SHOULD THE UNITED STATES RESUME NUCLEAR TESTING?

The remarks below were delivered at a symposium on "Should the United States Resume Nuclear Testing?" hosted by the National Institute for Public Policy on December 11, 2025. The symposium assessed the pros and cons of resumed U.S. nuclear testing in light of President Trump's comments that the United States would resume nuclear testing "immediately" and criticisms that doing so would be unwise and imprudent.

David J. Trachtenberg (moderator)
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The issue of nuclear testing has dominated the news recently with President Trump's comment that the United States intends to resume nuclear testing "immediately" in order to keep up with Russia and China "on an equal basis." The outcry and reaction this statement generated ranged from modest support among Republicans, to sheer horror among the arms control and disarmament communities.

Pundits and commentators have claimed the president didn't know what he was talking about, confusing explosive weapons testing with delivery systems testing.[1] Others have asserted any U.S. tests would prompt Russia and China to resume explosive testing, sparking a testing arms race that would benefit Moscow and Beijing much more than Washington.[2] As one former lab director recently wrote, "resuming full-scale nuclear testing… will fuel another dangerous arms race at a time when global tensions among the great powers are high…. The bottom line is that even though the United States could derive important benefits from resumed nuclear testing, it would lose more than it stands to gain."[3] Still others said that it would take years for the United States to resume nuclear testing given the atrophy of expertise over the years and the need for unprecedented safety measures given the population growth in Nevada where the underground U.S. nuclear test site last witnessed a test in 1992—more than three decades ago.[4]

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[1] Zolan Kanno-Youngs, "New Weapons Testing Won't Include Nuclear Explosions, Energy Secretary Says," *The New York Times*, November 2, 2025, https://www.nytimes.com/2025/11/02/us/politics/trump-nuclear-testing-explosions.html.

[2] For example, see Siegfried Hecker, "Lessons From Los Alamos: America Has the Most To Lose From Restarting Nuclear Testing," *Foreign Affairs*, November 26, 2025, https://www.foreignaffairs.com/united-states/lessons-alamos; Timothy Gardner, "Democratic senator urges Trump not to resume nuclear weapons tests," *Reuters*, November 25, 2025, https://www.reuters.com/world/us/democratic-senator-urges-trump-not-resume-nuclear-weapons-tests-2025-11-25/; Erin D. Dumbacher, "Will Trump's Nuclear Testing Order Prompt a Global Race?," Council on Foreign Relations, October 30, 2025, https://www.cfr.org/expert-brief/will-trumps-nuclear-testing-order-prompt-global-race.

[3] Hecker, ibid.

[4] See, for example, Eric S. Edelman and Franklin C. Miller, "President Trump Deserves Better Advice," *RealClear Defense*, November 3, 2025, https://www.realcleardefense.com/articles/2025/11/03/president_trump_deserves_better_advice_1144884.html; David Cortright, "How the United States achieved its de facto nuclear test ban—and how to preserve it," *Bulletin of the Atomic Scientists*, November 12, 2025, https://thebulletin.org/2025/11/how-the-united-states-achieved-its-de-facto-nuclear-test-ban-and-how-to-preserve-it/; Joshua Rhett Miller, "Donald Trump's Nuclear Announcement Sparks Alarm: 'He Is

According to official reports and statements, however, Russia and China have been engaged in surreptitious nuclear testing activities for years. The State Department's most recent report on the topic reaffirmed the Department's prior conclusions that "Russia has conducted supercritical nuclear weapons tests without TTBT notification since renewing its nuclear explosive testing moratorium in 1996. Concerns remain due to these past activities and the uncertainty and lack of transparency relating to Russia's activities at Novaya Zemlya."[5]

With respect to China, the U.S. government assesses that "concerns remain about activities at the Lop Nur Nuclear Test Site given the PRC's lack of transparency on its nuclear testing activities at the site, its previous use of explosive containment chambers, and prior questions regarding its adherence to the 'zero-yield' standard in its nuclear weapons testing moratorium."[6]

Controversy over the president's comments that "Russia is testing nuclear weapons, and China is testing them too…." was heightened when the Secretary of Energy stated that the United States actually does not plan to conduct nuclear explosive tests and would only carry out "nonnuclear" and "noncritical explosions" and when the new head of U.S. Strategic Command, Admiral Richard Correll told Congress in October, "Neither China nor Russia has conducted a nuclear explosive test."[7] In addition, the head of the CIA and Chairman of the Senate Intelligence Committee both backed the president's comments, noting that "the CIA assesses that both Russia and China have conducted supercritical nuclear weapons tests in excess of the U.S. zero-yield standard."[8]

In light of this, coupled with the plethora of nuclear threats emanating from Russia and China over Ukraine and Taiwan, the debate over whether a resumption of U.S. nuclear testing is necessary to ensure the safety, security, and reliability of the U.S. nuclear arsenal has become white hot and, dare I say, explosive. There also appears to be a fair amount of confusion over the terminology used to describe the various types of tests that can be conducted, including the notion of zero yield and the distinctions between subcritical, supercritical, and hydronuclear tests, for example. And swirling around all of this is the

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Misinformed'," *Newsweek*, October 30, 2025, https://www.newsweek.com/donald-trumps-nuclear-announcement-sparks-alarm-10967374.

