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Staff Research Report



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China's Position on a Code of Conduct in Space

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Introduction

Efforts by spacefaring nations to establish norms of behavior in space, as called for in the most recent *U.S. National Security Space Strategy* released in 2011, have grown in importance as space becomes more congested, contested, and competitive.¹ This issue brief assesses China's current views on the EU-proposed International Code of Conduct for Outer Space Activities (hereafter "Code"). It also briefly introduces China's activities in space, observes general trends in China's views regarding codes of conduct in international affairs, and examines implications for U.S. policymakers going forward.

China's Current Views on a Code of Conduct in Space

Official statements indicate China continues to reject a code of conduct in space in pursuit of an option more favorable to its interests. China and Russia proposed the draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force in Outer Space against Outer Space Objects (hereafter "PPWT") at the UN Conference on Disarmament in 2008 and updated the draft in 2014. The PPWT would ban the deployment of weapons in space and the threat or use of force against outer space objects belonging to other state parties; it does not address antisatellite (ASAT) weapons based on the ground,² tests of ground-based weapons against a state's own outer space objects, or tests of ground-based weapons against other states' outer space objects that do not cause physical damage (e.g., a "fly-by").³ The Code, also introduced in 2008 and most recently updated in 2014, attempts to "encourage responsible behavior in outer space" by promoting norms such as transparency regarding national space policies and activities, policies to reduce the risk of accidents in space and minimize space debris, and a consultation mechanism for space-related disputes, among others.⁴ The PPWT differs from the Code in several additional ways:

- The PPWT is a UN-based process and would be negotiated at the UN Conference on Disarmament, while the Code would be a separate agreement among interested countries (attempts to negotiate the Code at the UN in 2015 stalled).⁵
- The PPWT would be a legally binding treaty, while the Code would not be legally binding.⁶ However, the draft PPWT contains no verification measures and lacks specific compliance measures,⁷ weakening any potential for enforcement.
- China was one of the initiators of the PPWT, but has stated it was insufficiently consulted on the development of the Code.⁸

In a joint statement with Moscow issued on July 5, 2017,⁹ Beijing reaffirmed its support for the PPWT, raising several points:

- The "threat of the weaponization of outer space" is rising, a trend that will undermine strategic stability and threaten international security;
- On the basis of the PPWT, a "negotiations process" should be initiated and "international legal instruments" should be formulated;
- In line with the objectives of the PPWT, "international initiative and political obligation" to "not deploy weapons first in outer space" should be encouraged.¹⁰

This statement reflects continuity with China's past stance, in which it has declined to support a code of conduct and promoted the PPWT instead.¹¹ Further demonstrating this continuity, China's white paper titled *China's Space Activities in 2016*, its most recent publication outlining official space policy, also emphasizes efforts to promote the peaceful use of outer space within the framework of the UN and opposition to "weaponization or any arms race in outer space"¹²—language unchanged from the previous edition of this white paper in 2011.¹³

Beijing's rejection of the Code in favor of the PPWT allows it to continue developing military space capabilities while appearing to support disarmament in space. Language added to the 2014 version of the Code clarifies that the Code's adoption would not affect or replace the PPWT or other arms control efforts undertaken by the UN Conference on Disarmament,¹⁴ indicating China is not actually rejecting the Code on the basis of potential conflicts with a legally-binding, UN-based process. In fact, China has sought, along with Russia, to limit the Code to civil

and commercial activities,¹⁵ which would leave its military activities unchecked. China has pursued a robust and comprehensive array of counterspace weapons, including ground-launched ASAT missiles, ground-based directed energy weapons, ground-based satellite jammers, computer network operations, and co-orbital ASAT systems.*¹⁶ The PPWT is ideal for preserving these capabilities: it would allow China to continue developing and deploying ground-based counterspace assets, testing ground-based weapons against its own spacecraft even if such tests created debris, and testing ground-based weapons against foreign spacecraft so long as these tests did not inflict physical damage. The PPWT would also favor China and Russia by prohibiting space-based “weapons” under broad terms that could include satellites that support missile defense systems on the ground¹⁷—which these countries have long opposed¹⁸—while allowing the terrestrial-based weapons that pose the greatest threat to space systems.¹⁹ For these and other reasons, the PPWT has been rejected by the United States and other countries.²⁰

Despite Beijing’s emphasis on ground-based weapons, it appears China is also exploring the use of space-based weapons such as jamming systems, which use electromagnetic energy to interfere with the radio communications of other satellites.²¹ At the Commission’s 2017 hearing on China’s advanced weapons, independent analyst and expert on China’s space programs David Chen testified that “As China exhibits increasingly advanced RPO [rendezvous and proximity operations] capabilities,[†] analysts should be on the lookout for more evidence of the development and deployment of a ‘rendezvous and cyber operations’ satellite. Such a satellite could prove to be a novel platform for delivering cyber-EW [electronic warfare] effects against high-value space assets.”²² Mr. Chen pointed out numerous writings by Chinese military, defense industry, and university scientists investigating potential counterspace warfare effects against U.S. satellites. For example:

