current space regime so that the U.S. can establish a new regime and operate as a benign space hegemon – essentially, with the freedom to appropriate space and deny others the right to use it for military purposes.[310] As Matthew Burris has observed, Dolman's prescription lacks an understanding of international law because it calls for the violation of principles that would remain binding upon the U.S. through customary international law, even if the U.S. were to withdraw from the Outer Space Treaty.[311] Hence, the concern about the ICOC becoming customary law could vindicate the debate, if not the polemics, surrounding existing policies and practices. It is important to configure space security policy in such a way that it will stand the test of time and not swing from one extreme to the next with every new Presidential Administration.

D. The Binding Effect of Domestic Implementation

Although the ICOC is neither binding as an international agreement, nor likely to become binding as customary international law, it could nevertheless function in ways that significantly impact domestic law.[312]

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[310] See Everett C. Dolman, *Astropolitik: Classical Geopolitics in the Space Age* (Taylor & Francis e-library, 2005) at 139, 154.
[311] Major Matthew Burris, "Astroimpolitic: Organizing Outer Space by the Sword" (2013) 7:3 Strategic Studies Quarterly 108 at 124.
[312] See Hollis & Newcomer, *supra* note 278 at 547.

Generally, Congress implements enabling legislation which grants various federal agencies or departments the authority to oversee particular space activities. For instance, the Federal Aviation Administration regulates commercial space transportation pursuant to the Commercial Space Launch Act of 1984, as amended, and the Commercial Space Launch Act of 2004;[313] the Federal Communications Commission (FCC) regulates the orbital slots and frequencies used by satellites in order to implement the obligations of the International Telecommunications Union's Constitution, Convention, and Administrative Regulations and pursuant to the authority of the Communications Act of 1934 and the Telecommunications Act of 1996;[314] and the Department of Defense provides for the national defense pursuant to the National Security Act of 1947.[315] The agency or department then implements regulations necessary to implement the law.

New policies could prompt the executive branch, through the relevant agency or department, to change the implementing regulations. For example, the 2010 NSP and 2011 NSSS prompted the Department of Defense to revise its Directive on Space Policy.[316] This Directive is obligatory for the entire Department. If the ICOC were to impose additional obligations upon the Department of Defense, such as a policy of refraining from the intentional creation of space debris, then it could be implemented in this manner. The Department of Defense would then be legally bound to comply. Compliance, in turn, would impact the amount of funding, resources, and personnel dedicated to implementing the policy. Hence, political commitments can potentially impose mandates without also providing the requisite funding.

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[313] Ronald L. Spencer, "State Supervision of Space Activity" (2009) 63 AF L Rev 75 at 97-98; see *Commercial Space Launch Act of 2004*, 49 USC §§ 70101 *et seq*.
[314] Spencer, *ibid* at 103; *see Communications Act of 1934*, 47 USC §§ 151 *et seq*.; see also *Telecommunications Act of 1996*, Pub L No 104-104, 110 Stat. 56 (1996).
[315] Spencer, *ibid* at 116; see *National Security Act of 1947*, 10 USC §§ 101 *et seq*.
[316] See DODD 3100.10, *supra* note 202.

This is one reason why some form of Congressional involvement would be warranted under certain circumstances, particularly for matters involving national security, albeit in a role distinct from that of consenting to an international agreement.[317] As discussed previously, defining this role has proven to be problematic.

It is important to note that implementing the ICOC may become binding domestically, but implementation itself will not make it binding as customary international law. Domestically, implementation would have a binding impact only so long as the Executive sees fit to maintain the regulation. The current DoD Directive, *Space Policy*, for instance, is set to automatically expire effective 2022 if not earlier revised, canceled, or recertified.[318] There may be political reasons cautioning against backing out of a political agreement, but there would be no legal obligation preventing the Executive from doing so. The mere act of instituting and following a practice will not establish the practice as binding customary international law unless the requisite *opinio juris* is present, as noted above.

Apart from the concern that implementing regulations will have a binding effect on operations is the potential that some implementing regulations may not be permitted to take effect. In addition to the undefined role for Congressional oversight, another complication that could arise with the domestic implementation of international political commitments (as opposed to binding international agreements) is with the application of administrative law doctrine. While there is an established doctrine within foreign relations law for the implementation of international agreements, there is a void in the doctrine when it comes to the implementation of

[317] See Hollis & Newcomer, *supra* note 278 at 547.
[318] DODD 3100.10, *supra* note 202 at para 7.

"soft law."[319] In some respects the void has been filled by the principles of administrative law, yet "the fit is often an uneasy one" because some principles of administrative law do not sit well with the implementation of political agreements on foreign policy.[320]

Defenders of Wildlife v. Gutierrez is an example of how the principles of administrative law can subvert an executive agency's attempt to effectuate an international political agreement.[321] In this case, the Coast Guard permitted an international organization, the International Maritime Organization (IMO), to promulgate traffic separation schemes (waterway traffic lanes) on its behalf.[322] The D.C. Circuit Court of Appeals found that Congress had delegated the authority to promulgate traffic separation schemes to the Coast Guard, and there existed no congressional authorization for the sub-delegation of that authority to the IMO.[323] Such an unauthorized sub-delegation would be improper, the Court explained, because it blurs the Coast Guard's accountability for the schemes, thereby undermining recognized methods for injured parties to seek redress from the Coast Guard for unlawful actions.[324]

Although many of the circumstances are different, a similar conundrum could result with the ICOC. For instance, it is conceivable that political commitments could compel the FAA to adopt new regulations with regard to commercial space transportation. Were this to happen, such regulations could run afoul of the FAA's enabling regulation. The Commercial Launch Space Act authorizes the Secretary of Transportation to "carry out this chapter consistent with an obligation to the United States Government assumes in a treaty, convention, or agreement in

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[319] Jean Galbraith & David Zaring "Soft Law as Foreign Relations Law" (2014) 99 CNLLR 735 at 742.
[320] *Ibid* at 755.
[321] *Defenders of Wildlife v. Gutierrez*, 532 F.3d 913 (D.C. Cir. 2008).
[322] Galbraith & Zaring, *supra* note 319 at 926.
[323] *Ibid* at 927.
[324] *Ibid* at 926.

force between the Government and the government of a foreign country."[325] Presuming "agreement in force" means a binding international agreement, it is possible that any commercial launch regulations imposed pursuant to obligations assumed in a non-binding political agreement could be seen as an improper sub-delegation. While such issues are unlikely to be implicated under the current version of the ICOC, it is important to remember that the ICOC calls for annual meetings to discuss updating its provisions.[326] The ICOC does not directly deal with commercial space launch activities now, but it could in the future.

III. General Principles of the ICOC

A. "Peaceful Purpose" and the Military Use of Outer Space

If the U.S. is to conduct national security-related activities in outer space, it must caution against any commitment that would lend credence to the notion that the military use of outer space is illegitimate. The ICOC states as a general principle that all states are free, "in accordance with international law and obligations, to access, to explore, and to use outer space for peaceful purposes."[327] It further recognizes the responsibility of states "to promote the peaceful exploration and use of outer space for the benefit, and in the interest, of humankind and to take all appropriate measures to prevent outer space from becoming an arena of conflict."[328] In addition, Subscribing States resolve to minimize the risk of "any form of harmful interference with another State's peaceful exploration, and use, of outer space."[329] This principle of using

[325] *Commercial Space Launch Act*, *supra* note 313 at § 50919(e)(1).
[326] ICOC, *supra* note 261 at para 8.1.
[327] *Ibid* at para 2.
[328] *Ibid*.
[329] *Ibid* at para 4.1.

space for peaceful purposes is well-established in the law of outer space, yet its meaning has been a matter of debate.

The idea of using outer space for peaceful purposes is not a new one. For example, UN General Assembly Resolution 1721 (XVI), titled *International Co-operation in the Peaceful Uses of Outer Space*, was passed in 1961 and "commends" states to be guided by the principles of freedom to use and explore space in accordance with international law and invited COPUOS to explore any legal problems that might arise.[330] The *1963 Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space* recognizes in its preamble "the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes."[331] The 1967 Outer Space Treaty recognizes the same principle, also in its preamble.[332] Article III holds that State Parties shall carry on activities in outer space "in accordance with international law" and "in the interest of maintaining international peace and security."[333] Article IV, in addition to prohibiting the placement of nuclear weapons in orbit, provides that the moon and celestial bodies may be used for peaceful purposes only. It states:

> The moon and other celestial bodies shall be used by all State Parties to the Treaty *exclusively* for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment of facility necessary for peaceful exploration of the moon and other celestial bodies shall also not be prohibited.[334] (emphasis added).

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[330] *International co-operation in the peaceful uses of outer space*, GA Res 1721 B, UNGAOR, 16th Sess, UN Doc A/RES/1721 (1961).
[331] *1963 Declaration of Legal Principles*, *supra* note 51 at Preamble.
[332] *Outer Space Treaty*, *supra* note 54 at Preamble.
[333] *Ibid* at art IV.
[334] *Ibid*.