[5] U.S. Department of State, *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, April 2025, p. 26, https://www.state.gov/wp-content/uploads/2025/04/2025-Arms-Control-Treaty-Compliance-Report_Final-Accessible.pdf.

[6] U.S. Department of State, *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, April 2022, pp.28-29, https://2021-2025.state.gov/wp-content/uploads/2022/04/2022-Adherence-to-and-Compliance-with-Arms-Control-Nonproliferation-and-Disarmament-Agreements-and-Commitments-1.pdf.

[7] David E. Sanger and Zolan Kanno-Youngs, "Trump Doubles Down on Nuclear Tests. His Energy Secretary Differs.," *The New York Times*, November 3, 2025, https://www.nytimes.com/2025/11/03/us/politics/trump-nuclear-tests-energy-secretary.html.

[8] Victor Nava, "CIA director, Senate intel chairman say Trump 'is right' about secret Russian and Chinese nuclear tests," *New York Post*, November 3, 2025, https://nypost.com/2025/11/03/us-news/cia-director-senate-intel-chairman-say-trump-is-right-about-russian-and-chinese-nuclear-tests/.

ongoing debate over whether the United States should reconsider ratifying the Comprehensive Test Ban Treaty, which the Senate overwhelmingly rejected in 1999.

In short, there are many aspects of this issue to consider, and I hope we will cover most if not all of them during today's discussion.

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Mark B. Schneider
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President Trump ordered resumed nuclear testing, stating, "Because of other countries testing programs, I have instructed the Department of War to start testing our Nuclear Weapons on an equal basis. That process will begin immediately."[9] He further stated in October, "You'll find out very soon, but we're going to do some testing…. Other countries do it. If they're doing to do it, we're going to do it, okay?"[10]

Vice President J.D. Vance also stated, "We have a big arsenal. Obviously, the Russians have a large nuclear arsenal. The Chinese have a large nuclear arsenal. Sometimes you need to test it to make sure its functioning and working properly."[11] And Secretary of War Pete Hegseth declared in November, "That [nuclear weapons] is the baseline of our deterrence, and so having understanding and resuming testing is a pretty responsible, very responsible, way to do that."[12] Yet, Secretary of Energy Chris Wright added uncertainty to the controversy when he stated, "I think the tests we're talking about right now are system tests. These are not nuclear explosions. These are what we call non-critical explosions."[13]

Adversary Nuclear Testing

Both the Trump and Biden Administrations determined that Russia was conducting nuclear yield producing nuclear tests. Both raised concerns about covert Chinese nuclear tests. In November, Senator Tom Cotton announced, "After consultations with Director Ratcliffe and

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[9] Donald J. Trump, Trump's Truth, October 2, 2025, https://truthsocial.com/@realDonaldTrump/posts/115460423936412555.

[10] "Trump declines to rule out underground nuclear tests," *Reuters*, November 1, 2025, https://www.koreatimes.co.kr/world/20251101/trump-declines-to-rule-out-underground-nuclear-tests.

[11] Roman Kohanets, "US Wants to Ensure Its Nuclear Arsenal 'Works Properly,' Says Vice President Vance," *United24media.com*, October 31, 2025, https://united24media.com/latest-news/us-wants-to-ensure-its-nuclear-arsenal-works-properly-says-vice-president-vance-12989.

[12] Bill Gertz, "Hegseth: Nuclear tests bolster credible strategic deterrence, lower risk of nuclear conflict," *The Washington Times*, October 31, 2025, https://www.washingtontimes.com/news/2025/oct/31/pete-hegseth-nolitics/energy-secretary-reveals-how-us-nuclear-tests-work.uclear-tests-bolster-credible-strategic-deterrence/.

