Deep Cuts Commission Issue Brief

PRESERVING THE MORATORIUM ON EXPLOSIVE NUCLEAR WEAPONS TESTING

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One of the key non-proliferation breakthroughs of the past 30 years has been the conclusion of the 1996 Comprehensive Nuclear Test Ban Treaty (CTBT) and the end of explosive nuclear weapons testing. All of the P5 states (China, France, Russia, United Kingdom, United States) have had declared testing moratoria since signing the CTBT in 1996. Since then, India and Pakistan tested in 1998 and the Democratic People's Republic of Korea (DPRK) -- the only state definitively known to have conducted explosive nuclear tests after India and Pakistan – last did so in 2017.

Although the CTBT has not entered into force due to the failure of nine key states to ratify, the treaty has established a de facto global moratorium on nuclear explosive testing. Some of those states, including China, Russia, and the United States, have signed the treaty and have a legal obligation not to undertake activities contrary to its object and purpose. The CTBT's negotiators agreed that a treaty-prohibited nuclear test explosion is "a self-sustaining, supercritical chain reaction of any kind whether for weapons or peaceful purposes" as explained in fact sheets published by the U.S. Department of State.[1]

But today, the longstanding norm against explosive nuclear testing is under increasing pressure. In the context of great power tensions, growing salience of nuclear weapons, and erosion of nuclear arms control and nonproliferation regimes, the risk of a return to nuclear explosive testing is higher than it has been in decades. Were states with nuclear weapons to resume explosive nuclear testing, that would accelerate a nuclear arms race and deal a severe, perhaps fatal, blow to the nuclear nonproliferation regime.

Current Accusations and Denials

While occasional calls or implied threats in Russia and the United States to reconsider the need for testing have occurred over the past five years or more, the issue has become much more explicit and urgent in the wake of a social media post by President Trump on October

29, 2025 and a speech by Under Secretary of State for Arms Control and International Security Thomas DiNanno on February 6, 2026.

President Trump's October post said he had "instructed the Department of War to start testing our Nuclear Weapons on an equal basis. That process will begin immediately." The post came shortly after President Putin announced tests of two new nuclear weapons delivery systems – the Burevestnik unlimited range nuclear-powered cruise missile and the Poseidon undersea nuclear-powered strategic-range torpedo. The precise meaning of President Trump's words remains unclear (e.g., did he mean full-scale underground explosive nuclear weapons testing, or very low-yield explosions, or enhanced non-explosive nuclear experiments and simulations?).

Within days, the U.S. Secretary of Energy publicly stated that the testing the President ordered would not include explosive testing, but rather system tests and "non-critical" weapons testing. Nonetheless, this does not appear to be a settled issue in the Trump administration, and the risk of a resumption of explosive testing remains.

In response to President Trump's threat to resume nuclear testing, President Putin publicly ordered his military to develop options to resume testing. Putin's spokesman stated that Russia remains committed to the testing moratorium, but if the United States tests, Russia would follow suit to maintain parity. Chinese officials affirmed China's continued adherence to its moratorium, denied U.S. intimations that it had a clandestine testing program, and called on the United States to adhere to its moratorium.

Then, in a February 6, 2026 speech at the Conference on Disarmament marking the expiration of the New START Treaty, Under Secretary of State DiNanno unleashed new accusations against China: "Today, I can reveal that the U.S. Government is aware that China has conducted nuclear explosive tests, including preparing for tests with designated yields in the hundreds of tons. The PLA sought to conceal testing by obfuscating the nuclear explosions because it recognized these tests violate test ban commitments. China has used decoupling – a method to decrease the effectiveness of seismic monitoring – to hide their activities from the world. China conducted one such yield producing nuclear test on June 22 of 2020."

The Chinese Ministry of Affairs responded, "The US allegations are completely groundless and are outright lies. China firmly opposes the US attempt to fabricate excuses for its own restarting of nuclear tests."

The Executive Secretary of the Comprehensive Test Ban Treaty Organization (CTBTO) Rob Floyd issued a statement saying that its International Monitoring System did not detect any event consistent with the characteristics of a nuclear weapon test explosion at the time of the alleged Chinese test.

On Feb. 17, U.S. Assistant Secretary of State for Arms Control and Nonproliferation Christopher Yeaw added further detail to the U.S. charges. He claimed that the China had used a technique called de-coupling to hide the alleged June 22, 2020 test and he claimed that an primary seismic monitoring station of the oraganizations International Monitorig System (IMS) in southern Kazakhstan had detected a 2.75 magnitude event on that day.