Article IX calls for appropriate international consultations if a state believes its space activities "would cause potentially harmful interference with activities of other State Parties in the peaceful exploration and use of outer space."[335] The 1979 Moon Agreement, to which no major space-faring state is a party, elaborated upon Article IV(2) of the Outer Space Treaty by declaring that the moon and celestial bodies "shall be used by all State Parties *exclusively* for peaceful purposes."[336] (emphasis added). More recently, the annual General Assembly PAROS resolution called upon all states "to contribute actively to the objective of the peaceful use of outer space and of the prevention of an arms race in outer space."[337] It passed overwhelmingly again in 2014 with 178 votes in favor and only the U.S. and Israel abstaining.[338]

As these references suggest, the notion that space is to be used for peaceful purposes has been constant since the inception of the space age, yet the meaning of "peaceful" in this context has been and continues to be the subject of extensive debate.[339] While the ordinary meaning of "peaceful" would seem to mean "non-military," it is now generally agreed that that it is used to mean "non-aggressive."[340] A collection of foreign policy documents dating from the Kennedy Administration and covering the developments leading to the 1963 Declaration of Principles provides a glimpse of how this peculiar rhetorical shift came about.[341]

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[335] *Ibid* at art IX.
[336] *Moon Agreement*, *supra* note 66 at art 3.
[337] *Prevention of an arms race in outer space*, UNGAOR, 69th Sess, UN Doc A/RES/69/31 (2014).
[338] United Nations, Meetings Coverage, GA-11593, "General Assembly Adopts 63 Drafts on First Committee's Recommendation with Nuclear Disarmament at Core of Several Recorded Votes" (2 December 2014), online: <www.un.org/press/en/2014/ga11593.doc.htm>.
[339] See generally Christol, *Modern International Law*, *supra* note 40 at 23-25; Stephen Gorove, *Developments in Space Law: Issues and Policies* (Dordrecht, The Netherlands: Martinus Nijhoff Publishers, 1991) at 256-58.
[340] Carl Q. Christol, *Space Law: Past, Present, and Future* (Deventer, The Netherlands: Klewer, 1991) at 467.
[341] David S. Patterson et al, eds, *Foreign Relations of the United States, 1961-1963, Vol. XXV, Organization of Foreign Policy; Information Policy; United Nations; Scientific Matters* (Washington: U.S. Gov. Printing Office, 2001) at Peaceful Used of Outer Space, docs 414-432 [*Foreign Relations*], online: <history.state.gov/historicaldocuments/frus1961-63v25/ch13>.

In May of 1962, in preparation for upcoming UN negotiations on the peaceful uses of outer space, President Kennedy issued National Security Memorandum No. 156, which directed the creation of a committee for the purpose of:

> formulating a position which avoids the dangers of restricting ourselves, compromising highly classified programs, or providing assistance of significant military value to the Soviet Union and which at the same time permits us to continue to work for disarmament and international cooperation in space.[342]

The resulting report of the Committee on Satellite Reconnaissance Policy recognized that "other governments and people are in varying degrees of ignorance about" the existence, capabilities, and propriety of the United States' satellite reconnaissance program.[343] "Regardless of what the U.S. does, or does not, say about this program," the Committee reported, "it is clearly military." Therefore, the program invites "confused views" with respect to the "distinction between 'peaceful,' 'military,' non-prohibited' and 'legal' on the one hand, and 'aggressive,' 'civilian,' 'prohibited' and 'illegal' on the other."[344] As an example, the report noted that the "connotations of the UN General Assembly Resolution 1721 (XVI) on 'International Cooperation in the Peaceful Uses of Outer Space,' as distinguished from its actual operative provisions, may seem to many to militate against any 'military' use of space."[345]

The Committee went on to frame the policy concern as follows:

> Arguments have been advanced, on the premise that a reconnaissance satellite program is a "military" (as opposed to "peaceful") program, *that the use of such satellites in outer space is an aggressive act and thus a violation of international law*. The confusions over legality, propriety and peacefulness earlier noted can be

[342] *Ibid* at 950 (doc 420, *National Security Action Memorandum No. 156*, dated 26 May 1962).
[343] *Ibid* at p. 951-52 (doc 421, *Report on Political and Informational Aspects of Satellite Reconnaissance Policy* (undated)).
[344] *Ibid* at 952.
[345] *Ibid*.

> exploited for use against space reconnaissance. Thus it could be argued, with considerable appeal, that the military uses of outer space, such as satellite reconnaissance, should be proscribed as non-peaceful. [346] (emphasis added).

In other words, the Committee appreciated that some might confuse military use with unlawful aggression, despite the Committee's assessment that "the arguments in favor of the legitimacy of satellite reconnaissance are sounder from a technical legal standpoint." Accordingly, the Committee advised:

> The U.S. should therefore continue to avoid any position implying that reconnaissance activities in outer space are not legitimate. Similarly, *we should avoid any position declaring or implying that such activities are not "peaceful uses."* [347] (emphasis added).

Rather than take a position distinguishing "military" from "aggressive," which would have addressed the premise underlying the confusion that the Committee noted in its report, the U.S. opted instead to distinguish "peaceful" from "aggressive." This position is reflected in National Security Action Memorandum No. 183 from August 1962.[348] "The President desires that the space program of the United States be forcefully explained and defended at the forthcoming sessions of the UN Outer Space Committee and the General Assembly," the memorandum states, and the State Department was advised to formulate positions to meet the objective:

> To show that the distinction between peaceful and aggressive uses of outer space is not the same as the distinction between military and civilian uses, and that U.S. aims to keep space free from aggressive use and offers cooperation in its peaceful exploitation for scientific and technological purposes. [349]

Thus, it is evident that the U.S.'s insistence on defining "peaceful" to mean "non-aggressive" rather than "non-military" resulted not from any perceived legal necessity but from concern that

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[346] *Ibid*.
[347] *Ibid* at 956.
[348] *Ibid* at 968 (doc 425, *National Security Action Memorandum No. 183* (27 August 1962)).
[349] *Ibid* at 968-69 (doc 425, *National Security Action Memorandum No. 183* (27 August 1962)).

any confusion over the legal status of satellite reconnaissance could be exploited to the detriment of the U.S. Such "semantic and legal acrobatics," according to Professor Cheng, was "a bold attempt to bypass and circumvent the then still prevalent attitude that all military activities should be banned from outer space, while seemingly accepting it, thus reaping the benefits, as the saying goes, of having its cake and eating it too."[350]

Notably, while the military use of space was not prohibited in 1962 – around which time the U.S. can be seen grappling with the concern that others might confuse peaceful use with a proscription against military use – the same is largely true still today. Article 2(4) of the UN Charter prohibits the threat or use of force, while Article 51 provides for the right of individual and collective self-defense as an exception. Article III of the 1967 Outer Space Treaty makes these provisions applicable to outer space.[351] In addition, the Outer Space Treaty prohibits the placement of nuclear weapons or weapons of mass destruction in orbit and reserves the moon and celestial bodies – not space itself, which is to say, the void between celestial bodies – exclusively for peaceful purposes.[352] With regard to the Outer Space Treaty, these are the only legal restrictions on the military use of space. Hence, the U.S.'s insistence on defining "peaceful" as "non-aggressive" remains as unneeded, legally, as it was in 1962. As professor Bin Cheng noted:

> [N]otwithstanding a great deal of wishful thinking, misunderstanding, propaganda, and sometimes even misrepresentation, *the 1967 Treaty has not reserved outer space as a whole for use exclusively for peaceful purposes*. The erroneous belief that the whole of outer space has been restricted to use for

[350] Bin Cheng, "Properly Speaking, Only Celestial Bodies Have Been Reserved for Use Exclusively for Peaceful (Non-Military) Purposes, but Not Outer Void Space" (1980) 75 Int'l Stud Ser US Naval War Col 81 at 86.
[351] *Outer Space Treaty*, *supra* note 54 at art III.
[352] *Ibid* at art IV.

> 'peaceful purposes' only has probably contributed to the misinterpretation of the term 'peaceful'. [353] (emphasis original to text).

Accordingly, Cheng argues, the U.S.'s assertion that "peaceful" really means "non-aggressive" rather than "non-military" was and continues to be completely unnecessary.[354] Even if "peaceful" were interpreted as "non-military," states would "remain perfectly entitled to conduct any military activity" subject to the limitations found in the Outer Space Treaty and general international law.[355]

The U.S. has continued to insist on defining "peaceful" as "non-aggressive." It will be recalled that the 2010 NSP expressly reiterates the U.S.'s position that "'peaceful purposes' allows for space to be used for national and homeland security activities." To be acceptable to the U.S., the ICOC will need to comport with this definition.

