
Conference on Disarmament

3 September 2014

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Note verbale dated 2 September 2014 from the Delegation of the United States of America to the Conference on Disarmament addressed to the Acting Secretary-General of the Conference transmitting the United States of America analysis of the 2014 Russian-Chinese draft treaty on the prevention of the placement of weapons in outer space, the threat or use of force against outer space objects

The Delegation of the United States of America to the Conference on Disarmament presents its compliments to Acting Secretary-General of the Conference on Disarmament Michael Møeller and has the honour of transmitting to the Secretariat a text containing the United States of America analysis of the 2014 Russian-Chinese draft “treaty on the prevention of the placement of weapons in outer space, the threat or use of force against outer space objects”. The United States of America delegation would appreciate the Secretariat’s assistance in issuing and circulating this text as an official document of the Conference on Disarmament.

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Analysis of the 2014 Russian-Chinese draft “treaty on the prevention of the placement of weapons in outer space, the threat or use of force against outer space objects” (PPWT) (CD/1985)

Executive summary

1. The June 12, 2014, draft PPWT (CD/1985) proposed by Russia and China, like the 2008 version, remains fundamentally flawed. The fundamental flaws include:

(a) **Verification:** There is no integral verification regime to help monitor/verify the limitation on the placement of weapons in space. The United States could not support an approach in which verification provisions were determined only through subsequent negotiations of an “additional protocol.” Moreover, the United States has maintained that it is not possible with existing technologies and/or cooperative measures to effectively verify an agreement banning space-based weapons.

(b) **Scope:** Typically, arms control treaties that prohibit the deployment of a class of weapon also prohibit the possession, testing, production, and stockpiling of such weapons to prevent a country from rapidly breaking out of such treaties. The PPWT contains no such prohibitions and thus a Party could develop a readily deployable space-based weapons break-out capability.

(c) **Terrestrially-Based Anti-Satellite Weapons:** The Treaty does not address the most pressing, existing threat to outer space systems: terrestrially-based anti-satellite weapon systems. There is no prohibition on the research, development, testing, production, storage, or deployment of terrestrially-based anti-satellite weapons; thus such capabilities could be used to substitute for, and perform the functions of, space-based weapons.

2. Given the lack of a verification regime, the risk of a Party developing and deploying a break-out capability, and the failure to address the threat of terrestrially-based antisatellite capabilities, the United States has determined that the 2014 draft PPWT does not satisfy the President’s criteria in the 2010 U.S. National Space Policy for considering space arms control concepts and proposals, namely, that they must be equitable, effectively verifiable, and enhance the national security of the United States and its allies. As a result, the 2014 draft PPWT provides no basis for the United States to support establishing an *ad hoc* committee to negotiate any such Treaty at the Conference on Disarmament or in any other forum.

Context

3. On 10 June, 2014, at the United Nations Conference on Disarmament (CD), the Russian Federation and China introduced for consideration an “updated” draft of the “treaty on the prevention of the placement of weapons in outer space, the threat or use of force against outer space objects” (PPWT). It was subsequently published as CD/1985 and dated 12 June 2014. This draft is an update of the previous draft PPWT (CD/1839 dated 29 February 2008). The earlier United States of America assessment of the 2008 draft PPWT can be found in CD/1847, dated 26 August 2008.

Analysis of key provisions

Verification

4. The 2014 draft PPWT – like the 2008 version – does not include an integral, legally binding verification regime for effectively monitoring and verifying compliance.

5. Moreover, in 2006 and 2009, the Russian Federation and China in CD/1781 (2006) and CD/1872 (2009) acknowledged that the PPWT's provisions could not be effectively verified using currently available technology.

(a) In their 2006 working paper on “Verification Aspects of PAROS” (CD/1781), the Russian Federation and China stated: “Technically, outer space verification measures would involve such cutting-edge technologies as survey, tracking, and spotting. There are not yet adequate technological conditions at the moment to make an effective verification regime possible.”

(b) In their 2009 document “principal questions and 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)” (CD/1872), the Russian Federation and China again acknowledged this reality, stating: “... it would seem appropriate to set aside the question of verification and other contentious issues for the time being. In the future, as science and technology progress and when the conditions are right, the addition of a verification protocol to PPWT may be considered.”

6. Although the 2014 draft PPWT recognizes the need for subsequently negotiating a verification protocol, the United States of America could not support an approach in which key legally binding provisions required for the effective verification of an arms control agreement would only be determined through subsequent negotiations “of an additional protocol.”

7. The 2014 draft PPWT – similar to the 2008 – states that the “States Parties may implement agreed transparency and confidence-building measures, on a voluntary basis, unless agreed otherwise.” The United States of America is committed to pursuing voluntary bilateral and multilateral transparency and confidence-building measures (TCBMs), which can reduce the risk of miscalculation or misinterpretation during a crisis. However, for purposes of an arms control agreement such as the proposed draft Treaty, such TCBMs can complement, but not substitute for, an effective legally binding verification regime. The July 2013 report of the Group of Governmental Experts on Transparency and Confidence-Building Measures for Outer Space Activities sponsored by the United Nations endorsed this position.

Scope

8. Article II of the 2014 draft PPWT would prohibit the placement of “any weapons in outer space.” As defined in Article I(b) in the 2014 draft, a “weapon in outer space” is “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.” Article I(c) provides that a device is considered to be “placed in outer space” when “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 the Earth.”

9. This would prohibit the deployment or stationing in space of any device – “produced or converted” to destroy, damage, or disrupt the normal functioning of objects in outer space, regardless of the military mission, and regardless of the specific technologies employed by the weapon system in question to cause the destruction, damage, or disruption. There are no prohibitions, however, on the research, development, production, and terrestrial storage of space-based weapons, and, thus a Party – consistent with the provisions of the Treaty – could build and have in its inventory a readily deployable space-based ASAT or BMD capability. Typically, arms control treaties that prohibit the deployment of a class of weapon also prohibit the possession, testing, production, and stockpiling of such weapons to prevent a country from rapidly breaking out of such treaties.