A 2012 paper by authors from the 36th Research Institute of the China Electronic Technology Group Corporation (CETC) proposed overcoming the high power requirements for jamming U.S. millimeter wave (MMW) satellite communications by using space-based jammers hosted on small satellites, in a “David versus Goliath” attack. The authors noted that reducing that distance with a small satellite platform would decrease the power requirements exponentially, and identified potentially susceptible USG assets as the AEHF (Advanced Extremely High Frequency), WGS (Worldwide Global Satcom), and GBS (Global Broadcast Service) satellite constellations.²³

Despite Beijing’s expressed preference for a treaty that would ban weapons in space, researchers at its government institutions are thus developing means to put effective weapons onto satellites. In addition to the PPWT’s weak enforcement potential and preservation of China’s ground-based counterspace capabilities, China may not even adhere to the treaty given its interest in developing space-based counterspace weapons.

The value Beijing places on counterspace capabilities is also reflected in its military doctrine: China’s official defense white papers consistently state that outer space is a field of military struggle and “a commanding height of strategic competition,”²⁴ and analysis of authoritative Chinese documents indicates Beijing believes space superiority would be critical to almost every component of its military operations.²⁵ For both China and Russia, these capabilities are seen as key to countering U.S. military effectiveness regardless of these countries’ diplomatic rhetoric, as the U.S. Director of National Intelligence stated in the May 2017 *Statement for the Record on the Worldwide Threat Assessment of the U.S. Intelligence Community*:

We assess that Russia and China perceive a need to offset any U.S. military advantage derived from military, civil, or commercial space systems and are increasingly considering attacks against satellite

* For a comprehensive examination of China’s space and counterspace programs, see U.S.-China Economic and Security Review Commission, Chapter 4, Section 2, “China’s Advanced Weapons,” in *2017 Annual Report to Congress* (forthcoming); U.S.-China Economic and Security Review Commission, Chapter 2, Section 2, “China’s Space and Counterspace Programs,” in *2015 Annual Report to Congress*, November 2015, 272-337; and Kevin Pollpeter, *China Dream, Space Dream: China’s Progress in Space Technologies and Implications for the United States* (Prepared for the U.S.-China Economic and Security Review Commission by the University of California Institute on Global Conflict and Cooperation, March 2, 2015).

† Rendezvous and proximity operations involve spacecraft maneuvers in proximity to other spacecraft; while these have legitimate applications for manned space programs, China’s secrecy surrounding its tests and their inherent dual-use nature suggest counterspace applications. China has launched at least seven such missions over the past decade. U.S.-China Economic and Security Review Commission, *Hearing on China’s Advanced Weapons*, written testimony of David D. Chen, February 23, 2017; U.S.-China Economic and Security Review Commission, Chapter 2, Section 2, “China’s Space and Counterspace Programs,” in *2015 Annual Report to Congress*, November 2015, 295.

*systems as part of their future warfare doctrine. Both will continue to pursue a full range of antisatellite weapons as a means to reduce U.S. military effectiveness.... Russia and China remain committed to developing capabilities to challenge perceived adversaries in space, especially the United States, while publicly and diplomatically promoting nonweaponization of space and “no first placement” of weapons in space.*²⁶

China’s Approach to Codes of Conduct

While a comprehensive review of China’s foreign policy is beyond the scope of this report, three recent and high-profile areas in which a code of conduct has been considered are informative for considering Beijing’s potential approach to this type of mechanism in space.

South China Sea. Since China signed the China-Association of Southeast Asian Nations (ASEAN) Declaration on the Conduct of Parties in the South China Sea (DOC) in 2002, it has consistently violated its commitments under the DOC, most notably promises to not “inhabit” uninhabited features in the South China Sea and to abide by the UN Convention on the Law of the Sea (UNCLOS).²⁷ While parties to the DOC affirmed they would work toward the eventual creation of a code of conduct (COC),²⁸ the Congressional Research Service noted in July 2017 that “some observers have argued that China has been dragging out the negotiations on the COC for years as part of a ‘talk and take strategy.’”²⁹ While China finally announced the completion of the first draft of a “framework” for the COC in March 2017,³⁰ and Beijing has touted “cooling” tensions in the region as a result,³¹ it has pushed for a framework that is not legally binding and lacks enforcement mechanisms.³² Ian Storey, senior fellow at the ISEAS-Yusof Ishak Institute, a think tank in Singapore, suggests the framework “makes China look cooperative ... without having to do anything that might constrain its freedom of action.”³³ Beijing also did not abide by the public promise of Chinese President and General Secretary of the Chinese Communist Party Xi Jinping—made in Washington in September 2015—to not “militarize” China’s artificial islands in the southern South China Sea,³⁴ and China also rejected the 2016 international legal ruling that some of its specific territorial claims were invalid under UNCLOS—a legally binding treaty.³⁵