The ICOC, as noted, maintains that all states are free, "in accordance with international law and obligations, to access, to explore, and to use outer space for peaceful purposes without harmful interference"[356] and recognizes the responsibility of states "to promote the peaceful exploration and use of outer space for the benefit, and in the interest, of humankind and to take all appropriate measures to prevent outer space from becoming an arena of conflict."[357] These provisions do not impose any constraints on the military use of space that don't already exist in international law, such as the UN Charter's prohibition on the threat or use of force or the right of self-defense. The references to "peaceful purposes" and "peaceful exploration" are used in a

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[353] Cheng, *Studies in Space Law*, *supra* note 45 at 527-28.
[354] *Ibid* at 520. Professor Cheng further argues that U.S.'s interpretation of the word "peaceful" as "non-aggressive" is simply wrong and potentially noxious because it undermines the accurate meaning of the word "peaceful" as used in other international agreements. *See ibid* at 521.
[355] *Ibid* at 530.
[356] ICOC, *supra* note 261 at para 2.
[357] *Ibid*.

similar manner as in the aforementioned existing texts and thus do not alter the status quo, whether interpreted as “non-military” or “non-aggressive.”

Interestingly, the ICOC's use of the term "peaceful purposes" actually bolsters the U.S.’s longstanding practice of interpreting "peaceful" as "non-aggressive." As noted, in paragraph 4.1 of the ICOC, Subscribing States resolve to minimize the risk of "any form of harmful interference with another State's peaceful exploration, and use, of outer space." Likely, this is intended to establish a norm against harmful interference of space activities so long as they are non-aggressive, in which case interference could potentially be justified as self-defense. If, instead, "non-military" were substituted for the word "peaceful," then paragraph 4.1 would imply that the ICOC tolerates harmful interference with other states' military uses of space, even if those uses are non-aggressive. Such an outcome would be unacceptable and, potentially, contrary to the UN Charter's prohibition against the use of force, depending on the type and degree of interference. Thus, the ICOC uses the word “peaceful” in such a manner that, unlike in the Outer Space Treaty, “non-aggressive” is now the more sensible definition. Regardless, the debate over the proper meaning of "peaceful" will undoubtedly continue. This situation recalls the advice of Professor Vlasic, who astutely observed, "perhaps the most important lesson that can be drawn … and one that should be strongly impressed on governments is to avoid the imprecise term "peaceful."[358]

The additional instruction to take “all appropriate measures to prevent outer space from becoming an arena of conflict” is reminiscent of Article III of the Outer Space Treaty, which

[358] Ivan A. Vlasic, "The Legal Aspects of Peaceful and Non-Peaceful Uses of Outer Space" in Bhupendra Jasani, ed, *Peaceful and Non-Peaceful Uses of Space: Problems of Definition for the Prevention of an Arms Race* (Taylor & Francis 1991) 42 at 46-47.

calls upon states to conduct outer space activities "in the interest of maintaining international peace and security and promoting international cooperation and understanding."[359] The latter provision has been interpreted by some scholars as conveying a binding "common interest" principle that functions as a counterbalance to states' freedom to use and explore space.[360] The principle articulated in the Lotus case that everything not prohibited is permitted has no application under a proper interpretation of the Outer Space Treaty, it has been argued, because common interest principles expressed in the treaty, such as the obligation to conduct activities in the interest of maintaining peace and security, act as a check on states' freedom of action.[361] However, in practice, just as with the "peaceful purposes" principle, the vague obligation to act in the interest of maintaining international peace and security has had no tangible impact on the militarization of space. It is simply too abstract. Similarly, the ICOC's instruction to take "all appropriate measures to prevent outer space from becoming an arena of conflict" presents no specific guide for behavior and would be unlikely to impact the status quo. In this regard, the provision does not diminish the U.S.'s ability to conduct security-related activities in space.

B. The Right to Self-Defense

The ICOC mentions the right of self-defense in two different sections. Among the general principles set forth in paragraph 2 is the "responsibility of states to refrain from the threat or use of force ... in any manner inconsistent with the purposes of the Charter of the United Nations, and the inherent right of states to individual or collective self-defense as recognized in the Charter of the United Nations." In paragraph 4.2, Subscribing States resolve to "refrain from

[359] *Outer Space Treaty*, *supra* note 54 at art III.
[360] See Ram Jakhu "Legal Issues Relating to the Global Public Interest in Outer Space" (2006) 32 J Space L 31 at 41-43 [Jakhu, "Global Public Interest"].
[361] See *ibid*.

any action which brings about, directly or indirectly, damage, or destruction, of space objects unless such action justified" by, among other reasons, "the Charter of the United Nations, including the inherent right of individual or collective self-defense." Article 51 provides:

> Nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a member of the United Nations, until the Security Council has taken the measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self-defense shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security.[362]

Whereas the inclusion of references to the right to self-defense in the ICOC is a political necessity for many nations, and the U.S. in particular, it is not without controversy. Numerous states find the inclusion to be objectionable because, in their view, it will lend legitimacy to the weaponization of space.[363] If anti-satellite weapons can be legitimately used for self-defense, it is argued, then "the development, testing, production, deployment and stockpiling of ASAT weapons must be justifiable as well." [364]

Notwithstanding this political debate, states have the right to use force in outer space pursuant to Article 51 whether the ICOC says so or not. Article III of the Outer Space Treaty holds that general international law, including the UN Charter, applies to outer space. Even if the ICOC omitted the references to Article 51, the omission would not have any legal consequence because the application of Article 51 is assured by Article III. Accordingly, if the

[362] UN Charter, *supra* note 21 at art 51.
[363] See Arvind K. John, "…And Space (Debris) Remains the Same" in *Awaiting Launch*, *supra* note 36, 37 at 40; see also Mohomed Hatem Elatawy, "ICoC: Recommendations for Further Elaboration," in *Awaiting Launch*, *supra* note 36, 53 at 57.
[364] John, *ibid* at 40.

inclusion of a mere reference to the right to self-defense remains a point of contention while negotiating the ICOC, the dispute will be one of a political and not legal nature.

The more interesting legal question is how the right to self-defense under Article 51 should be interpreted, both generally and in the outer space domain in particular. John Bolton and John Woo allude to this issue when they expressed concern that the right of self-defense protected in the Code would be insufficient because the term is "often defined narrowly to include only cross-border attacks."[365] To briefly summarize the issue, states and scholars dispute whether Article 51 affords the right to use force in self-defense only after an armed attack occurs, or in anticipation of an imminent threat (anticipatory self-defense), or to pre-empt a threat that is not yet imminent (pre-emptive self-defense).[366] The ICJ has thus far declined to take a position. In *Nicaragua v. United States*, the ICJ addressed the conditions governing the use of self-defense, but because "the issue of the lawfulness of a response to the imminent threat of armed attack (had) not been raised," the Court expressed no view on the issue in that case.[367] Consequently, scholars and policy-makers continue to debate the proper interpretation of Article 51.[368] The debate will continue regardless of whether the ICOC makes a simple reference to Article 51.

Self-defense issues dealing specifically with the outer space domain also remain unresolved. For instance, when should jamming or spoofing a satellite be considered an armed attack? What constitutes a use of force that might trigger the right of self-defense in space? China and Russia's draft PPWT attempts to provide some guidelines, defining the use of force as

[365] "Hands Off the Heavens", *supra* note 225.
[366] See generally Sean D. Murphy, "The Doctrine of Preemptive Self-Defense" (2005) 50 Vill L Rev 699.
[367] *Nicaragua*, *supra* note 22 at para 194.
[368] See Murphy, *supra* note 366 at 704.

"any intended action to inflict damage to outer space objects under the jurisdiction or control of other states."[369] Under this definition, acts intended to inflict damage on other states' space objects could justify the use of force in self-defense, whereas unintentional acts inflicting damage, or intentional acts causing disruption but not damage, would not justify using force in self-defense. Opponents might object to a definition that would seem to condone all temporary disruptions of satellites and instead prefer to evaluate whether actions constitute an armed attack on a case-by-case basis.[370]

The ICOC essentially contributes nothing to these debates. This could be viewed as a missed opportunity, because clarity on the meaning of self-defense in space would "help define the boundaries between active defensive and offensive capabilities."[371] Without a common understanding, "any pursuit of active defensive or offensive counterspace capabilities is likely to fuel mistrust and misperceptions."[372] On the other hand, it must also be considered that any attempt by the U.S. to insert a definition favorable to its space control policy would inevitably make the ICOC's inclusion of a provision on self-defense even more objectionable to some states. In any event, the 2014 version of the ICOC does not purport to define or otherwise clarify the right of self-defense in space but rather simply states the fact that Article 51 extends to outer space activity. To reiterate, this is the case whether the ICOC says so or not.

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[369] 2014 PPWT, *supra* note 118 at art I(d).
[370] Secure World Foundation and the United Nations Institute of Disarmament Research, "The principles of self-defense in space" (31 March 2015), online: Secure World Foundation <swfound.org/media/200625/The%20Principles%20of%20Self-Defense%20in%20Space%20-%20Summary%20-%20March%202015%20Geneva,%20Switzerland.pdf>.
[371] Weeden, "End of Sanctuary", *supra* note 181, online: Swords and Shields <medium.com/war-is-boring/the-end-of-sanctuary-in-space-2d58fba741a>.
[372] *Ibid*.

