

# No case for explosive testing

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*The Trump Administration has reportedly been considering a resumption of explosive nuclear testing. Two different letters make the case to maintain the ban on such testing. US scientists cogently argue for no resumption of explosive testing, while the European External Action Service sets out the European Union's extensive support for policing the Comprehensive Test Ban Treaty.*

June 16, 2020

The Honorable Mitch McConnell  
Senate Majority Leader  
United States Capitol  
Washington, D.C. 20510

Dear Leader McConnell,

As scientists with expertise on nuclear weapons issues, including many with long involvement in the US nuclear weapons program, we strongly oppose the resumption of explosive testing of US nuclear weapons. There is no technical need for a nuclear test. Indeed, statements attributed to administration officials suggest the motivation is that a nuclear explosive test would provide leverage in future nuclear arms control negotiations with Russia and China.

In anticipation of signing the Comprehensive Test Ban Treaty (CTBT), in 1995 the United States established the Science-based Stockpile Stewardship Program, which included building a wide range of experimental facilities as well as powerful supercomputers to allow weapons scientists to understand more deeply how nuclear weapons work. Based on non-nuclear tests on each warhead type, as well as information provided by computer modelling and experimental data, since 1996 the Department of Energy (DOE) weapons laboratories have conducted an annual assessment of the safety, reliability, and performance of each weapon type. They also assess whether it is necessary to conduct an explosive nuclear test to resolve

any identified problems. The Defense Department assesses the military effectiveness of each weapon type. Each year since 1996, the annual assessment has determined that the arsenal remains safe, reliable and militarily effective and that explosive nuclear testing is not needed.

Thus, nuclear explosive testing of any US warhead would serve no technical or military purpose.

While the Comprehensive Test Ban Treaty is not yet in force because the United States, China, North Korea, Egypt, India, Iran, Israel, and Pakistan have not ratified it, all signatories are obligated to abide by its terms. The administration has alleged that Russia and China are conducting very-low-yield nuclear tests, in violation of the CTBT. The administration has reportedly offered these alleged tests as another rationale for a US explosive test.

If Russia and China are conducting very-low-yield tests, the yields are low enough that these tests have not been detected by the Comprehensive Test Ban Treaty Organization (CTBTO), which operates an extensive array of seismic and other sensors that would be used to verify the treaty once it comes into force. As the National Academy of Sciences 2012 report *The Comprehensive Nuclear Test Ban Treaty: Technical Issues for the United States* argues, any such tests would provide no military advantage to Russia or China.

The Comprehensive Test Ban Treaty includes provisions for resolving questions of compliance, including the right of any signatory that has information indicating another signatory is not in compliance to request an onsite inspection in that country. Because the Treaty is not in force, the United States cannot avail itself of this option.

If the United States believes that Russia and China are conducting tests prohibited by the treaty, however, it should initiate a consultative process with these countries with the aim of providing greater transparency and developing confidence-building measures about the subcritical 'zeroyield' nuclear testing facilities all three nations operate, and where Russia and China presumably would conduct any very-low-yield tests.

A US nuclear explosive test would have significant negative repercussions. A likely response to a US test would be a resumption of testing by Russia

and China, and perhaps also by North Korea, India, and Pakistan. This would further undermine the Nuclear Non-Proliferation Treaty (NPT), which includes 185 non-nuclear weapon states (NNWS) who have pledged to forgo nuclear weapons. When the non-nuclear weapon states voted in 1995 to extend the Nuclear Non-Proliferation Treaty indefinitely, they did so in part because the nuclear-weapon states (NWS) assured them a Comprehensive Test Ban Treaty would soon be in force.

Many non-nuclear weapon states are questioning the value of the Nuclear Non-Proliferation Treaty because the United States and other nuclear-weapon states have failed to make meaningful progress on their obligation, in Article VI of the NPT, ‘to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament’. They negotiated a Treaty on the Prohibition of Nuclear Weapons, which was passed by the United Nations General Assembly and opened for signature in July 2017. A US explosive nuclear test would severely weaken the nuclear non-proliferation regime—which could lead to new nuclear-armed states.

In sum, there is no technical or military need to conduct a nuclear explosive test. At the same time, doing so would have serious negative security consequences for the United States. We urge you to work with other members of Congress to ensure the United States does not conduct a nuclear explosive test.

