

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 modeling 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 CTBT 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 CTBT 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 on-site 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 “zero-yield” 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 NNWS voted in 1995 to extend the NPT indefinitely, they did so in part because the nuclear-weapon states (NWS) assured them a CTBT would soon be in force.

Many NNWS are questioning the value of the NPT because the United States and other NWS 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,

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Former Associate Director for Test, Lawrence Livermore National Laboratory

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