C. Harmful Interference

One of the greatest threats to the ability of states to use outer space freely is harmful interference. The ICOC mentions harmful interference in three instances. The term is referenced twice in paragraph 2, General Principles, wherein Subscribing States agree to abide by the principles of:

> The freedom for all States, in accordance with international law and obligations, to access, to explore, and to use outer space for peaceful purposes without **harmful interference**, fully respecting the security, safety, and integrity of space objects, and consistent with internationally accepted practices, operating procedures, technical standards and policies associated with the long term sustainability of outer space activities, including, inter alia, the safe conduct of space activities.

As well as:

> The responsibility of States to take all appropriate measures and cooperate in good faith to avoid **harmful interference** with outer space activities.

In addition, in the section addressing measures on space operations, paragraph 4.1, declares:

> The Subscribing States resolve to establish and implement policies and procedures to minimize the risk of accidents in space, collisions between space objects or any form of **harmful interference** with another State's peaceful exploration, and use, of outer space.

To evaluate the significance of acceding to these provisions, it is necessary to understand the status of harmful interference in existing law. The concept of harmful interference with regard to outer space activities is primarily shaped by the governing regulations of the International Telecommunications Union (ITU) and the Outer Space Treaty.

The ITU is a UN entity responsible for maintaining international cooperation for the improvement and rational use of telecommunications of all kinds.[373] As such, it regulates the use of radio frequencies as well as orbital slots in GSO in order to avoid interference among radio frequencies.[374] Pursuant to Article 45 of the ITU Constitution, harmful interference to radio communications is prohibited. It states:

> All stations, whatever their purpose, must be established and operated in such a manner as not to cause harmful interference to the radio services or communications of other Member States or of recognizing operating agencies, or of other duly authorized operating agencies which carry on a radio service, and which operate in accordance with the provisions of the Radio Regulations.

Harmful interference in this context is defined as interference with a radio signal that endangers the functioning of a radio service or seriously degrades, obstructs, or repeatedly interrupts a radio communication service operating in accordance with ITU Radio Regulations.[375] As the definition indicates, frequencies not operating in accordance with ITU regulations are not protected.

The ITU Constitution and Radio Regulations are binding international agreements. As all states are members of the ITU, all are legally obligated to comply with its regulations.[376] States generally adhere to their obligations under the ITU out of good faith and self-interest. If satellite operators violate the rules, then they will not be entitled to the ITU's protections against

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[373] See *Constitution of the International Telecommunication Union*, in *Collection of the basic texts of the International Telecommunications Union adopted by the Plenipotentiary Conference*, 2011 ed. (Geneva: ITU 2011) at art 1(a) [*ITU Constitution*].
[374] *Ibid* at art 1(2)(a).
[375] *International Telecommunication Union Radio Regulations* (Geneva: ITU, 2011) at art 1.169 [*ITU Radio Regulations*].
[376] ITU Global Directory, Member States, online: <www.itu.int/online/mm/scripts/mm.list?_search=ITUstates&_languageid=1; see also *ITU Constitution*, *supra* note 373 at art 6.1.

interference which they need to ensure their own satellites can provide services free from interference. Instances of harmful interference are increasing, however, drawing attention to the ITU's lack of an obligatory enforcement mechanism.[377]

The Outer Space Treaty addresses the notion of harmful interference explicitly in Article IX. It states in pertinent part:

> If a State Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the Moon and other celestial bodies, would cause harmful interference with activities of other State Parties in the peaceful exploration and use of outer space, it shall undertake appropriate international consultations before proceeding with any such activity or experiment.

Article IX neither defines nor explicitly proscribes harmful interference. It requires only that states undertake consultations if they believe their activities might cause harmful interference to other states' peaceful uses of outer space. However, it would be incorrect to conclude that the Outer Space Treaty permits harmful interference just because Article IX does not specifically forbid it. As noted above, it can be argued that the general presumption in favor of freedom of action is not applicable in outer space.[378] Harmful interference must be understood by reading Article IX in conjunction with Article I, which holds that:

> Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.

Not only do all states enjoy these rights to use and explore outer space, which are recognized as customary international law, but they are also obliged to conduct their space activities with "due

[377] Major Sarah M. Mountin, "Legality of Interference with Commercial Satellite Signals" (2014) 90 Int'l L Stud 101 at 125.
[378] Jakhu, "Global Public Interest", *supra* note 360 at 41.

regard" to the corresponding rights of other states, as set forth in Article IX. Accordingly, interfering with another state's freedom to use our space in accordance with international law could be interpreted as unlawful. In other words, Article I serves, at least ostensibly, as a constraint on all states' outer space activities. This is what is meant by Judge Manfred Lachs' observation that:

> There can be no doubt that the freedom of action of States in outer space or on celestial bodies is neither unlimited, absolute, or unqualified, but is determined by the right and interest of other States. It can therefore be exercised only to the extent to which as indicated it does not conflict with those rights and interests.[379]

In summary, the ITU's binding regulations ban harmful interference with radio frequencies and, while Article IX of the Outer Space Treaty neither defines nor expressly proscribes harmful interference, it also calls for due regard of the other states' Article I rights. Moreover, those rights are generally recognized as customary international law, binding upon all states.[380] What, then, does the ICOC add to the issue of harmful interference? To answer this, we turn to three examples of state practices and policies for the purpose of illustrating existing norms of behavior which the ICOC could potentially impact: China's aforementioned 2007 ASAT test, the ITU's revision of Article 45 of its Constitution, and the U.S.'s 2010 NSP.

China's 2007 ASAT test demonstrated the permissible nature of the existing legal regime. After littering low earth orbit with a cloud of debris that has grown to over 3,000 trackable pieces, China faced widespread criticism. However, only one nation, Japan, accused China of acting illegally.[381] Japan did not specify the exact basis of its objection other than to say it was a

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[379] Lachs, *supra* note 41 at 108.
[380] See Lyall & Larsen, *supra* note 47 at 71.
[381] James Clay Moltz, *Asia's Space Race: National Motivations, Regional Rivalries, and International Risks* (New York: Columbia University Press, 2012) at 66.

violation of the Outer Space Treaty.[382] Arguably, China should have foreseen the harmful effects of the test and engaged in consultations, yet a strong case can be made that even this was not required under Article IX's permissive consultation procedure. Regardless, it is clear that no state formally accused China of interfering with their Article I right to use and explore space. Thus, to update Judge Lachs' formulation, it would appear that, in practice, one state's freedom of action can be exercised even to the extent that it creates a massive debris cloud. The VCLT states that the interpretation of treaty provision can take into account "together with the context ... any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation."[383] It is likely that the response to China's ASAT test, as with previous ASAT tests performed decades earlier by the U.S. and the Soviet Union, reflects a tacit agreement to interpret the Outer Space Treaty in a manner that permits damaging kinetic ASAT tests without the need for prior consultation.[384] In other words, the major spacefaring nations have purposefully embraced the ambiguity of the Outer Space Treaty to maximize freedom of action for themselves.

The ITU's clear prohibition against harmful interference to radio frequencies has proven to be ineffective in guarding against increasing instances of intentional interference, and the ITU, as noted, lacks a compulsory mechanism to enforce compliance. In 2012, members discussed ways to amend the regulations to address the growing problem. Due to "political sensitivities,"

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[382] *Ibid*; see also "Japan's Abe Charges China's Satellite Test Illegal" *SpaceDaily* (31 January 2007), online: <www.spacedaily.com/reports/Japan_Abe_Charges_China_Satellite_Test_Illegal_999.html>.
[383] *VCLT*, *supra* note 24 at art 31(3)(B).
[384] See Michael Mineiro, "*FY-1C* and *USA-193* ASAT Intercepts: An Assessment of Legal Obligations Under Article IX of the Outer Space Treaty" (2008) 34 J Space L 321 at 345-46 (Noting that state practice could represent an agreement that Article IX consultations are not required prior to kinetic ASAT tests, but asserting that such an interpretation could not overturn the presumption that the parties agreed to be bound by the ordinary meaning to be given the treaty in light of its context, object, and purpose).

they opted for only minor, insubstantial changes, amending the Radio Regulations to say, "If an Administration has information of an infringement … committed by a station under its jurisdiction, the administration shall ascertain the facts and take necessary action."[385] This change merely rephrases the existing requirements with some clarification as to the types of infringement contemplated.[386] The world community's inability to reach consensus on taking a stronger stand on enforcement signifies that some level of harmful signal interference is deemed tolerable in practice, even though it is contrary to black-letter law.