The CTBTO's Robert Floyd issued a new statement on Feb. 17 stating that: "On 22 June 2020, the CTBTO's IMS detected two very small seismic events, 12 seconds apart" at locations more than 100km from the northern edge of the former Chinese nuclear test site at Lop Nur[2].

The CTBTO also stated that: "The IMS is currently capable of identifying events consistent with nuclear test explosions with a yield equivalent to or greater than approximately 500 tonnes of TNT. These two events were far below that level. As a result, with this data alone, it is not possible to assess the cause of these events with confidence. Verification mechanisms [namely on-site inspections] which could address disputed claims or smaller explosions are provided by the Treaty but can only be used once the Comprehensive Nuclear-Test-Ban Treaty enters into force," Floyd said.

Ongoing Tensions and Suspicions

These alarming developments unfolded against a backdrop of long-standing mutual suspicions and accusations amongst these three states that one or more of them may either be considering a return to testing and/or may have conducted very low-yield (nearly undetectable) nuclear explosive testing, thus failing to observe a zero-yield standard for their unilateral testing moratoria.

For example, in 2020 during the first Trump term, it was publicly reported that administration officials were actively debating a resumption of explosive testing in order to create more leverage vis-a-vis Russia and China at the nuclear arms control negotiating table. Although they did not conduct such tests during the first term, that administration reversed decades of U.S. policy support for ratification and entry-into-force of the CTBT.

In the context of the 2022 Russo-Ukrainian war, some Russian observers called for a resumption of nuclear tests in order to demonstrate the reliability of the Russian nuclear stockpile and as a warning signal to the West. In November 2023, President Putin signed a law enacting Russia's "de-ratification" of the CTBT, after it had passed both houses of the Russian parliament. Russian officials justified the decision citing a need to "maintain parity" with the United States, which has signed but not ratified the Treaty. While Russian officials consistently stated that Moscow would adhere to its nuclear testing moratorium so long as the United States did, some Russian experts continued to call for a resumption of testing as part of a broader set of measures to force Western states to stop arming Ukraine and enter into a "serious dialogue" with Russia.

Along with these policy shifts, concerns increasingly have been raised about activity at the Russian, Chinese, and U.S. nuclear test sites. Satellite images reported by CNN in fall 2023 indicated increased activity, including expansions—such as new tunnels under mountains and new roads and storage facilities—at nuclear test sites in all three countries. Russia and others have raised questions about U.S. activities at the Nevada National Security Site, most recently regarding chemical high explosive experiments that the United States conducted in October 2023 and May 2024 in a tunnel at the Nevada site to "to improve the United States' ability to detect low-yield nuclear explosions around the world."

Evidence of recent upgrades and expansions at China's former test site at the Lop Nur complex in its northwest have raised concerns among experts whether China is making preparations that would enable it to resume nuclear testing in the context of what is an unprecedented Chinese nuclear expansion and modernization program. In past annual arms control compliance reports, the United States has accused Russia of conducting very low-yield explosive nuclear testing, and raised questions about China's activities. Under Secretary DiNanno's CD speech suggests the forthcoming 2026 U.S. compliance report will contain his more specific new allegations regarding China's testing activities.

The military-technical rationale for resumed testing by the United States is not persuasive: For more than three decades, all U.S. presidents, including President Trump during his first term, preserved the moratorium on explosive nuclear testing because they understood testing would have more costs than benefits for U.S. national security. The Secretaries of Energy and Defense have certified every year since 1996 that there is no scientific, technical, or military need to resume explosive testing and that non-explosive testing and sophisticated computer simulation capabilities continue to ensure the safety, security and reliability of the stockpile.

Russia has relied on similarly strong computational and other non-explosive capabilities to maintain confidence in its stockpile. It is actually the United States and Russia, given their technical capabilities and the data they have from their extensive history of explosive nuclear testing prior to the 1996 moratorium, that would have the most to lose by opening the door to nuclear testing by other states with less testing experience. For this reason, China, arguably, would have much more to gain by a resumption of nuclear explosive testing than either the United States or Russia. Yet China is extremely unlikely to be the first to renounce its moratorium and break the testing taboo if the United States and Russia continue to abide by theirs.

Addressing the Problem of Low-Yield Nuclear Test Explosions Before Entry Into Force

The United States, China, and Russia (unlike France) all continue to actively engage in weapons-related activities at their former nuclear testing sites. Each of the three also maintain respective "test readiness" programs to enable them to resume nuclear explosive testing if they were to decide to abandon the global moratorium on nuclear explosive testing.