10. Finally, the proposed draft treaty would not prohibit the testing of prohibited space-based weapons if they were tested against cooperative orbital targets and the test vehicle was launched into a sub-orbital trajectory, therefore never being “placed in outer space.”

11. Article II of the draft would also prohibit “the resort to the threat or use of force against outer space objects of States Parties.” Under Article I of the 2014 PPWT, “use of force” means “any intended action to inflict damage on an outer space object under the jurisdiction and/or control of other States.” The term “threat of force” is defined as “the clear expression in written, oral or any other form of the intention to commit such an action.” As an initial matter, the concept of “use of force” or “threat of force” is not explicitly defined under existing international law, and attempting to negotiate an agreed definition for purposes of this treaty would likely prove impossible. The United States of America would not support the attempt to define these concepts for purposes of this treaty, given that existing international law, as reflected in Article 2(4) of the United Nations Charter, already prohibits the use of force or the threat of force against another State’s outer space objects.

12. Although the United States of America does not support attempts to negotiate a definition of these concepts for purposes of this treaty, we would note several ways in which the draft definitions of these concepts differ from existing international law. First, the treaty recognizes self-defense as an exception to the prohibition on the use of force, but does not explicitly recognize that a use of force could also be authorized by the United Nations Security Council under Chapter VII of the Charter of the United Nations. Second, the prohibition in the draft treaty only applies to the “outer space objects of States Parties” where, of course, existing international law already prohibits the use of force against all States’ outer space objects, not just parties to any such treaty. Finally, the definition of “use of force” or “threat of force” under Article I of the draft is limited to actions “intended” to inflict damage. The United States of America does not believe an action must be specifically “intended” to inflict damage in order to constitute a use of force under existing international law.

13. It is also worth noting the potentially significant distinctions between the 2008 draft PPWT and the 2014 draft PPWT on this point. Like the 2008 draft treaty, the 2014 draft treaty prohibits, among other things, the threat or use of force against outer space objects of States Parties. However, the 2014 definition of “use of force” or “threat of force” no longer explicitly includes actions that cause temporary or reversible effects, such as those resulting from radio frequency jamming and optical sensor dazzling, or the deliberate alteration of the orbit of another country’s satellite.¹ It is ambiguous whether the 2014 change was

¹ Article I(e) of the 2008 PPWT draft reads: “The “use of force” or the “threat of force” means “any hostile actions against outer space objects including, *inter alia*, actions aimed at destroying them, damaging them, temporarily or permanently disrupting their normal functioning or deliberately changing their orbit parameters, or the threat of such actions.”

intended by the Russian Federation and China to specifically exclude actions that only cause temporary and reversible effects or whether such actions would be encompassed within the meaning of an “intended action to inflict damage.” Weapons in outer space employing temporary and reversible effects may still be captured (as discussed above) since the definition of a “weapon in outer space” does encompass “to destroy, damage, *and disrupt the normal functioning of objects in outer space*, ...”, but, as discussed further below, such terrestrially-based capabilities would not be captured. [emphasis added]

Terrestrially-Based Anti-Satellite Weapons

14. The PPWT does not address the most pressing, existing threat to outer space systems: terrestrially-based anti-satellite weapon systems. Although the definition of “placed in outer space” is slightly ambiguous, the United States of America understanding, based in part on the Russian Federation and Chinese explanation of their intent in CD/1872, is that the 2014 draft PPWT, like the 2008 draft PPWT, would impose no prohibitions on the research, development, testing, production, storage, or deployment of terrestrially-based anti-satellite weapons (*e.g.*, direct-ascent ASAT interceptors, lasers, and jammers).

15. Furthermore, the prohibition that Parties shall “not resort to the threat or use of force against outer space objects of States Parties,” in combination with the definition in Article I(d) of the 2014 draft PPWT of “use of force” as meaning “any action intended to inflict damage on an outer space object under the jurisdiction and/or control of other States,” would not prohibit tests of terrestrially-based anti-satellite weapons by a State Party against its own outer space objects (*i.e.*, targets) or points-in-space.

(a) For example, under this interpretation of the 2014 draft treaty provisions, China’s test on 11 January 2007, of a ground-based, direct-ascent ASAT against its own weather satellite would have been permitted.

(b) On 23 July 2014, China conducted a non-destructive ground-based direct-ascent ASAT test using the same interceptor missile that destroyed its own satellite in 2007. This test also would have been permitted under the 2014 draft PPWT provisions.

16. Additionally, the 2014 draft PPWT would not prohibit testing terrestrially-based anti-satellite weapons against another country’s space object also if the test only involved, for example, a “fly-by,” with no physical effect on the space object target (*i.e.*, not a destructive intercept and no creation of damage or debris), unless it were construed to be a “threat of force” directed against another State Party.

The Russian-Chinese Treaty 2014 PPWT Proposal: Summary of Implications

Basing mode	Space-based Counter-space	space-based missile defense	ground-based counter-space	sea-based counter-space	air-based counter-space
• Research	Permitted: No constraints or limitations				
• Development	Permitted: No constraints or limitations				
• Testing against own country's space objects	Prohibited	Prohibited	Permitted	Permitted	Permitted
• Production	Permitted: No constraints or limitations				
• Storage	Permitted: No constraints or limitations				
• Deployment	Prohibited	Prohibited	No constraints or limitations		
• Operational use Against another country's space objects	Prohibited if constitutes a "use of force" or "threat of force" (Except when required for "self-defense")				