While China's 2007 ASAT test and the ITU's 2012 regulatory amendment together suggest a relatively permissive environment when it comes to interference, the National Space Policies of the U.S. advocate a notable contrast. The 2010 NSP provides that the U.S. "will adhere to, and proposes that other nations recognize and adhere to" the principle that:

> The United States considers the space systems of all nations to have the rights of passage through, and conduct of operations in, space without interference. Purposeful interference with space systems, including supporting infrastructure, will be considered an infringement of a nation's rights.[387]

Thus, the U.S. acknowledges that the freedom to conduct operations in space is limited by the freedom of other states to conduct operations free from interference, or, at least, from "purposeful" interference. Interestingly, all NSP's going back at least to the Carter Administration convey a similar, and similarly accurate, statement of the law.[388] President

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[385] Theresa Hitchens, "Space Security-Relevant International Organizations: UN, ITU, and ISO" in Kai-Uwe Schrogl et al, eds, *Handbook of Space Security* (New York: Springer, 2015) 507 at 517 [*Handbook on Space Security*].
[386] Mountin, *supra* note 377 at 137.
[387] 2010 NSP, *supra* note 182 at 3.
[388] US, President of the United States, *Presidential Directive/NSC-37, National Space Policy* (11 May 1978) at para 1(d) ("Purposeful interference with operational space systems shall be viewed as an infringement upon sovereign rights"); US, President of the United States, *National Security Decision Directive No 42, National Space Policy* (4 July 1982) at para I(2)(d) ("Purposeful interference with space systems shall be viewed as infringement upon

Reagan's 1982 NSP, for example, stated, "purposeful interference with space systems shall be viewed as an infringement upon sovereign rights."[389] Though undefined, "purposeful interference" can reasonably be distinguished from "harmful interference" that is inadvertent; such inadvertent interference is evidently tolerable. The Department of Defense's 2012 Directive on Space Policy elaborates on this principle, declaring that:

> Purposeful interference with U.S. space systems, including their supporting infrastructure, will be considered an infringement of U.S. rights. Such interference, or interference with other space systems on which the United States relies, is irresponsible in peacetime and may be escalatory during a crisis. The United States will retain the capabilities to respond at the time and place of our choosing.[390]

Hence, a policy against purposeful interference serves as a deterrent by putting other nations on notice that some interference is not acceptable and could result in lawful countermeasures or even the use of force in self-defense, depending on the type and severity of the interference. [391]

Having addressed both the law and the practice of states, we can now draw several conclusions about harmful interference and the ICOC. As indicated above, ITU regulations already prohibit harmful interference with radio frequencies, and Article I of the Outer Space Treaty, when read in conjunction with Article IX, prohibits interference of any kind to the extent that it infringes upon other states' right to use and explore outer space freely. One way in which the ICOC would arguably be more expansive than the ITU regulations is with regard to

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sovereign rights") [*1982 NSP*]; US, President of the United States, *National Space Policy Directive 1, National Space Policy* (2 November 1989) at "Goals and Principles" ("Purposeful interference with space systems shall be viewed as an infringement on sovereign rights); *2006 NSP*, supra note 145 at "Introduction", para 3 ("Purposeful interference with space systems shall be viewed as an infringement on sovereign rights").

[389] *1982 NSP*, *ibid*.

[390] DODD 3100.12, *supra* note 202 at para 4(b).

[391] See International Law Commission, *Draft Articles on the Responsibility of States for Internationally Wrongful Acts*, UNGAOR, 53rd Sess, UN Doc A/56/83 (2001) art 49 (Countermeasures); see also Shaw, *supra* note 15 at 795 ("Lawful countermeasures must be in response to a prior wrongful act and taken in the light of a refusal to remedy it, directed against the state committing the wrongful act and proportionate").

unregistered radio frequencies. The ITU's protections against harmful interference only benefit properly registered frequencies. Consequently, jamming or spoofing the transmissions of an unregistered or improperly registered frequency, for instance, would seem to be acceptable under the ITU but not the ICOC. For the most part, however, the ICOC's charge to "avoid harmful interference" does not add much to the existing law.

Despite these existing restrictions on harmful interference, in practice they are either not interpreted in an exacting manner or, in the case of the ITU, simply not strictly enforced. It has been observed that "[i]f a treaty is to be regarded as creating 'hard' obligations, i.e., possessing some autonomous binding norms, it must be precisely worded and specify the exact obligations undertaken by signatory states."[392] With respect to the Outer Space Treaty, the lack of a clear statement prohibiting harmful interference lends itself to various interpretations. This is why it can often appear that, in outer space, whatever is not prohibited is allowed, even though principles expressed in the Outer Space Treaty would imply otherwise.[393] In practice, the Outer Space Treaty has proven inadequate for establishing, for example, kinetic ASAT tests as illegal, despite the harmful debris clouds that can result (although state practice may be in the process of evolving, as demonstrated by the fact that interference-causing kinetic ASAT tests have not been repeated since 2007). The ITU, by contrast, does have a clear prohibition against harmful interference, but no enforcement mechanism. It, too, has proven inadequate to prevent intentional interference; state practice indicates that frequency interference is tolerated to a certain extent.

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[392] Tan, *supra* note 50 at 165.

[393] See Jakhu, "Global Public Interest", *supra* note 360 at 41 ("In space law, the 'general presumption in favor of freedom of action' is not applicable").

In addition, despite the apparent leniency in state practice and the ambiguous nature of the norm, the U.S.'s 2010 NSP unambiguously recognizes the legal right to operate in space free from "purposeful" interference.[394] As noted, previous NSP's going back several decades have also embraced this principle, which is rooted in the Outer Space Treaty. The only apparent difference between this principle and that contained in the ICOC is that the ICOC would be less favorable to interference that was harmful but not purposeful. This could be regarded as a significant distinction, however. For instance, a kinetic ASAT test conducted against a nation's own satellite might not purposefully interfere with other nations' space activities, yet its second-order effects (in the form of space debris) could cause harmful interference to other nations' space activities. In this regard, the ICOC would be more restrictive.

Accordingly, the principle of avoiding harmful interference does not constitute a new legal obligation, but it also does not currently function as a binding norm. The ICOC would essentially recast the principle as something clear, something new, and something to which states will adhere by virtue of having made a conspicuous political commitment. Harmful interference, in other words, would become less tolerable if the ICOC takes effect. If the U.S. is committed to its stated policy of adhering to, and encouraging others to adhere to, the principle that states have the right both to pass through and conduct operations in space without interference, then this should be a welcome development. If, however, policy-makers support the long-standing policy of condemning "purposeful interference" yet find the ICOC's directive to avoid "harmful interference" objectionable, then it would seem incumbent upon them to provide an articulable distinction.

[394] 2010 NSP, *supra* note 182 at 3.

IV. Space Debris and the Destruction of Space Objects

A. Refraining from Damage or Destruction

The key provision of the ICOC is the part of paragraph 4.2 which provides that Subscribing States "resolve, in conducting outer space activities, to refrain from any action which brings about, directly or indirectly, damages, or destruction, of space objects." The damage or destruction of space of space objects can be justified, however, in any of three ways:

- By imperative safety considerations, in particular if human life or health is at risk; or
- By the Charter of the United Nations, including the inherent right of individual or collective self-defense; or
- In order to reduce the creation of space debris.[395]

Moreover, it is resolved, "where such exceptional action is necessary, that it be undertaken in a manner so as to minimize, to the greatest extent practicable, the creation of space debris."[396]

China's and the U.S.'s destruction of their own satellites in 2007 and 2008, respectively, can illustrate how this resolution might work in application. China directly caused the destruction of its space object not out of safety considerations, self-defense, or to reduce the creation of space debris, but rather to test its ASAT technology. By contrast, the U.S. destroyed USA-193 in Operation Burnt Frost due to concerns about safety; allowing the satellite to crash to the earth's surface would have risked exposing people to a dangerous chemical. Moreover, the operation was conducted in a manner that successfully minimized the creation of space debris.[397]

Both incidents were accepted as lawful under the Outer Space Treaty. As previously discussed, China's foreseeable creation of harmful debris, as well as its failure to undertake appropriate consultations, could be considered unlawful under the ordinary meaning of the

[395] ICOC, *supra* note 261 at para 4.2.
[396] *Ibid*.
[397] See Chapter Two, section II(B), *above*.

treaty's provisions, yet no state conveyed a formal, specific legal objection to COPUOS. Had the ICOC applied to China at the time, China's test would have been in clear violation and China would have been subject to claims of having violated a political commitment. Operation Burnt Frost and the manner in which it was conducted so as to minimize the creation of debris, by contrast, would have been justifiable.

Paragraph 4.2, therefore, would serve to strengthen the existing obligation to give due regard to states' freedom to use outer space free from harmful interference. It would do so by repackaging the obligation as a political commitment encouraging states to recognize limits on the freedom to conduct activities that contaminate the space environment with harmful space debris, while also recognizing exceptions that accommodate the policies and practices important to the U.S. In particular, paragraph 4.2 would condemn the damage or destruction of space objects through kinetic ASAT or ballistic missile defense tests, as tests are generally not conducted for safety reasons, in self-defense, or to reduce debris.

This is not to say it would limit *all* ASAT or ballistic missile defense tests, or even limit the freedom to place weapons in or through space. Significantly, the ICOC seeks to address the effects of certain conduct in space, specifically, the effect of damaging or destroying space objects without justification. Placing or testing weapons in space would not be restricted so long as the effect of creating space debris is avoided. In this regard the ICOC is decidedly divergent from China and Russia's proposed PPWT, which would ban the placement of weapons in space. Such a provision would be unfeasible because the dual-use nature of most space objects makes it impossible to determine what is or is not a weapon. The legal justification under international law for using force, of course, remains unaffected by the ICOC. Hence, even a debris-creating

use of force could be justified if done in self-defense and in accordance with the principles of humanitarian law.