Although the CTBTO's IMS is operational and far more effective than originally envisioned, very low-yield nuclear test explosions can still be difficult to detect without on-site monitoring equipment or the option to trigger short-notice on-site CTBTO inspections--but the latter require that the treaty enters into force.

In the absence of new voluntary confidence-building measures, there remains a risk that activities at these former nuclear testing sites might be misconstrued as clandestine, very low yield nuclear test explosions.

To address any serious concerns about clandestine activities at former test sites[3], the NPT's five nuclear-armed states should engage in talks to develop joint technical methods that would support voluntary confidence-building measures prior to CTBT entry into force – to be implemented with support from independent scientific experts and/or the CTBTO – that are designed to detect and deter possible low-level, clandestine nuclear testing. Such methods would likely involve standardized neutron emissions monitoring equipment that can determine whether or not an experiment involving fissile material produced a self-sustaining nuclear chain reaction.

Such an approach was publicly advanced by the United States's former administrator of the National Nuclear Security Administration in June 2023, and technical methods have been explored by the NNSA through research conducted at the U.S. national labs for possible deployment at the Nevada National Security Site's Primary Underground Lab for Subcritical Experiments (PULSE).

Global Support for the Treaty

Meanwhile, the Preparatory Commission for the CTBTO continues to monitor for prohibited nuclear test explosions and prepare for the entry into force of the CTBT. The CTBTO has continued to certify additional stations for the IMS and develop capabilties to execute short-notice, on-site inspections as allowed for under the treaty once it enters into force.

Global support for the CTBT remains very strong. Addressing the UN Security Council in March 2024, CTBTO Executive Secretary Robert Floyd noted the growing support for the Treaty worldwide and called for political leadership to ensure its entry into force. For example, in October 2025 a UN General Assembly resolution urging support for the CTBT, its entry into force, and the de facto global nuclear test moratorium was adopted by an overwhelming majority: with 168 votes in favor, with one against (United States) and 3 abstentions (India, Mauritius, Syria).

The "no" vote on this annual resolution was the first ever for the United States. In a written statement on the vote the United States said it "voted 'No'.... because several paragraphs are inconsistent with U.S. policy or are undergoing policy review.... The United States is not currently pursuing CTBT ratification and therefore cannot support calls for ratification and entry into force." Of the other nuclear-armed states, the Russian Federation, China, France, United Kingdom, Israel, and Pakistan voted "yes." India abstained, and North Korea did not vote.

The combination of public threats and debate in the United States and Russia over whether to resume testing and allegations questioning whether they and/or China may not be upholding a zero-yield standard in their unilateral testing moratoria are undermining confidence and trust in the sustainability of the commitment of the United States, Russia and China to refrain indefinitely from explosive nuclear testing. The prospect, in particular, of the United States or Russia being the first of the P5 to openly resume explosive nuclear testing remains a serious and growing concern.

Implications and Consequences of Renewed Explosive Nuclear Testing

A resumption of explosive nuclear testing by any of the P5 would likely have a cascading effect on other P5 states, as we have already seen by Trump's use of the phrase "on an equal basis" and Putin's warning that he would respond to a U.S. resumption with reciprocal action.

Inevitably, this eroding of the taboo against explosive nuclear testing could tempt others to follow suit – not only China and the rest of the P5 but other states that have or might seek nuclear weapons, first and foremost the DPRK. A cascade of testing by the P5 and other states would deal a serious blow to the Nuclear Non-Proliferation Treaty (NPT). A resumption of nuclear explosive testing would seriously erode the credibility of the commitment of the P5 to the NPT and their obligation to work toward nuclear disarmament as mandated by the Treaty's Article VI. As the commitment to negotiate a test ban treaty was central to gaining unanimous consent to the indefinite extension of the NPT in 1995, an unraveling of the testing moratorium and the CTBT risks accelerating the unraveling of the NPT itself.

