



The CTBT and the Possible U.S., China Nuclear Testing

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The U.S. Department of State report titled '2020 Adherence to and Compliance with Arms Control, Non-proliferation, and Disarmament Agreements and Commitments' was released on 15 April 2020. It raised concerns regarding China's adherence to the 'zero yield' standard. The 'zero yield' relates to Article 1 of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) that states that

"Each State Party undertakes not to carry out any nuclear weapon test explosion or any other nuclear explosion, and to prohibit and prevent any such nuclear explosion at any place under its jurisdiction or control".¹

Curiously enough, the 'zero yield' is not mentioned in the official CTBT text; moreover, neither the U.S., nor China is party to the treaty. Rather, the concept of the 'zero yield' has been advocated by the U.S. Department of State, which assumes that all the States party to the treaty share a common understanding of the concept.²

As regards the 2020 report of the US, the reason attributed to the possible testing by China

is the high level of activities at its Lop Nur nuclear weapons test site. The activities include extensive excavations and the use of explosive containment chambers. The report also takes note of the frequent blocking of the flow of data from China's International Monitoring System (IMS) stations to the International Data Center operated by the Preparatory Commission for the Comprehensive Nuclear Test-Ban Treaty Organization.³

The official American report obviously led to much media reporting and speculation. One piece in *Wall Street Journal* titled 'Possible Chinese Nuclear Testing Stirs U.S. Concern' suggested that China might be secretly conducting nuclear tests with very low explosive power. However, it noted that "the coming report does not present proof that China is violating its promise to uphold the agreement".⁴ American nuclear strategy expert Jeffery Lewis also noted that the evidence was thin to support claims of nuclear testing, but suggested that available evidence was consistent with low-yield tests or

with sub-critical tests which are permitted by the CTBT.⁵ *The Guardian* quoted a senior U.S. official as stating that "the concerns about China's testing activities buttressed President Donald Trump's case for getting China to join the U.S. and Russia in talks on an arms control accord to replace the 2010 New START (Strategic Arms Reduction Treaty) between Washington and Moscow that expires in February next year".⁶

The *Global Times*, the Chinese Communist Party's mouthpiece, dismissed the claims about nuclear testing. It quoted a Chinese expert to suggest that the accusation is a "*U.S. attempt to push China into a Western countries-led nuclear treaty while also diverting domestic pressures caused by the novel coronavirus*".⁷ The Chinese Foreign Ministry spokesperson argued that "*By asking China to join the arrangement and seeing China refuse to do so, the U.S. is also hoping to gain a public opinion advantage for itself to further make tactical, low-yield nuclear weapons, which the U.S. has already developed and deployed on its missiles*".⁸

Soon thereafter, on 8 May 2020, the Chief Editor of the *Global Times*, Hu Xijin made a case that "*China needs to expand the number of its nuclear warheads to 1,000 in a relatively short time*". He asserted "*peaceful coexistence between the two countries (China and the U.S.) is not a thing that can be begged for; it's shaped by strategic tools. This is particularly true as we are facing an increasingly irrational U.S., which only believes in strength*".⁹

Weeks later, on 30 May 2020, the *Washington Post* broke the news that the U.S. could resume live nuclear tests within 'months'.¹⁰ If the tests were to happen, they would violate the U.S. moratorium on any kind of explosive nuclear testing it self-imposed in 1992. The article cited a senior administration official suggesting that the demonstrations of tests would be a bargaining counter to pressure Russia and China to enter into a trilateral arms control deal. The U.S. has been keen to include China into the purview of the New START treaty, which it entered into with Russia in 2011, and is awaiting renewal in 2021. If the said rationale behind the resumption of the testing by the U.S. is true, it would certainly be a dangerous tactic to initiate arms control talks with its adversaries. China has been reluctant to enter into any arms control agreement, and more particularly the New START treaty with the U.S., for the reason that its quantity and quality of nuclear weapons is much lower than that of the U.S..

This chain of events is a manifestation of the inadequacies of the existing arms control arrangements, and more particularly the CTBT. The CTBT was opened for signature in 1996, and it seeks to ban all nuclear explosions on Earth whether for military or peaceful purposes. The fundamental issue with the CTBT is its non-enforcement. As per the Article XIV of the treaty, 44 states identified as 'nuclear-capable' must sign and ratify the treaty for it to enter into force.¹¹ Of these 44 states, five states, namely

China, Egypt, Iran, Israel, and the United States have signed but not ratified the CTBT; whereas, North Korea, India, and Pakistan have neither signed nor ratified the treaty. As the treaty has not yet entered into force, there are no mechanisms for on-site inspections of the suspected sites (such as the Lop Nor testing facility in the case discussed above). Further, its lack of enforcement engenders suspicion and mistrust, which can thereby generate security dilemmas. It is evident in Hu's statement mentioned earlier.

Another curious case of the CTBT is its 'zero yield' standard, which triggered the speculation mentioned above. A lack of clear understanding of the 'zero-yield' has caused several states to draw their own interpretations. For instance, the general understanding, as assumed by the U.S., is that 'supercritical hydronuclear tests (which produce a self-sustaining fission chain reaction) are banned, but subcritical hydrodynamic experiments, which do not produce a self-sustaining fission chain reaction, are permitted'. These self-serving interpretations further generate mistrust between the nuclear weapons states.¹² To illustrate, the U.S. as per its understanding of the zero yield' has conducted a subcritical nuclear test at its Nevada Test Site, but has called out on China and Russia for not conforming to those standards.