B. Debris Mitigation Procedures

The ICOC is not the first set of rules intended to mitigate against the creation of space debris. The U.S. has been an early proponent of debris mitigation rules at the national level, having adopted the United States Government (USG) Orbital Debris Mitigation Standard Practices in 2001.[398] These standards apply to all U.S. Government Departments and Agencies conducting space operations, including the Department of Defense.[399] They consist of six standard practices that state, generally:

- spacecraft and launch vehicles should be designed to eliminate or minimize debris released during normal operations;
- spacecraft and launch vehicles should be designed to limit the risk of accidental explosion during mission operations
- On-board energy sources of spacecraft and launch vehicles should be depleted when no longer required to prevent accidental explosions after completion of mission operations;
- In developing the mission profile, a program will estimate and limit the probability of collision with known objects during orbital lifetime;
- spacecraft design will consider and limit the probability that collisions with debris smaller than 1 centimeter will cause loss of control to prevent post-mission disposal;
- Tether systems will be uniquely analyzed for both intact and severed conditions.

At the international level, as previously mentioned, the Inter-Agency Space Debris Coordination Committee (IADC), an informal group of leading space agencies, negotiated

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[398] *Compendium of space debris mitigation standards adopted by States and international organizations, Document submitted by Canada, the Czech Republic and Germany*, LS COPUOS, 57th Sess, UN Doc A/AC.105/2014/CRP.13 (10 June 2014) at 44 [*Compendium of Space Debris Mitigation Standards*].
[399] *Ibid* at 48; see also DODD 3100.10, *supra* note 202 at para 4(d).

voluntary debris mitigation guidelines in 2002.[400] COPUOS used these a basis to draft similar guidelines which the UN General Assembly then adopted in 2007.[401] The COPUOS Space Debris Mitigation Guidelines call upon member states and international organizations to voluntarily implement the guidelines at the national level to the greatest extent feasible. The guidelines to be considered are:

Guideline 1: Limit debris released during normal operations;

Guideline 2: Minimize the potential for break-ups during operational phases;

Guideline 3: Limit the probability of accidental collision in orbit;

Guideline 4: Avoid intentional interference and other harmful activities;

Guideline 5: Minimize potential for post-mission break-ups resulting from stored energy;

Guideline 6: Limit the long-term presence of spacecraft and launch vehicles orbital stages in the low-earth orbit (LEO) region after the end of their mission;

Guideline 7: Limit the long-term interference of spacecraft and launch vehicle orbital stages with the geosynchronous Earth Orbit (GEO) after the end of their mission.

The ICOC calls upon Subscribing States to "reiterate their support to encouraging efforts in order to promote universal adoption, implementation, and full adherence" to various instruments including the COPUOS Space Debris Mitigation Guidelines.[402] Both the ICOC and the COPUOS Space Debris Mitigation Guidelines go beyond the USG Orbital Debris Mitigation Standard Practices. The key distinction is Guideline 4 of the COPUOS Guidelines which calls

[400] *Compendium of Space Debris Mitigation Standards, supra* note 398 at 56.
[401] *International cooperation in the peaceful use of outer space*, UNGAOR, 62nd Sess, UN Doc A/RES/62/217 (2007).
[402] ICOC, supra note 261 at para 3.1.

on states to avoid intentional interference and other harmful activities. This resembles the ICOC's principle of avoiding harmful interference as well as its guideline of refraining from any action that brings about the damage or destruction of a space object. The USG Orbital Debris Mitigation Standard Practices have no comparable rule. Hence, the ICOC essentially reiterates the COPUOS Space Debris Mitigation Guidelines, which are more stringent than the current USG Orbital Debris Mitigation Standard Practices with respect to intentional or harmful interference.

However, it will be remembered that, in conducting Operation Burnt Frost, the U.S. voluntarily observed the COPUOS Space Debris Mitigation Guidelines.[403] Moreover, the 2010 NSP views "purposeful interference" as an infringement on a nation's rights, though the U.S. has not implemented this principle through regulatory means as a debris mitigation measure. In both practice and policy, therefore, the debris mitigation standards under the ICOC do not represent a significant departure for the U.S.

V. Notification and Information Sharing

A. Notification Requirements

The ICOC commits states to notifying other states of various outer space activities. Guided by the principle of cooperation and mutual assistant, Subscribing States:

> resolve to notify, in a timely manner, to the greatest extent practicable, all potentially affected Subscribing States of any event related to outer space activities they are conducting which are relevant for the purposes of this Code, including:
>
> - Scheduled manoeuvres that could pose a risk to the safety of flight of the space objects of other Subscribing States;

[403] See Chapter Two, section II(B), *above*.

- Predicted conjunctions posing an apparent on-orbit collision risk, due to natural orbital motion, between space objects or between space objects and space debris;
- pre-notification of space launches;
- collisions, break-ups in orbit, and any other destruction of a space object(s) which have taken place generating measurable debris;
- Predicted high-risk re-entry events in which the re-entering space object or residual material from re-entering space object potentially could cause significant damage or radioactive contamination;
- Malfunctioning of space objects or loss of control that could result in a significantly increased probability of a high risk re-entry event or a collision between space objects.[404]

This provision recalls Article XI of the Outer Space Treaty, which obliges states to notify the UN and the public about the nature, conduct, locations, and results of space activities. It states:

> In order to promote international cooperation in the peaceful exploration and use of outer space, State Parties to the Treaty conducting activities in outer space, including the Moon and celestial bodies, agree to inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations and results of such activities. On receiving the said information, the Secretary-General of the United Nations should be prepared to disseminate it immediately and effectively.[405]

Both Article XI and the ICOC permit substantial discretion in what must be reported. Article XI requires notifications only "to the greatest extent feasible."[406] One of the intentions of including a notification procedure in the Outer Space Treaty was to assist in verifying the adherence to the demilitarization provisions of Article IV.[407] The Soviets opposed, and the U.S. would come to agree, a strict requirement to inform the UN about *all* launches of space

[404] ICOC, *supra* note 261 at para 5.1.
[405] *Outer Space Treaty*, *supra* note 54 at art XI.
[406] *Ibid*.
[407] Cheng, *Studies in Space Law*, *supra* note 45 at 253.

objects.[408] Consequently, Article XI requires only that the UN be informed "to the greatest extent feasible and practicable." The ICOC contains essentially the same caveat, requiring only that notifications be made "to the greatest extent practicable."[409] If national security considerations make notification unfeasible, then it is not required under the ICOC.

B. Information Sharing

The ICOC calls upon Subscribing States:

> to share, on an annual basis, where available and appropriate, information with the other Subscribing States on" their space strategies and policies, their major space research and space applications programs, their policies and procedures to prevent and minimize the possibility of accidents and the creation of space debris, and efforts taken to promote universal adoption and adherence to legal and political regulatory instruments concerning outer space activities.[410]

Additionally, the ICOC conveys that "Subscribing States may also consider providing timely information on outer space environmental hazards … including in particular natural phenomena that may cause hazard to spacecraft."[411] As a senior Defense Department official has observed, "the increasingly challenging space environment means that an unprecedented level of information sharing is needed among space actors, to promote safe and responsible operations in space and reduce the likelihood of mishaps, misperceptions, and mistrust."[412]

These provisions are essentially abbreviated versions of the information sharing guidelines recommended by the 2013 Report of the Group of Governmental Experts on

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[408] See *ibid* at 251-253.
[409] ICOC, *supra* note 261 at para 5.1.
[410] *Ibid* at para 6.1.
[411] *Ibid* at para 6.2.
[412] US, *Hearing on Budget Request for National Security Space Activities, before Subcommittee on Strategic Forces, House Committee on Armed Services*, 112th Congress (8 March 2012) at 63 (Written statement of Ambassador Gregory L. Schulte, Deputy Assistant Secretary of Defense for Space Policy).