Frustration among the non-nuclear-weapon states regarding the slow progress toward nuclear disarmament and, relatedly, what they have perceived as an imbalanced implementation of the NPT's three pillars (non-proliferation, disarmament, and peaceful uses of nuclear energy) is longstanding and putting increasing pressure on the NPT regime itself, as became apparent in national statements issued by countries at recent NPT preparatory meetings and Review Conferences. It has also given rise to a new international legal instrument – the Treaty on the Prohibition of Nuclear Weapons (TPNW), which has been signed only by non-nuclear weapon states and is fiercely opposed by the P5. Notably, there has also been a growing focus by the non-nuclear weapon states (especially from the Global South) on the humanitarian impact of nuclear weapons, including on the impact of testing, with growing calls to address the legacy of nuclear weapons by providing victim assistance and environmental remediation to states affected by past testing and use. A resumption of explosive nuclear testing anywhere would be globally unpopular and widely condemned, and particularly opposed by non-nuclear weapon states and the Global South. But it would also be deeply unpopular with publics, including in the states that might conduct such tests.

While it seems improbable, the Trump adminstration could turn its interest in multilateral arms control negotiations and its newly expressed concerns about Chinese nuclear testing activity into an opportunity: It could spearhead an initiative to strengthen the global moratorium on explosive nuclear testing, reaffirm the zero-yield standard, and chart a course for the U.S., China, and Russia to ratify the CTBT in tandem and encourge the other ratifications needed to finally bring the CTBT into force. Otherwise, the world is likely to witness a further erosion of the norms and architecture that has helped to constrain nuclear competition and prevent the use of nucelar weapons for the past eighty years.

Recommendations

To shore up the norm against explosive nuclear testing and reinvigorate steps to bring the CTBT into force, the following actions are needed:

- The P5, individually and collectively, should recommit to upholding their unilateral moratoria on explosive nuclear testing. This should be done immediately and reiterated as a deliverable for the 2026 NPT Review Conference.
- The United States, Russia, and China should undertake unilateral and reciprocal test site transparency and confidence-building measures to improve mutual confidence concerning each party's activities, intentions and adherence to its moratorium. They should confirm that they do and will adhere to a zero-yield standard. They should commence private, diplomatic, expert, and lab-to lab dialogues to enhance mutual understanding about how each country interprets and implements its moratorium commitment.
- The P5, individually and collectively, should recommit to the CTBT, and pledge to take practical steps toward bringing it into force. P5 support for the CTBT is a high priority deliverable for the NPT Review Conference.
- China and the United States should agree to work in tandem to ratify the CTBT in the same timeframe, and Russia should re-ratify the Treaty. This recommendation is not meant to preclude individual action on the CTBT, but to recognize that acting mutually could facilitate progress in some of these states.
- The P5 should develop tailored strategies to encourage other Annex 2 states to sign and/or ratify the CTBT.
- All NPT state parties and CTBT signatories should make individual and collective statements in various multilateral fora on the value of the nuclear testing moratoria. In private diplomatic engagements as well as public, they should emphatically call on the P5 and other states with nuclear weapons to uphold their unilateral moratoria and publicly encourage them develop new technical measures to enable voluntary

confidence building measures to ensure ongoing activities at their former nuclear test sites do not violate the CTBT.

- All CTBT signatories should continue to support and strengthen the CTBTO and IMS system, and should encourage all the Annex 2 states to sign and ratify the Treaty.
- The expert community in P5 states and beyond can help make the positive case for why the norm against testing and the CTBT advance global security and can help push back against the notion that nuclear tests provide significant advantages that outweigh the costs of violating the norm against explosive nuclear testing.
- All citizens should make clear their opposition to explosive nuclear testing on international security, humanitarian, and ecological grounds.

