

Deliberating the Space Code of Conduct



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Summary

The International Code of Conduct for Outer Space Activities is an important step towards making Outer Space more safe and secure for the conduct of various operations. It has been put together with the aim of ensuring the security, safety and sustainability of all Outer Space activities. This Issue Brief analyses the various provisions made in this draft and argues that, in its present avatar, the CoC is not capable of realizing its stated aim fully mainly because the Code lacks an accountability mechanism. This Brief may be read along with an earlier commentary written by the author on the IDSA website titled Space Code of Conduct: Inadequate Mechanism and a response to this view offered by Michael Krepon.

Introduction

Activities in Outer Space are increasing, with a growing number of states either launching or keen to launch their own satellites. In view of such expanding Space activities, there is a need to strengthen the existing legal architecture to address various Space activities. Attempts are being made to devise a set of rules and practices to formulate globally accepted guidelines for the Space arena. In 2008, the European Union (EU), in its attempt to provide a complementary mechanism to the existing framework regulating Outer Space, had circulated a draft Code of Conduct (CoC) in this regard.¹ Recently, on June 6, 2012, the EU officially launched (in Vienna) a multilateral diplomatic process to discuss and negotiate an International CoC for Outer Space. Negotiations on the basis of this text are expected to start at the Multilateral Experts Meeting (October 2012) at New York amongst all United Nations (UN) member states aimed at adopting the Code in 2013.

Backdrop

Outer Space has been described as a “congested, contested, and competitive” medium. Nine (11 if Ukraine and Russia are included, over and above the erstwhile USSR) countries have Space launch capabilities and over 60 countries own and operate approximately 1,100 active satellites.² These Space systems belong to various categories like civil, military, and commercial satellites. Presently, various states in the world are depending significantly on Space technologies for the purposes of communication, remote sensing and navigation. Various assets in Space could encounter intentional or accidental collision with orbital Space debris resulting from human activities.

At present, various activities in Outer Space are governed by a few globally acknowledged treaty mechanisms like the Outer Space Treaty (OST, 1967)³ and Moon Treaty (1979).⁴ The agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (Rescue Agreement, 1968)⁵ and other agreements such as the Convention on International Liability for Damage Caused by Space Objects (Space Liability Convention, 1972)⁶ are two other important treaties in this regard. The UN has also

¹ See <http://www.consilium.europa.eu/uedocs/cmsUpload/st14455.en10.pdf>, accessed on January 12, 2012.

² Micah Zenko, “A Code of Conduct for Outer Space”, Policy Innovation Memorandum No. 10, available at <http://www.cfr.org/space/code-conduct-outer-space/p26556>, accessed on June 15, 2012.

³ http://www.opanal.org/Docs/Desarme/TD/OuterSpace_Treaty.pdf, accessed on June 28, 2012.

⁴ <http://www.oosa.unvienna.org/pdf/publications/STSPACE11E.pdf>, accessed on June 28, 2012.

⁵ <http://www.oosa.unvienna.org/oosa/SpaceLaw/rescue.html>, accessed on June 28, 2012.

⁶ <http://www.oosa.unvienna.org/oosa/SpaceLaw/liability.html>, accessed on June 28, 2012.

undertaken various initiatives like the Committee on the Peaceful Uses of Outer Space (COPUOS, 1959)⁷ and Prevention of an Arms Race in Outer Space (PAROS, 1982). The UN has produced various General Assembly Resolutions, Meetings, Conference on Disarmament (CD) working papers, etc., on the issue.

In recent times, apart from the EU-sponsored CoC, two other initiatives have come to the fore. One, a Model Code of Conduct prepared by the Stimson Center⁸ was made available for discussion and debate during October 2007. Two, in February 2008, Russia and China put on the table a draft of the “Prevention of the Placement of Weapons in Outer Space Treaty” (PPWT),⁹ an international, legally binding treaty that would ban the weaponization of Space. Neither of these initiatives has generated much interest. Probably, the PPWT has been viewed as a Treaty that allows Russia and China to dominate international public diplomacy. The biggest shortcoming of this Treaty is that it is silent about ground-based missiles that can destroy satellites in Space. In addition, it is also being viewed as an attempt to put pressure on the US missile defence plans. The Stimson Center CoC, on the other hand, follows a very simplistic approach and not a traditional detailed approach.

Also, in 2009, a Working Paper on TCBMs for Space Security was presented by Canada to the CD.¹⁰ The paper argues that the CD should consider security guarantees, such as a declaration of legal principles, a code of conduct, or a treaty banning the placement of weapons in Space in any form.

Amongst all these initiatives the EU-formulated International CoC for Outer Space has found more acceptability from the point of view of discussions. The EU has now officially begun the process of negotiations to take this process forward.