Transparency and Confidence-Building Measures in Outer Space Activity (GGE).[413] The report is the product of a study initiated by the UN and conducted by representative experts from the U.S., United Kingdom, China, Russia, France, and ten other nations.[414] The UN General Assembly endorsed the GGE report in 2013.[415] COPUOS has requested the UN Secretariat issue a special report conveying support for the GGE measures and identifying ways UN entities could coordinate to assist Member States in implementing them.[416] With regard to information sharing, the GGE report recommended that states publish their space policies and strategies and exchange information on forecast natural hazards in space, similar to the ICOC guidelines.[417]

The U.S. has reported to COPUOS that it already adheres to these guidelines. Upon invitation by the UN Secretary-General, the U.S. submitted to COPUOS its views on how to make practical use of the GGE recommendations in November 2014. With respect to the GGE's recommendation to publish information on national space policies, strategies, and space applications programs, the U.S. responded, "[t]his measure is consistent with the many years of experience the Committee has in exchanging information among Member States about their space policies, strategies, and outer space research applications programmes."[418] It added that

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[413] *Report of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities*, UNGAOR, 68th Sess, UN Doc RES/A/68/189* (2013) [*GGE Report*].
[414] *Ibid* at 5-7.
[415] *Transparency and confidence-building measures in outer space activities*, UNGAOR 68th Sess, UN Doc A/RES/68/50 (2013).
[416] *Report of the Committee on the Peaceful Uses of Outer Space*, UNCOPUOS, 58th Sess, UN Doc A/70/20 (2015) at para 339.
[417] *GGE Report*, *supra* note 413 at 37-38.
[418] *Recommendations of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities*: *Views of States Members of the Committee on the Peaceful Uses of Outer Space*, UNCOPUOS, UN Doc A/AC.105/1080 (2014) at 4.

the U.S. "implements this measure by publishing principles, goals and strategies for its national space activities, such as the 2010 United States National Space Policy."[419]

With regard to exchanging information about space weather and environmental hazards, the U.S. commented that it "implements this measure by providing space weather alerts" through a website and, in addition, "the United States also cooperates with China to minimize space object collision hazards to their human spaceflight programmes."[420] The U.S. also reported numerous other ways in which it implements the various GGE recommendations to share information and foster international cooperation.[421]

In addition to the information-sharing measures noted in its letter to COPUOS, the U.S. operates the world's largest and most sophisticated space situational awareness (SSA) network.[422] Its Joint Functional Component Command for Space (JFCC SPACE), through its command and control center, the Joint Space Operations Center (JSpOC), continually tracks 23,000 known objects in orbit around the earth.[423] Prompted in part by the Cosmos-Iridium collision, the U.S. enacted a permanent data sharing program under 10 U.S.C. § 2274. The statute authorizes the Secretary of Defense to enter into agreements to "provide space situational awareness services and information to, and … obtain space situational awareness data and information from, non-United States Government entities … if the Secretary determines that such action is consistent with the national security interests of the United States."[424] This

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[419] *Ibid* at 5.
[420] *Ibid* at 6.
[421] *Ibid* at 6-13.
[422] *See* Brian Weeden, "SSA Concepts Worldwide", in *Handbook of Space Security*, *supra* note 385, 985 at 990.
[423] *House Hearing on 2016 NDAA for Space Activities, supra* note 176 at 3 (Written testimony of Lt General John W. Raymond, Commander, Joint Functional Component Command for Space).
[424] *Space situational awareness services and information: provision to non-United States Government entities*, 10 USC § 2274(a), (c) (2010).

authority was subsequently delegated to the commander of U.S. Strategic Command (USSTRATCOM). As of this writing, the U.S. has entered into SSA sharing agreements with 46 commercial firms, eight nations, and two intergovernmental organizations, with numerous additional agreements in the works.[425] SSA agreements provide partners with high quality and timely space information tailored to fit the organization's specific purposes in exchange for satellite-positional and radio-frequency information on planned orbit maneuvers.[426] Even without an SSA agreement, the U.S. informs satellite operators when it detects their satellites may be on a collision course.

Thus, with respect to information-sharing, the ICOC would add little to the content of existing policy and practice, as it "already reflects U.S. best practices and is consistent with current practices such as notification of space launches and sharing of space data to avoid collisions."[427] Moreover, much like the ICOC's provision on notifications, the directive to share information on strategy and policy is moderated by the caveat "where available and appropriate." Accordingly, the U.S. would not be compelled to share information that could compromise its national security.

VI. Consultation Procedure

The ICOC contains a consultation mechanism for Subscribing States that may be directly affected by certain outer space activities conducted by another Subscribing State and which have

[425] Raymond, *2016 National Security Space Hearing*, *supra* note 176, at 9.
[426] USSTRATCOM Public Affairs, "USSTRATCOM signs Space-Data Sharing Agreement with ESA" (31 October 2014), online: USSTRATCOM <www.stratcom.mil/news/2014/524/USSTRATCOM_signs_Space-Data_Sharing_Agreement_with_ESA/>.
[427] US, *Hearing on Budget Request for National Security Space Activities, before Subcommittee on Strategic Forces, House Armed Services Committee,* 112th Congress (8 March 2012) at 61 (Statement of Ambassador Gregory L. Schulte, Deputy Assistant Secretary of Defense for Space Policy).

reason to believe that those activities are or may be contrary to the Code.[428] This mechanism is intended to resolve disputes "without prejudice" to the consultation mechanism provided for in Article IX of the Outer Space Treaty, which, as previously noted, has never been utilized.[429]

Under the ICOC's mechanisms, Subscribing States resolve to "consult through diplomatic channels or by other methods as may be mutually determined" and "work jointly and cooperatively in a timeframe sufficiently urgent to mitigate or eliminate the identified risk initially triggering the consultations.[430] Most notably, states request consultations "with a view to achieving mutually acceptable solutions regarding measures to be adopted," and, similarly, all states participating in consultations resolve to "intend to seek mutually acceptable solutions in accordance with international law."[431]

Under Article IX of the Outer Space Treaty, the conduct that can trigger consultations is any outer space activity that might cause "harmful interference." This trigger is inherently discretionary because the state conducting the activity is obligated to undertake consultations only if it has "reason to believe" its planned activity would cause potentially harmful interference, which is not defined.[432] However, even under Article IX, a potentially affected state may request consultations if there is reason to believe another state's planned activity may cause it harmful interference. In this regard, both Article IX and the ICOC allow concerned states to request consultations.

The primary difference between the two mechanisms, therefore, lies not in the discretion of states to undertake consultations but in the nature of the conduct triggering consultations and

[428] ICOC, *supra* note 261 at para 7.1.
[429] *Ibid*.
[430] *Ibid*.
[431] *Ibid*.
[432] *Outer Space Treaty*, *supra* note 54 at art IX.

the intended result. While Article IX calls for consultations to address potential harmful interference, the ICOC's mechanisms calls for consultations whenever a state feels it is affected by any outer space activities that "are, or may be contrary to the Code."[433] Harmful interference could trigger consultations, just as with Article IX, but so could numerous other provisions of the ICOC. For instance, if one Subscribing State felt it would be affected by another Subscribing State's military use of outer space, which the former state believed to be contrary to the ICOC's vague principle of abiding by the responsibility to "take all appropriate measures to prevent outer space from becoming an arena of conflict," then it could request consultations.[434]

Whatever the reason for consultations pursuant to the ICOC may be, the parties resolve to engage "with a view to" reach a mutually acceptable solution.[435] While this obligation is not as onerous as actually reaching a solution, it is more than is required under Article IX, which does not elaborate upon any particular objective or attitude with which to conduct consultations. Nevertheless, the obligation of undergoing consultations with a view towards reaching an acceptable solution should not be overstated. The ICOC, in fact, does not require states to come to an agreeable solution.

Accordingly, the ICOC's consultation mechanism appears to differ from that of Article IX primarily by opening the door for consultations on a broader range of outer space activities and obliging the parties at least to seek a resolution. Several questions remain with regard to the practical impact of the new mechanisms, however. Because the ICOC's mechanism would be implemented "without prejudice" to existing consultation mechanisms, it is unclear how multiple mechanisms will co-exist, particularly if parties disagree on which mechanism is preferable in a

[433] ICOC, *supra* note 261 at para 7.1.
[434] See *ibid* at para 2.
[435] *Ibid* at para 7.1.

given situation. In addition, it is unclear whether the broader range of bases for consultations would actually result in increased consultations. Again, no state has ever sought or requested formal consultations pursuant to Article IX; whether a new and improved mechanism will make states more desirous of consultations is difficult to foresee. Finally, even if states did seek consultations pursuant to the ICOC, it cannot be assumed that this would be more effective than Article IX consultations just because the parties resolve to engage with a view to reaching an acceptable solution. The ICOC does not mandate that a solution be agreed upon, contains no mechanism for imposing a solution, and does not specify any consequences if an agreeable solution cannot be reached.

VII. Meeting of Subscribing States

The ICOC provides that Subscribing States will hold annual meetings to "define, review and further develop this Code and ensure its effective implementation."[436] Both substantive and procedural decisions at the meetings are to be taken by consensus of the Subscribing States present.[437] The results of meetings are to be brought to the attention of COPUOS and any other relevant international fora.[438]

Holding annual meetings to discuss the development of rules of the road in space may seem redundant with COPUOS, but providing for such meetings within the provisions of the ICOC is prudent. COPUOS has grown to 77 Member States, including all major spacefaring

[436] *Ibid* at para 8.1.
[437] *Ibid* at para 8.2.
[438] *Ibid* at para. 8.4.

states.[439] Not all of them will subscribe to the ICOC. Thus, as the ICOC is being developed outside COPUOS, revisiting and updating it within COPUOS would be unfeasible.

