

# Space Weapons: A Briefing with Recommendations for the Biden Administration

BY MICHAEL LISTNER



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## Introduction

The outer space domain has held the attention of military and national security interests since the inception of the space age and with it comes a multiplicity of issues dealing with its use. One of the vexing issues the Biden Administration will face as it considers its stance on U.S. national space policy moving forward is space weapons. The matter of space weapons is a geopolitical and geo-legal front utilized by the Russian Federation and the Peoples Republic of China (PRC) that involves space control, which is the capability of a nation to maintain freedom of action in outer space and to deny the same to an adversary should national interests dictate.<sup>1</sup> The space weapons front is fluid with the implications shifting between anti-satellite weapons (ASATs), missile defense and other space-based national security instrumentalities.

The definition of what constitutes a space weapon is elusive given the dual use applications of space technology and weapon systems, including anti-ballistic missile (ABM) technology and more recently

the demonstration of rendezvous and proximity operations (RPO) and on-orbit satellite servicing (OOS) operations. This makes verification for purposes of arms control difficult if not impossible and relegates space weapons to a soft-power tool for the PRC and the Russian Federation. This briefing will highlight some of the geo-legal and geopolitical aspects of space weapons and will offer the Biden Administration recommendations on how to approach the issue.

## Space Weapons and the Outer Space Treaty

The Outer Space Treaty (OST) is the foundation of international space law and the so-called non-armament treaties.<sup>2</sup> The OST was signed and ratified by the United States, the Soviet Union and other nations on January 27, 1967. The PRC acceded to the OST in 1983. The fundamental principles of the OST stipulate non-appropriation/non-sovereignty of outer space, free access to outer space and peaceful uses of outer space.<sup>3</sup> The OST specifically prohibits

the placement and operation of nuclear weapons and other weapons of mass destruction in outer space and also prohibits the placement of military fortifications and personnel on celestial bodies, including the Moon.<sup>4</sup> However, the OST does not prohibit the placement of space weapons in outer space itself to include earth orbit and orbit around celestial bodies. The U.S. sought to discuss making space weapons an issue addressed by the OST during its negotiations, but the Soviet Union refused to include it preferring to address the space weapons through separate arms control measures.<sup>5</sup>

## **Space Weapons and Anti-Satellite Weapons**

Anti-satellite weapons (ASATs) were the focus of the space weapon front from the 1960s through the early 1980s where the U.S. and the Soviet Union engaged in multiple negotiations for different arms control proposals over the creation and deployment of ASATs. These on-again, off-again dialogues were held bilaterally and did not produce any formal agreements. The Carter Administration in particular used these negotiations as a legal and political tool to gauge Soviet intentions by informing the Soviets the United States desired to explore the potential of reaching a comprehensive ASAT ban, assess their reactions and inform [the Soviets] the U.S. was seeking an ASAT capability.<sup>6</sup>

## **Prevention of an Arms Race in Outer Space (PAROS)**

The space weapon front was bifurcated from just ASATs to include missile defense after President Reagan announced its Strategic Defense Initiative (SDI) in 1983 and was addressed in the UN Conference of Disarmament (CD) with The Prevention of an

Arms Race in Outer Space (PAROS). PAROS is a UN resolution that reaffirmed the fundamental principles of the 1967 Outer Space Treaty and advocated for a treaty that would ban the weaponization of space. The PAROS resolution acknowledged the limitations of existing laws related to outer space and recognized the OST “by itself does not guarantee the prevention of an arms race in outer space.”<sup>7</sup> The prime motivator for PAROS at the time was the Soviet Union, which brings with it the irony that the Outer Space Treaty not addressing space weapons was at the insistence of the Soviet Union during negotiations for the OST.<sup>8</sup>

The PAROS resolution advocated for further measures to prevent an arms race in outer space by, among other things, urging all state parties, particularly those with space capabilities, to adhere to the objectives of PAROS, in other words don’t weaponize outer space. Additionally, the PAROS resolution on the Conference on Disarmament (CD) to establish an ad hoc committee regarding PAROS resolution issues.”<sup>9</sup> The Soviet Union and its successor the Russian Federation pushed to have PAROS placed as an item on the UN General Assembly’s agenda but was unsuccessful. PAROS has been dormant since 1996.