The global reality is that several nuclear states are at different stages of the development

of their nuclear weapons and have varied strategic ambitions and concerns. The U.S. and Russia, for instance, have conducted 1032 and 727 nuclear weapons tests, respectively. China, on the other hand, has conducted 47 tests, and India and Pakistan have conducted 5 and 6 tests respectively.¹³ The U.S. has been stalling the ratification for two prime concerns: first, whether it would be able to maintain a credible stockpile without testing; second, if it would be able to detect violation of the CTBT.¹⁴ China, on the other hand, has made its ratification of the treaty conditional on the U.S. ratification. Among the other non-signatories, India, despite its support to the CTBT, has made its signing conditional on several reciprocal activities from the nuclear weapons states which include halting future tests under the guise of safety purposes as well as all horizontal and vertical proliferation.¹⁵ Much like China, Pakistan with its security linked to India's nuclear weapons programme, is not willing to enter the treaty unless India ratifies it first.

Given the differing strategic needs and concerns of the nuclear weapons states, a blanket ban on nuclear weapons testing is unlikely to translate into reality in the present circumstances. The collapse of the Intermediate-Range Nuclear Forces (INF) Treaty and the uncertainty regarding the New START already indicate a disconcerting trend in the arms control arrangement. Additionally, except North Korea, all nuclear weapons states have self-imposed a

moratorium on their nuclear testing, based on their understanding of zero yield; However, if the U.S. and China were to conduct nuclear tests, it would set a bad precedent, as other states would find it easier to conduct and justify their testing. In the face of all these challenges, the CTBT, in its current form might not be able to deliver on its promise.

(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of the Centre for Air Power Studies [CAPS])

Notes

¹ "CTBTO GEM Statement on Alleged Low-Yield Nuclear Tests." Home: CTBTO Preparatory Commission, <https://www.ctbto.org/press-centre/press-releases/2019/ctbto-gem-statement-on-alleged-low-yield-nuclear-tests/>, June 8, 2020.

² "Scope of the Comprehensive Nuclear Test-Ban Treaty." U.S. Department of State. <https://2009-2017.state.gov/t/avc/rls/212166.htm>. Accessed June 11, 2020.

³ *Executive Summary of the 2020 Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments (Compliance Report)*. U.S. Department of State, April 15, 2020. <https://state.gov/2020-adherence-to-and-compliance-with-arms-control-nonproliferation-and-disarmament-agreements-and-commitments-compliance-report/>.

⁴ Gordon, Michael R. "WSJ News Exclusive | Possible Chinese Nuclear Testing Stirs U.S. Concern." *WSJ*, April 15, 2020. <https://www.wsj.com/articles/possible-chinese-nuclear-testing-stirs-u-s-concern-11586970435>.

⁵ Borger, Julian. "China May Have Conducted Low-level Nuclear Test, US Claims." *The Guardian*, April 20, 2020. <https://www.theguardian.com/world/2020/apr/16/china-may-have-conducted-low-level-nuclear-test-us-report-claims>.

⁶ Ibid.

⁷ "'China Conducted Nuclear Tests' a US Trick to Push West-led Treaty: Chinese Expert." *Global Times*, April 16, 2020. <https://www.globaltimes.cn/content/1185857.shtml>.

⁸ Ibid.

⁹ Hu, Xijin. "China Needs to Increase Its Nuclear Warheads to 1,000." *Global Times*, May 8, 2020. <https://www.globaltimes.cn/content/1187766.shtml>.

¹⁰ "US Nuclear Bombs Cause of Concern." *The Washington Post*, May 30, 2020. <https://www.washingtonpost.com/politics/2020/05/30/t-rump-officials-have-talked-about-resuming-nuclear-testing-heres-why-that-would-hurt-us/>.

¹¹ "Article XIV Conferences: CTBTO Preparatory Commission." Home: CTBTO Preparatory Commission. Accessed June 7, 2020. <https://www.ctbto.org/the-treaty/article-xiv-conferences/>.

¹² For debates on the Zero Yield, Read "1994-96: Debating the Basic Issues." *CTBTO Preparatory Commission*. <https://www.ctbto.org/the-treaty/1993-1996-treaty-negotiations/1994-96-debating-the-basic-issues/>.

¹³ Nayan, Rajiv. "Guest Editor's Introduction." *Strategic Analysis* 42, no. 3 (2018), 179-180. doi:10.1080/09700161.2018.1463952.

¹⁴ Pifer, Steven. "What's the Deal with Senate Republicans and the Test Ban Treaty?" *Brookings*, September 26, 2016. <https://www.brookings.edu/blog/order-from-chaos/2016/09/26/whats-the-deal-with-senate-republicans-and-the-test-ban-treaty/>.

¹⁵ "CTBT at 20: India and an Unequal Treaty." *Manohar Parrikar Institute for Defence Studies and Analyses*, June 7, 2020. <https://idsa.in/idsanews/ctbt-at-20-india-and-an-unequal-treaty>.