A procedure for regularly updating the ICOC could prove to be the most practical way to further develop space governance. For instance, the ICOC has been faulted for failing to give adequate consideration to commercial industry and emerging technologies. More specifically, the ICOC in its current form is a missed opportunity to address issues of economic development in space, asteroid mining, active debris remediation, and space traffic management, to name a few salient issues.[440] This need not be a fatal flaw. Under the ICOC, Subscribing States could use the annual meetings to "identify areas of further concern that may benefit from a more explicit and legally binding agreement."[441] Such binding agreements are not likely to come from COPUOS, which, as we have seen, has lost its relevance in part because its Member States cannot agree even to add new agenda items for consideration. ICOC meetings would also make decisions using the consensus rule, though, and simply changing the forum does not necessarily mean that states will be more willing to reach consensus. Nevertheless, working outside the strictures of the UN, and for the improvement of a Code that is non-binding, may make the potential for progress more promising. Conversely, developing space governance in such a manner provides no set procedure for incorporating congressional input. On issues important to Congress, this dilemma can create political roadblocks capable of detracting from any potential advantage a new forum may offer.

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[439] Members of the Committee on the Peaceful Uses of Outer Space, online: UN Office for Outer Space Affairs <www.unoosa.org/oosa/en/members/index.html>.
[440] See Peter Garretson, "What's in a Code?: Putting Space Development First," in *Awaiting Launch, supra* note 36 at 27.
[441] James Clay Moltz, *Crowded Orbits: Conflict and Cooperation in Space* (New York, Columbia University Press, 2014) at 187 [Moltz, *Crowded Orbitz*].

As with COPUOS, the use of the consensus rule can make progress difficult, yet it also prevents a majority from imposing policies upon states in a numerical minority. Some express concern that the ability to modify the ICOC after it has been entered into "opens the possibility that if the United States is enticed into signing onto the measure more burdensome political requirements could be added" and thus "allowance for open modification would give other nations the leverage to dictate the space policy of the United States … under the guise of 'cooperation.'"[442] The experience of COPUOS as well as the stalemate within the CD suggest that this concern is unfounded; the consensus rule can prevent a numerical majority from dictating policies to the U.S. so long as the U.S. is present to express its objection.

[442] Michael Listner, "U.S. Should Take a Cold, Hard Look at Space Code of Conduct" *Spacenews.com* (7 April 2014) online: <spacenews.com/40128us-should-take-a-cold-hard-look-at-space-code-of-conduct/>.

Conclusion

As the U.S. recalibrates its space security policy to assure access and use of vital space assets in the face of new threats, it is confronted with the question of whether the ICOC should play a role in that policy. For some, non-binding rules of the road offer a common-sense way to fill a void in the existing legal regime and promote the responsible use of outer space. For others, subscribing to the ICOC makes little strategic sense; it is portrayed as either a pointless rehash of existing principles and practices, a disguised form of ineffectual arms control, or an onerous restriction on the space control capabilities that can provide actual security solutions, to name just a few concerns. Often missing from the debate, however, is attention to the analysis on which such conclusions are based, particularly analysis that draws upon the law and the actual language of the ICOC. In other words, *how* might the ICOC achieve its goals and enhance security, or *why* should we give credence to the various the concerns raised about the ICOC? A contextual analysis can help to ensure conclusions about the ICOC are sound, and not drawn from politically-driven stereotypes or assumptions.

The most significant effect of the 2014 version of the ICOC would be the rules committing Subscribing States to avoid both harmful interference and the damage or destruction of space objects that would result in harmful debris that inhibits the ability of other states to use and explore outer space. These obligations already exist in the Outer Space Treaty, yet they are conveyed in such vague principles that, in practice, spacefaring states do not interpret them as obligations. Instead, states have effectively taken the position that whatever is not specifically prohibited is permitted, or, in the case of the ITU, even things that *are* specifically prohibited are permitted – or, at least, tolerated. The ICOC repackages these vague principles as clear political

commitments. These commitments could only be enforced through political means, but, then again, the same is generally true for the binding norms conveyed in the Outer Space Treaty, which has no enforcement mechanism. With widespread observance of these norms, bad actors could no longer seek political protection within the permissive framework of the existing legal regime.

These commitments come with a trade-off in which the U.S. would sacrifice the freedom to cause harmful interference as well as to conduct kinetic ASAT or ballistic missile defense tests. The benefits, however, outweigh the costs. Longstanding U.S. policy already condemns "purposeful interference" in outer space and encourages other states to do the same. Supporting the ICOC would reinforce this policy, thereby toughening its deterrent effect of discouraging potentially escalatory behavior. Moreover, giving up the freedom to conduct kinetic ASAT tests is hardly much of a sacrifice for the U.S. because, as demonstrated by Operation Burnt Frost, the U.S. already possesses the latent capability. Also, the freedom to target objects for reasons of safety or self-defense is not affected, and, crucially, kinetic tests create debris that can damage space objects indiscriminately. The rejection of any restrictions on freedom of action may advance a security strategy founded solely on deterring and defending against potential adversaries, but a well-founded strategy cannot not be based upon deterrence and defense alone.[443] It should be self-evident that unfettered freedom of action to act unilaterally may help to deter or defeat Chinese aggression in space, but it will not deter or defeat the hundreds of thousands of pieces of debris orbiting the earth, nor will it prevent their proliferation. A policy too focused on one type of threat will be ill-suited to deal with other, dissimilar threats.

[443] See James D. Rendleman, "A Strategy for Space Assurance" (2010) 8 Astropolitics 220 at 237.

It is significant that the ICOC would effectively strengthen ambiguous principles already reflected in the Outer Space Treaty not by attempting to change the way states interpret the treaty, but rather by creating distinct political commitments situated alongside, and complimentary to, the existing legal regime. This is important because revisiting the interpretation of ambiguous principles contained in the Outer Space Treaty would not be in the interests of the U.S., particularly with regard to the principle of using space for "peaceful purposes." While nothing in the law of outer space specifically prohibits the military use of space, some states and scholars believe the principle of using space for "peaceful purposes" imagines the demilitarization of space as the eventual goal.[444] The ICOC references the peaceful use of outer space and cautions against turning space into "an arena of conflict," but these remain ambiguous concepts. It adds nothing to alter the status quo that permits the military use of space, and which the U.S. has worked carefully to maintain.

Skeptics may raise various concerns over the ICOC, though a close examination reveals that most substantive concerns can be reduced to the tradeoff that would limit the freedom to conduct kinetic tests. Oftentimes, criticisms are overstated or simply do not withstand scrutiny. For instance, the ICOC is not arms control in a legal sense, nor does it purport to achieve arms control, and it does not require the approval of two-thirds of the Senate as though it were an Article II treaty. This is significant because a focus on the ICOC's deficiencies as an arms control agreement, or on its supposed procedural irregularities, can have the effect of obscuring its true objectives and merits. Also, due to the integral role the U.S. plays in developing

[444] See e.g. Lachs, *supra* note 41 at 100-01 ("Thus far man has progressed towards the implementation of the principle enunciated in the first instruments on the subject: the use of outer space for exclusively peaceful purposes. We cannot as yet confidently assert that we are near the goal. Hence it remains imperative that law-makers on the subject should keep in view the ultimate objective and continue their efforts to achieve it").

customary international law in outer space, there is no reason for unease over the ICOC becoming customary international law in a way that would conflict with U.S. policies or practices – unless, perhaps, the U.S. drastically reverses its policies and practices in the future. In addition, the ICOC's straightforward and redundant reference the existence of the Article 51 right to self-defense in space does nothing to alter the status quo or otherwise dilute the right to self-defense. The provisions on notification and information sharing reflect existing practices and would not require the U.S. to divulge sensitive information. The ICOC's consultation mechanism could facilitate greater understanding and transparency between adversaries and encourages finding common ground when issues arise, yet it does not go so far as to impose compromise when compromise would be unacceptable. Finally, future meetings of Subscribing States would operate on the consensus rule, thereby ensuring any state can resist the machinations of a numerical majority, just as in COPUOS or the CD.

Apart from various substantive concerns, the ICOC poses a procedural problem for the U.S. that also illustrates a broader issue about the future of space governance. The existing legal regime for outer space is ill-equipped to deal with many of the current and future developments in outer space. Harmful interference, the parameters of self-defense, space traffic management, active debris removal, space-based solar power, asteroid mining, space tourism – these are issues that have application both within the military and commercial sphere and which require modern, multilateral solutions for effective governance. In lieu of the political will that would enable COPUOS to develop space law through a comprehensive set of new treaties, it sometimes said that muddling through with flexible, non-binding measures to achieve a piecemeal "soft governance" may provide a feasible alternative.[445] One problem with relying on non-binding

[445] See e.g. Moltz, *Crowded Orbits*, *supra* note 441 at 182.

instruments to shape the future of space governance, however, is generally overlooked. The most influential space actor, the U.S., has shown difficulty, both legally and politically, in accommodating non-binding instruments as tools of foreign policy. There is no established legal doctrine for implementing international political agreements domestically. Furthermore, as the domestic debates over both the ICOC and Iran nuclear agreement illustrate, there is significant confusion and discord over the function of political agreements in foreign policy matters and the role Congress should play in reaching such agreements. Political division over U.S. space security policy could easily exacerbate the challenge of developing "soft law" for outer space and ultimately render “soft governance” an untenable solution. Hence, achieving space governance by muddling through in such a manner might not be as viable as it seems. In this context, at the intersection where law meets politics and policy, the importance of a reality-based debate over the ICOC takes on particular significance.

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