## **The Prevention of the Placement of Weapons in Outer Space (PPWT)**

PAROS in of itself did not result in a treaty but the PRC and the Russian Federation presented another treaty effort to influence space control. The Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects (PPWT), which was co-sponsored by the Russian Federation and the PRC, was introduced in 2008. A second draft was presented in 2014 to try and shift geopolitical attention from the International Code of Conduct for Outer Space Activities, which was a

soft-law measure initially introduced by the European Union and later advocated in UNIDIR.<sup>10</sup> Both drafts of the PPWT attempt to provide a legal definition for “space weapon” but are flawed in that they do not address direct-ascent ASATs and other break-out weapons, which makes verification unviable. Both drafts of the PPWT have little support outside of the PRC, the Russian Federation and their soft-power client states.<sup>11</sup> It’s notable that while the PRC and Russian Federation continue to promote the concept of banning space weapons, both continue to develop counter-space capabilities to negate space control for both the U.S. and its allies.

## **No First Placement of Weapons in Outer Space**

The Russian Federation successfully advanced Resolution 70/27. “No first placement of weapons in outer space” on December 7, 2015 in the UN General Assembly despite the objection of the United States and Israel.<sup>12</sup> Like the PAROS resolution, this Resolution and its progeny encourage space-faring states to make a political commitment not to be the first to deploy space weapons. The Resolution does not provide a legal definition of “space weapon” nor does it address break-out weapons that could be deployed as a precursor or during hostilities. The overall effect of this Resolution is “no first placement” and has become an agenda item of the UN First Committee and gives the PRC and the Russian Federation a new soft-power drum to beat in the UN. The most recent action in the First Committee occurred in 2019 with Algeria, Angola, Bolivia (Plurinational State of), Cambodia, China, Cuba, Democratic People’s Republic of Korea, Egypt, Eritrea, Kazakhstan, Lao People’s Democratic Republic, Myanmar, Russian Federation, Suriname, Syrian Arab Republic, Thailand and Viet Nam supporting a new draft resolution on no first

placement of weapons in outer space.<sup>13</sup>

## **U.S. Push-back on the Space Weapons Front**

The U.S. took the diplomatic offense on the space weapon front during the Trump Administration. At a meeting of the Group of Government Experts (GGE) and Conference of Disarmament (CD) held in Geneva, Switzerland August 8, 2018 to August 18, 2018 the U.S. pushed back against the Russian Federation and the PRC space weapons initiative. It is notable the PRC and Russian Federation sponsored a preparatory workshop in Beijing prior to the meeting in Geneva beginning July 4, 2018 and lasting two days.<sup>14</sup> The United States did not attend.

The Russian Federation presided over the meetings on the PPWT on August 14, 2018 with the PRC acting as the silent partner. Then Assistant Secretary of State for Arms Control, Verification and Compliance Yleem D.S. Poblete delivered the statement for the U.S and specifically targeted the space weapon initiatives of the PRC and Russian Federation and the PPWT making the following points:

- The United States would prefer outer space remain free of conflict, but it remains concerned irresponsible behavior may instigate misunderstandings that could lead to conflict;
- Adversaries of the United States have turned outer space into a war-fighting domain, and the United States will not shrink from the challenges posed;
- The United States has raised concerns over many years that the Russian Federation is pursuing the development of counter-space capabilities, and the Russian Ministry of Defense has admitted this development has been ongoing since 2009;