CoC for Outer Space Activities (2010)

The EU Code¹¹ is about measures to be undertaken towards enhancing the protection for various activities in Outer Space. It is aimed at endorsing best practices and undertaking confidence building measures through a series of voluntary disclosures about the Space agendas of states, as pursued by both governmental and non-governmental entities.

⁷ <http://www.oosa.unvienna.org/oosa/COPUOS/copuos.html>, accessed on Jun28, 2012.

⁸ <http://www.stimson.org/research-pages/model-code-of-conduct/>, accessed on June 28, 2012.

⁹ <http://www.cfr.org/space/treaty-prevention-placement-weapons-outer-space-threat-use-force-against-outer-space-objects-ppwt/p26678>, accessed on June 28, 2012.

¹⁰ [http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/C40D0B92E5F37A9CC12575FC003BCE37/\\$file/CD_1865_E.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/C40D0B92E5F37A9CC12575FC003BCE37/$file/CD_1865_E.pdf), accessed on June 28, 2012.

¹¹ See <http://www.consilium.europa.eu/uedocs/cmsUpload/st14455.en10.pdf>, accessed on January 12, 2012.

The subscribing states are expected to take appropriate measures to avoid accidents/collisions in Space between objects and also to avoid any form of harmful interference in legitimate activities undertaken in Space. States are also expected to remain committed towards limiting the creation of Space debris. The CoC expects member states to register Space objects and provide timely information with regard to their launch schedules, various proposed space manoeuvres, collisions/break-ups in orbit, re-entry events, Space environmental conditions, etc. In addition, states are required to share their Space policies and strategies. The code also has provisions like biennial meetings, creation of an electronic database and communication systems, etc.

Acceptability

The majority of countries with interests in Space, including Australia, Canada, and Japan, have supported this international code.¹² The most powerful Space-faring state, the United States, has decided to join the negotiations on the CoC. However, it does not propose to enter into any mechanism that in any way constrains its national security-related activities in Space or its ability to protect itself or its allies.¹³ The US has announced that it would not subscribe to any code that would be legally binding.¹⁴ It views the CoC as a good foundation focused on the use of voluntary and pragmatic Transparency and Confidence Building Measures (TCBMs) to help prevent mishaps, misperceptions and mistrust in Space.¹⁵ The US military is also keen to join the Code because they feel that it would bring greater transparency into the system. According to them, the sheer volume of Space – from geosynchronous orbit down to the earth's surface – is about 73 trillion cubic miles. They do not have systems that could keep a tab on movement of every broken piece of old satellites, debris from collisions or explosions, and so on.¹⁶ Hence, they view the CoC as an ideal

¹² Micah Zenko, "A Code of Conduct for Outer Space", Policy Innovation Memorandum No. 10, available at <http://www.cfr.org/space/code-conduct-outer-space/p26556>, accessed on June 15, 2012.

¹³ Hillary Rodham Clinton, "International Code of Conduct for Outer Space Activities", Press Statement, Washington DC, January 17, 2012, available at <http://www.state.gov/secretary/rm/2012/01/180969.htm>, accessed on June 14, 2012.

¹⁴ Statement by Rose Gottemoeller, Acting Under Secretary of State for Arms Control and International Security Washington, March 14, 2012, <http://www.nytimes.com/2012/03/16/opinion/a-code-for-outer-space-as-seen-from-the-state-dept.html>, accessed on May 10, 2012.

¹⁵ Remarks by Frank A. Rose, Deputy Assistant Secretary, Bureau of Arms Control, Verification and Compliance, "Space Sustainability Through International Cooperation", at the International Symposium on Sustainable Space Development and Utilization for Humankind: Orbital Space Debris – Challenges and Opportunities, Tokyo, Japan, March 1, 2012, available at <http://www.state.gov/t/avc/rls/184897.htm>, accessed on June 18, 2012.

¹⁶ Sydney J. Freedberg Jr., "Safe Passage: Why The Pentagon Wants An International 'Code Of Conduct' For Space", available at <http://defense.aol.com/2012/03/22/safe-passage-why-the-pentagon-wants-an-international-code-of-c/>, accessed on June 18, 2012.

instrument to deal with the issues related to Space debris and Space Situational Awareness (SSA) – a network of radars, telescopes and other instruments to trace Space debris.

Opposition to a CoC for Space is expected to arise probably from other major Space-faring states like Russia and China. These states have already made their political and diplomatic posturing by proposing an international treaty – the PPWT–in 2008.

India is yet to present its position on this issue and has not made any statement either in support of or against the CoC. It is important to note that India has been following the UN Space Debris Mitigation Guidelines (2008) very systematically. India is against the weaponisation of Space.