Sincerely,

Philip E. Coyle, III Former Assistant Secretary of Defense for Test and Evaluation, Former Associate Director for Test, Lawrence Livermore National Laboratory

Steve Fetter, Professor and Dean, University of Maryland, Former Principal Assistant Director for National Security and International Affairs, Office of Science and Technology Policy

Richard L. Garwin, Presidential Medal of Freedom (2016), Enrico Fermi Award (1996)

John P. Holdren, Professor of Environmental Science and Policy, Harvard University, Formerly President Obama’s Science Advisor (Jan 2009 - Jan 2017)

Jill Hruby, Sandia National Laboratories Director Emeritus

Raymond Jeanloz, Professor of Earth and Planetary Science, University of California, Berkeley, Chair, National Academy of Sciences Committee on International Security and Arms Control

R. Scott Kemp, MIT Class of '43 Associate Professor of Nuclear Science and Engineering, MIT Former Science Advisor, Office of the Special Advisor for Non-proliferation and Arms Control, Department of State  
Robert Latiff, Major General (Ret), USAF Member, Science and Security Board, The Bulletin of the Atomic Scientists

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Robert Rosner, William E. Wrather Distinguished Service Professor, The University of Chicago, Former Chief Scientist and Director, Argonne National Laboratory, Chair, Science & Security Board, The Bulletin of the Atomic Scientists

Roy Schwitters, Professor of Physics, Emeritus, The University of Texas at Austin, Consultant to Los Alamos and Lawrence Livermore National Laboratories

Ellen D. Williams, Distinguished University Professor, Department of Physics, University of Maryland, Chair, The Comprehensive Nuclear Test Ban Treaty: Technical Issues for the United States, National Research Council (2012)

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## **EU friends of the Comprehensive Test Ban Treaty**

*The Russell Foundation wrote to all state signatories to the Comprehensive Nuclear Test Ban Treaty about the threat of renewed nuclear testing, and received this encouraging response from the European External Action Service.*

Brussels, 15 July 2020

Distinguished Colleagues,

Thank you for your letter on ‘Nuclear Testing Alert’ dated 29 June 2020. Nuclear weapon test explosions or any other nuclear explosions represent a serious threat to international peace and security and undermine the global non-proliferation regime. The European Union has been a consistent and staunch supporter of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and of its Organisation. Since its opening for signature in 1996, the CTBT has helped stop nuclear testing while also serving as a strong confidence- and security building measure. Support for the CTBT within the EU is strong and universal; all EU Member States have signed and ratified the Treaty. We promote actively its entry into force and universalization in line with the EU Strategy against the Proliferation of Weapons of Mass Destruction.

Let me assure you that the entry into force of the Comprehensive Nuclear-Test-Ban Treaty remains our political imperative. We use every opportunity to encourage new CTBT ratifications using our political, diplomatic and financial tools. We raise the issue of CTBT ratification in our political dialogues and through diplomatic outreach to the remaining Annex II and non-Annex II countries alike. We decided to become a supporter of promoting the entry into force of the CTBT action in the UN Secretary General’s Agenda for Disarmament. We contribute to the CTBT Article XIV process and count ourselves among the ‘Friends of the CTBT’.

In parallel with our political demarches, we continue investing significant amounts to underpin the Comprehensive Nuclear-Test-Ban Treaty Organisation efforts in promoting capacity building and the Treaty’s entry

into force. Regular contributions from EU Member States to the CTBTO comprise roughly 40% of the Organization's total annual budget. The EU is one of the largest providers of voluntary funds to the CTBTO. Since 2006, the Council of the European Union has adopted eight Decisions in support of the CTBTO: 3 Joint Actions in 2006, 2007 and 2008 and 5 Council Decisions in 2010, 2012, 2015, 2018 and 2020 committing EUR 29.5 million. The EU provides financial support to the CTBTO for training and education work aimed at building up and maintaining the necessary capacity in the technical, scientific, legal and policy aspects of the Treaty and its verification regime.

The Comprehensive Test Ban Treaty is the result of the dedicated efforts of policy makers, colleague diplomats and civil society. With strong support from the UN General Assembly, what we have today is an incredibly strong instrument, fully verifiable, signed by 184 States and ratified by 168 States. The EU believes that every single signature and ratification matters. Every single country can lead by example and help universalise the Treaty. Through the CTBT, countries with differing perspectives have demonstrated their ability to think strategically and responsibly. This is the spirit we have to nurture and the EU is your friend in this endeavour.

Yours sincerely,

Joanneke BALFOORT  
Director, Security and Defence Policy  
European External Action Service