- A speech by Mr. Putin on his March 1, 2018 State of the Nation speech unveiled no less than six new major offensive weapon systems;
- The Russian Federation continues this behavior in the background as it places high priority on the PPWT;
- The United States has identified and continues to articulate flaws with the PPWT;
- Satellites belonging to the Russian Federation have been and continue to perform activities in outer space that are contrary to the points made in the PPWT and underscore the fallacies in the draft proposal;
- The deployment of a satellite identified by the Russian Federation as an “inspector satellite” highlights the problem of verifiability in the PPWT;
- The PPWT does not reduce the potential for conflict in outer space in view of the Russian Federation’s non-compliance with other arms control measures, including the [Intermediate Range Nuclear Forces Treaty](#), the [Chemical Weapons Convention](#), and the [Conventional Forces in Europe Treaty](#); and
- Practical implementation of voluntary transparency and confidence building measures and developing norms of responsible behavior for outer space activities should be pursued, rather than a protracted and contentious legally binding treaty.<sup>15</sup>

The U.S. statement at Geneva was uncharacteristically strong and was the first significant offense against the space weapons front. The U.S. roundly criticized

the geo-legal and geopolitical nature of the space weapons initiatives in the CD and directly implicated the Russian Federation’s development of counter-space capabilities as well as those of the PRC. The U.S. statement identified the PPWT and PAROS and the space weapon front in general as a tool of lawfare directed at the U.S. and its allies to erode space control as opposed to legitimate measures to address outer space security. The U.S. statement was followed by a similar stance at the UN in New York a few weeks later. The PRC attempted to recover from the diplomatic setback on August 28, 2018 during the first UN Conference on Space Law and Policy sponsored by the PRC and Russian Federation and held in Beijing. This conference attempted to salvage their space weapons agenda and urged the quick adoption of a multilateral agreement based on the PPWT to control arms in space to ensure peace and security. This was largely ineffective at repairing the damage inflicted by the U.S. posture at the GGE, which effectively dismantled the PPWT and put the legitimacy of PAROS and the space weapons initiative in jeopardy. It also stripped both the Russian Federation and the PRC of moral authority over the issue of space weapons, affected but did not eliminate both states’ soft-power influence, invalidated a lawfare implement wielded by the PRC and the Russian Federation and placed the U.S in a stronger geopolitical and geo-legal position over the issue of outer space security.

## Recommendations for the Biden Administration

Moving forward, the Biden Administration will have to contend with the space weapons front, especially given the Administration's desire move back to international institutions per the Interim National Security Strategic Guidance. Accordingly, the Biden Administration might consider the following recommendations when confronting the issue of space weapons.

**Recommendation #1: Approach the issue of space weapons with the understanding that the space weapons debate is a straw man argument that implicates space control and involves legal, political and psychological aspects.**

It is important the Biden Administration understand the space weapon initiative framed by the PRC and the Russian Federation is fundamentally a legal, political and psychological initiative that seeks to undermine space control for the U.S. and its allies. The effort by the PRC and the Russian Federation seeks to create a legal box for the U.S. that would degrade its deployment of ABM systems and other national security assets, increase their soft-power standing in the UN among less developed nations and create the narrative of moral authority over the U.S. and its allies. The Biden Administration would be advised to continue the efforts of the Trump Administration to suppress the efforts of the PRC and the Russian Federation and prevent both from reinvigorating their standing on the issue. To do otherwise will allow these actors to revive the debate and fuel their ability to maneuver in the geopolitical environment and detract from U.S. leadership, which will affect space control.

**Recommendation #2: Before enacting policy to address outer space security take into consideration that the concept of Western deterrence is not comparable to deterrence recognized by geopolitical rivals, which does not preclude the use of counter-space capabilities.**

Significant to the Biden Administration's approach to space weapons is that it understands the deterrence stance of the PRC and the Russian Federation is not similar to the philosophy of deterrence espoused by the U.S. and its allies. It is a common misstep to approach either of these actors with the impression their view on outer space security and deterrence is similar to Western views on deterrence. Particularly, the Biden Administration should be cognizant that the PRC's approach to deterrence or *weishe* (空间威慑) is preemptive in nature.<sup>16</sup> This means the PRC may not preclude the use of ASATs or other counter-space measures to disable U.S. and allied space assets and by extension degrade space control. The Biden Administration would be advised to take this view of deterrence into account while formulating its policy, enacting red lines and engaging the PRC and the Russian Federation over the issue of outer space security.