By and large, various states have been taking part in the UN COPUOS discussions on the Long-term Sustainability of Outer Space Activities. Even though China conducted an Anti-satellite (ASAT) test in 2007, it is keen to form a treaty regime for Outer Space and is (overtly) against the idea of weaponisation of space. Both Russia and China have time and again expressed concerns about the US approach towards evolving space security mechanism. They understand that the development of any stringent space regime would go against the US missile defence programme, and hence the US is unlikely to support any legally binding mechanism on this issue.

Decoding the Code

The proposed draft of the Code has a preamble highlighting the importance of the issue and four major sections covering various requisite elements of the Code. They are:

1. Purpose, Scope and Core Principles
2. General Measures
3. Cooperation Mechanism
4. Organisational Aspects

Adherence to this Code is voluntary. The Code expects states to comply with various existing treaties and conventions on Outer Space activities (Article 3.1). Surprisingly, it also asks

¹⁷ Remarks by Frank A. Rose, Deputy Assistant Secretary, Bureau of Arms Control, Verification and Compliance, “Space Sustainability Through International Cooperation”, at the International Symposium on Sustainable Space Development and Utilization for Humankind: Orbital Space Debris – Challenges and Opportunities, Tokyo, Japan, March 1, 2012, available at <http://www.state.gov/t/avc/rls/184897.htm>, accessed on June 18, 2012.

¹⁸ Based on author’s interactions with experts.

signatories to promise to follow the Comprehensive Nuclear Test Ban Treaty (CTBT, 1996), which actually does not serve any purpose. The CTBT is about banning nuclear explosions in all environments. Naturally, one of the environments is expected to be Outer Space. However, commitment to the OST, 1967, already caters for that and hence there is no need to include clauses involving controversial mechanisms like the CTBT. Alternatively, a more relevant treaty (formed under the UN aegis), the Moon Treaty (1979), has not been mentioned. Such an omission is obvious because no major Space-faring nation is a signatory to this Treaty (India has signed but not yet ratified this Treaty). With the increasing focus on Moon Missions in the 21st century by various states, it would be incorrect to believe that the Moon has no direct relevance to current Space activities.

Also, expecting loyalty to the International Code of Conduct (ICoC)/The Hague Code of Conduct (HCoC) does not serve much purpose as this is not going to restrict the activities of states such as Iran and North Korea in any way.

Article 4.1 of the Code mentions states are expected to evolve their own policies and procedures to minimize the possibilities of accidents in Space. This is a valid suggestion. However, it is important to evolve a global strategy to reduce the chances of accidents in Space because satellites do not follow geographical boundaries as demarcated on Earth. Hence, addressing the issue in isolation (i.e., at the level of the individual state) may not be of much help.

The issues related to the notification of Outer Space activities are covered in Article 6. This segment is a part of the overall 'cooperation mechanisms' identified in this draft Code. This section could be viewed as the heart of this draft Code because it involves sharing of information on Outer Space activities.

As per Article 6.1, states are expected to report chances of collisions, break-ups in orbit, malfunctioning and predicted re-entry of Space objects. It is important to note that today increasing numbers of states are becoming owners of satellites systems; however, they all do not possess the technical and observational capabilities to anticipate such events. This brings the importance of space situational awareness (SSA) to the fore. It is important to establish a system for providing notification of such events at the global level.

Article 8.1 covers the sharing of information on Outer Space activities. One key demand of this article is that states should provide information on security- and defence-related activities in space. It is unlikely that all states would be keen to provide such information either on a voluntary basis or otherwise. Article 8.2 is about providing information on Space environmental conditions collected by SSA networks of the state. Presently, apart from the US, no other state has dedicated SSA infrastructure. Some states could receive some information on the Space environment (e.g., movement of debris) because of the presence of radar networks developed/established by them for strategic purposes. It may not be always possible for these states to disclose the information gathered because of the

secrecy associated with the source of observation. This again highlights the need for a universal SSA architecture.

It is also important for the Code of Conduct to make provisions with regard to Space weather. "Space weather is of particular concern to the long term sustainability of our space activities. Besides the direct hazard it poses to earth-orbiting satellites, space weather events greatly complicates SSA and collision prevention."¹⁷ The draft Code has made provisions for the Outer Space activities database (Article 12, which could also maintain the record of the weather). Every state having satellite assets may not have the infrastructure for monitoring and forecasting Space weather. However, it is important to make this information available in time to everyone, and SSA architecture or a separate system under the World Meteorological Organisation (WMO) could be established for the same.