China-India border dispute. In the wake of the 2013 Border Defense Cooperation Agreement, the most recent in a series of agreements between the two countries dating back to 1993,³⁶ India has argued for delimiting the Line of Actual Control, while China prefers to first create a code of conduct based on the measures set forth in the agreement,³⁷ refusing to even reveal its version of the Line of Actual Control.³⁸ Although China has resolved numerous border disputes since 1949,³⁹ little progress has been made in settling this dispute and prospects appear limited, given growing domestic political constraints on both sides.⁴⁰ China’s July 2017 decision to unilaterally build a road through the Doklam Plateau, the site of a disputed “tri-junction” with India and Bhutan, violated China’s promises under the 2013 agreement as well as a 2012 agreement to maintain the status quo in that location.⁴¹

Cyberspace. China has argued for the creation of an international code of conduct for cyberspace within the framework of the UN, and has sought to highlight its “active role” in this area.⁴² China submitted a draft International Code of Conduct for Information Security to the UN in 2015 (updated from 2011), along with Russia and fellow Shanghai Cooperation Organization members Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan.⁴³ This code promotes the concept of “cyber sovereignty,” favorable to these authoritarian countries’ widespread information controls, and has been rejected by the United States and other countries for this reason.⁴⁴ While China reached a bilateral cyber agreement with the United States in 2015 in which both sides pledged to “refrain from conducting or knowingly supporting cyber-enabled theft of intellectual property,”⁴⁵ the U.S. Intelligence Community assessed in May 2017 that Beijing would continue actively targeting the U.S. government, its allies, and U.S. companies for cyber espionage—citing private sector reports that these attacks have continued but at significantly lower volumes.⁴⁶

* China has specifically violated the Convention’s rules defining territorial zones and features, its standards for clarifying claims, its environmental protection obligations, and the July 2016 ruling by the Permanent Court of Arbitration in The Hague that major elements of China’s claim were unlawful, which Beijing declared “null and void.” Caitlin Campbell and Nargiza Salidjanova, “South China Sea Arbitration Ruling: What Happened and What’s Next?” *U.S.-China Economic and Security Review Commission*, July 12, 2016, 3–4.

Observations. Several observations can be drawn from these cases. First, Beijing appears to see inherent value in participating in diplomatic negotiations and seeking to shape emerging rules, and has frequently drawn attention to these efforts. Second, China at times appears to enter into agreements to forestall or delay other outcomes, as in the case of its acceptance of the China-ASEAN DOC followed by an extended delay in negotiating a COC, as well as its numerous border agreements with India. Finally, China has frequently broken its agreements, as in the case of the DOC, its 2015 promise not to further militarize land features in the southern South China Sea, its agreements with India, and its bilateral cyber security agreement with the United States.

Importantly, on issues such as climate change and Iran’s nuclear program, China has been willing to cooperate with other stakeholders and eventually implement agreements.⁴⁷ As Mira Rapp-Hooper, senior fellow at the Center for a New American Security, testified to the Commission in 2016, there is not “one singular answer to the way China intends to engage with the liberal international order writ large.”⁴⁸ Rather, China’s leaders primarily seek to operate within the system when it benefits them, while attempting to exert influence and participate in “writing the rules” where possible,⁴⁹ and at times rewrite existing rules. As do many states in the international system, China takes an interest-based approach to this question.⁵⁰

Conclusion

At present, China appears to be uninterested in agreeing to a code of conduct for behavior in space. Instead, while exploring ways to put its own weapons in space, Beijing has proposed a treaty that, should the United States accede to it, would prevent the U.S. from responding in kind. In light of its approach to other major international disputes, Beijing should be expected to continue diplomatically promoting the non-weaponization of space, advocating for the PPWT, and engaging in negotiations on the Code, while nevertheless continuing to develop its own space weapons. Further, given its history, China may not seek an agreement or adhere to its commitments—Code or treaty—given the value it places on military counterspace capabilities. Should these interests remain unchanged, China’s preference for the status quo should be expected to continue.

* While no common definition exists, the concept of the “liberal rules-based international order” has been defined by Richard Fontaine and Mira Rapp-Hooper, respectively president and senior fellow at the Center for a New American Security, as “the prevailing constellation of institutions, regimes, rules and norms that seek to govern international behavior, many of which have been put in place under U.S. leadership since 1945. It is a *rules-based* order because it elevates standards above a might-makes-right doctrine, though there remain broad domains—such as cyberspace—in which few rules exist. It is *open*, because any nation-state that wishes to follow those standards can join its ranks; there are no exclusionary regional or ideological blocs. And it is *liberal*, because it is weighted toward protection of free-market capitalism and liberal political values.” Norms against altering borders by force and for access to the open global commons (e.g., freedom of the seas) are inherent to this concept. U.S.-China Economic and Security Review Commission, *2016 Annual Report to Congress*, November 2016, 476; Richard Fontaine and Mira Rapp-Hooper, “How China Sees World Order,” *National Interest*, April 20, 2016. See also Stewart Patrick, “World Order: What, Exactly, Are the Rules?” *Washington Quarterly* 39:1 (Spring 2016): 12, 17.

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