Endnotes

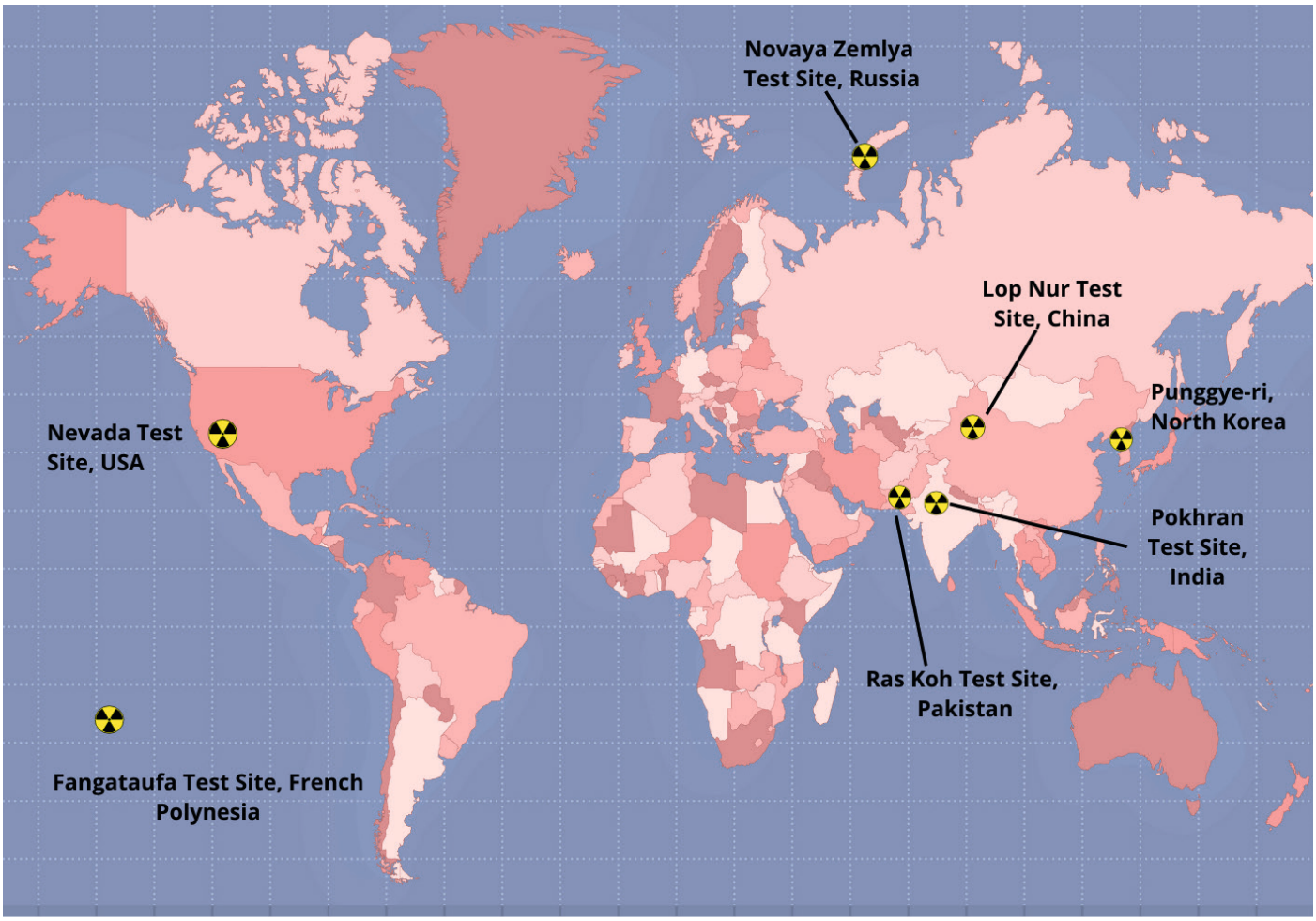
1 https://geneva.usmission.gov/2011/09/28/ctbt-scope/
2 https://www.ctbto.org/resources/for-the-media/press-releases/statement-robert-floyd-executive-secretary-ctbto-2026-02-17
3 Kimball, Daryl "The CTBT, the Global Nuclear Test Moratorium, and New U.S. Threats to Break the Norm ", December 2025,.

Cover Image: Sedan Plowshare Crater; source link: https://commons.wikimedia.org/wiki/File:Sedan_Plowshare_Crater.jpg

Map of nuclear test sites

- **China:** Lop Nur Nuclear Testing Site, (Xinjiang), last test in 1996
- **India:** Pokhran Test Site (Rajasthan), last test in 1998
- **North Korea:** Punggye-ri Nuclear Test Site (Punggye-ri), last test in 2017
- **Pakistan:** Ras Koh Site (Kharan Desert in Balochistan Province), last test in 1998
- **Russia:** Novaya Zemlya test site, last test in 1990
- **France (conducted in French Polynesia):** Fangataufa test site, last test in 1996
- **USA***:* Nevada Test Site, last nuclear test in 1992

Test data is based on https://www.armscontrol.org/factsheets/nuclear-testing-tally, accessed on 5.3.2026.



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About Deep Cuts

For years, more and more arms control treaties have been eroding and nuclear disarmament is in a deep crisis. The goal of this research and transfer project is to analyze obstacles to U.S.-Russian nuclear and conventional disarmament, to strengthen European security and to develop concrete risk-reduction measures that limit the potential for military escalation in the short term and aim to cut nuclear stockpiles in the long term.
The Deep Cuts Commission was established in 2013 and is coordinated by IFSH. The project partner is the independent Arms Control Association in Washington, D.C.

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Impress

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