The basic limitation of this draft Code appears to be its inadequacy in addressing future issues. It is important to appreciate that, along with the number of existing challenges, the Code should also cater for impending issues. A simplistic approach to address such challenges (as and when they arise) is through the mechanism of biennial meetings of subscribing states (Article 10). However, there is a need to devise a minimum basic structure while formulating the Code. Mining of Asteroids and the Moon and Mars for exploiting raw materials and minerals is expected to become a reality. It is important to have clarity about the ownership of such resources. Furthermore, there are indications that along with space tourism in Low Earth Orbit (LEO), a possibility also exists for private travel in deep space region (Moon Mission). Technology is expected to develop in areas like Space elevators, Space solar power, and airborne lasers (for the boost phase kill of ICBMs), etc. The issue of Space-based weapons is dormant at this point in time but there are no guarantees for the future. Presently, no strict provisions are available in the Code to address issues like counter-space abilities. While it would be incorrect to expect the Code to offer issue-specific solutions for likely future events, what is important is that the Code needs to be cognizant of these realities.

Options for India

It is important that India devises a policy based on its existing and proposed Space agenda, its security requirements and the interests of its Space industry. It is also important for India to consider the larger issue of Space security and the need to prevent Space weaponisation. Counter-Space systems are not the norm in present-day military hardware, but since Space is being visualized as a fourth dimension of warfare there are no guarantees for the future. India is yet to announce its official position with regard to the proposed draft Code. If India proposes to join the multilateral experts meeting of October 2012 in New York, then it could consider some of the contentions discussed here.

The debate on the Space CoC so far indicates that some states are in agreement about

devising a voluntary and non-binding mechanism. However, the legitimacy of such provisions could always be questioned. The history of non-binding mechanisms like the HCoC indicates that they have limited utility. It is important to appreciate that since the domain of Space offers a large number of benefits in civilian, commercial and military sectors, threats to the Space environment are likely to increase in the coming years. In view of this, there is a need to have a respectable agreement on Space issues and a regime should be evolved that offers a protection mechanism to guard against existing and emerging threats. Thus attempts such as the suggested CoC should be welcomed and provisions thereof should be debated.

For every state, its own interests – geostrategic and economic – are of paramount importance and they usually join multilateral arrangements mainly to serve their own interests. Multilateralism is all about universally-accepted obligations, which could be morally or legally binding. Over the years, it has been observed – in a broad sense – that provisions of international treaties and other similar mechanisms with conditions annexed, and having a penalty for non-fulfilment, generally give better results. A political agreement by a state to join a multilateral mechanism without any legal obligation suffers from various limitations; these are less trustworthy and non-serious arrangements. In certain cases, it could become difficult to devise a legally-binding proposal, probably because of technological and financial limitations. However, it is important to recognise that such difficulties could, at least, be partially overcome with more efforts.

Presently, the argument given with regard to the Outer Space CoC is that attaining binding status is not a realistic option (because of technical and geopolitical reasons), and, particularly, the US would only become a part of any mechanism that is non-binding in nature, and hence it would be unproductive to push for a binding mechanism.¹⁸ Now, the question that India needs ask is: “Is the EU proposing a mechanism to suit the US interests or for the purposes of achieving space security?” It is not necessary that every (Space) non-proliferation regime should be inclusive to such extent that all major Space-faring nations should be part of it (this may be desirable but definitely not necessary and, more importantly, achievable). In the nuclear arena, too, not all nuclear weapon states are members of the Non-Proliferation Treaty (NPT).

The Outer Space CoC is about asking states to provide information about their ongoing and proposed space activities and future plans. It is done with a view to bring transparency into the system and guard against the eventual weaponisation of Space. The basic purpose behind CoC gets defeated if insufficient, inaccurate and irregular information is provided by states. Space is one arena where the presence of a satellite, once it is launched, usually cannot be hidden. However, for predicting the possibility of any likely Space collision it is important to have knowledge of various parameters relating to that satellite such as orbit position, speed, any plans for increasing or decreasing the orbit altitude, etc. No state would like to share technical information which could be used to understand, and probe

more deeply into, its scientific and technological capabilities.

A binding mechanism could help to institute a system of trust amongst the members and would also keep them responsible to the CoC mandate. Making states accountable to the CoC would have its own advantages. It would enhance its purpose and goals and would attract states having genuine interest in achieving Space security and could expose fence sitters. India, being an important player in the Space arena, needs to lobby for a transparent and binding CoC, which would eventually help in realizing Space security.

Conclusion

The International CoC for Outer Space Activities is an important step towards making Outer Space more safe and secure for the conduct of various operations. The Code has correctly identified various issues for the notification of Outer Space activities by the states. This CoC has been written with the aim of ensuring the security, safety and sustainability of all Outer Space activities. This raises the question whether the CoC has the potential to fulfil this aim. It appears that, in its present *avatar*, the CoC is not capable of realizing this dream fully. This is mainly because the Code lacks an accountability mechanism. Undertaking confidence-building measures through a series of voluntary disclosures is likely to have limited utility and would not help to identify the “bad sheep” and this, in the long run, could be detrimental to overall Space security. It is important to appreciate that creating an ineffective non-proliferation instrument is in nobody’s interest.