**Recommendation #3: The Biden Administration should take into account the dual-use nature of space technology creates the potential for gray zone operations in outer space that could form customary international law/norms unfavorable to U.S. interests.**

The dual-use nature of space technologies and activities creates the opportunity for the PRC and the Russian Federation to perform gray zone operations where laws or norms are unclear. The Biden Administration should be circumspect when it comes to evolving outer space activities, including rendezvous

and proximity operations (RPO) and on-orbit satellite servicing (OOS) operations performed by the PRC and the Russian Federation. This is even more crucial when these operations are performed in the vicinity of U.S. or allied space assets as these types of gray zone operations may seek to not only test potential co-orbital ASATs but also test the political response of the U.S. as well as attempt to establish customary international law. The Biden Administration is encouraged to monitor these types of operations and vigorously respond to and denounce these activities through public and diplomatic channels to ensure unfavorable norms do not manifest. In doing so, the Biden Administration is advised to take care it does not employ untested legal mechanisms when responding to these activities as they might create legal precedent that could be used as legal and political tools to erode U.S. space control. Moreover, the Biden Administration is encouraged not to overplay its hand politically when responding to questionable PRC and Russian Federation gray zone activities as it would erode the political effect of the response.

**Recommendation #4: The Biden Administration should proactively support the use of innovative outer space technologies and activities by non-governmental operators and resist attempts by geopolitical competitors to conflate these activities with space weapons.**

The dual-use nature of outer space technologies and activities puts non-governmental operators at risk by geopolitical competitors who may use political and psychological methods to delegitimize these activities as gray zone operations employing disguised space weapons. The Biden Administration should be prepared to publicly and politically support non-governmental activities, especially those involving rendezvous and proximity operations (RPO) and on-

orbit satellite servicing (OOS) operations. The Biden Administration would be advised to also be wary that non-governmental actors do not perform unauthorized activities involving space assets belonging to other states that could be cast as gray zone operations and create unintended legal precedent that might be duplicated by geopolitical competitors, including the PRC and the Russian Federation.

**Recommendation #5: Exercise caution towards any proposed agreements banning or limiting the use of so-called space weapons that could be ignored in the event of hostilities.**

ASATs and counter-space capabilities can be expected to remain a threat and will remain at the vanguard of space control even if they are ancillary to ABM capabilities. Whether hard law or soft law rules for ASATs and space security in general come to fruition remains to be seen. Yet, even if rules materialize, the use of ASATs by the PRC and Russian Federation to deny space control to the U.S. and its allies will be a hard temptation to resist and may be the obvious opening to a future conflict with either or both states.<sup>17</sup> The Biden Administration should be advised to exercise caution towards any agreements or rules banning space weapons or limiting the behavior of space assets, especially if geopolitical rivals that possess counter-space capabilities, including ancillary capabilities to ABM systems, and break-out weapons decide to ignore the rules to gain a strategic advantage in space control as a precursor to or in the event of hostilities.

## Conclusion

The space weapons front and by extension space control will be an issue the Biden Administration cannot sidestep or ignore. Both the Russian Federation and the PRC will continue to attempt to revive the space weapons initiative from the ashes and use home court advantage in the UN to foster it. The Biden Administration will be faced with the choice of allowing these geopolitical rivals to resuscitate the space weapons front with the intent to engage these states as a peer or recognize the space weapon issue is a straw man to degrade U.S. space control and continue to quash attempts to revive the issue in the UN.

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