[13] Morgan Phillips, "Energy secretary reveals how US nuclear tests will work," *Fox News*, November 3, 2025, https://www.foxnews.com/politics/energy-secretary-reveals-how-us-nuclear-tests-work.

his team, they have confirmed to me that the CIA assesses that both Russia and China have conducted super-critical nuclear weapons tests in excess of the U.S. zero-yield standard. These tests are not historic and are part of their nuclear modernization programs."[14]

As Dr. John Foster, the former Director of Lawrence Livermore National Laboratory noted in 2016, hydronuclear tests "of less than one ton" yield could provide high confidence in the "performance [of nuclear weapons] at low yield."[15] The First Deputy Atomic Energy Minister of the Soviet Union, Viktor Mikhaylov, acknowledged in 1999 that "…developed traditional nuclear powers can use hydronuclear experiments to perform tasks of improving reliability of their nuclear arsenal and effectively steward its operation."[16]

Covert tests ranging from sub-kiloton to perhaps ten kilotons can be conducted with decoupling, testing in salt mines and in high seismic areas.[17] North Korea has overtly conducted nuclear tests including a thermonuclear weapon and may have covertly conducted low-yield nuclear tests for Iran.[18] Covert testing can result in large adversary advantages in nuclear weapons reliability and allow development of new weapons types.

The Clinton Administration's Zero Yield Decision

The Clinton Administration rejected the technical advice it received on nuclear testing and negotiated a zero-yield Comprehensive Test Ban Treaty (CTBT). According to Dr. Paul Brown, the Associate Director of Lawrence Livermore National Laboratory in 2019, the Defense Department's position "…favored a low-yield treaty with a 500 ton testing limit."[19] And as Dr. C. Paul Robinson, the former Director of Sandia National Laboratory, noted in 2012, "At that time [1995], we in the U.S. labs requested that the permitted test level should be set to a level which is, in fact, [was] lower than a one-kiloton limit, which would have allowed us to carry out some very important experiments, in our view, to determine whether the first stage of multiple-stage devices was indeed operating, successfully."[20] Dr. Sidney Drell, who chaired a 1995 Jasons report cited the asymmetric impact of covert sub-kiloton

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[14] Victor Nava, "CIA director, Senate intel chairman say Trump 'is right' about secret Russian and Chinese nuclear tests," *The New York Post*, November 3, 2025, https://nypost.com/2025/11/03/us-news/cia-director-senate-intel-chairman-say-trump-is-right-about-russian-and-chinese-nuclear-tests/.

[15] Dr. John S. Foster Jr., "Future Possible Paths for the Nuclear Weapons Complex," January 22, 2016, mimeo, p. 9.

[16] Quoted in Mark B. Schneider, "The Future of the U.S. Nuclear Deterrent," *Comparative Strategy*, July 1, 2008, p. 349, https://www.tandfonline.com/doi/abs/10.1080/01495930802358539.

[17] Mark B. Schneider, *The Case for Resumed Nuclear Testing* (Fairfax, VA: National Institute for Public Policy, 2025), pp. 30-31, https://nipp.org/papers/the-case-for-resumed-nuclear-testing/.

[18] Mark B. Schneider, "Has Iran Covertly Acquired Nuclear Weapons?," *Comparative Strategy*, Vol. 32, No. 4, September 2013, pp. 308-312, available at http://www.tandfonline.com/loi/ucst20.

[19] Paul Brown, *The Comprehensive Test Ban Treaty: Lawrence Livermore National Laboratory's Impact on U.S. Nuclear Policy from 1958 to 2000* (Livermore, CA: Lawrence Livermore National Laboratory, April 2019), p. 92, https://cgsr.llnl.gov/sites/cgsr/files/2024-08/Brown-CTBTbook.pdf.

[20] Paul Robinson, John Foster, and Thomas Scheber, "The Comprehensive Test Ban Treaty: Questions and Challenges" (Washington, D.C.: Heritage Foundation, November 7, 2012), Lecture No. 1218, https://www.heritage.org/armscontrol/report/the-comprehensive-test-ban-treaty-questions-andchallenges.

testing, noting that "…testing under a 500 ton yield limit would allow studies of boost gas ignition and initial burn, which is a critical step in achieving full primary design yield."[21]

A History of Failures

The 1958-1961 nuclear testing moratorium failures were ignored. Four weapon designs in the 1961 stockpile "had problems that could be resolved only by additional nuclear tests" and one was used in three delivery systems. Indeed, a report by the Lawrence Livermore National Laboratory authored by Dr. George H. Miller, Dr. Paul S. Brown, and Dr. Carol T. Alonso, noted, "…a large fraction of the W47 [Polaris] warheads would be duds…."[22] They continued that one-third of the weapons fielded after 1958 "…received post deployment nuclear tests to resolve problems."[23] Tom Ramos, a senior Lawrence Livermore weapons designer, stated in 2022, "It was later found after testing resumed in the 1960s that a good percentage of the warheads placed into the stockpile during the test ban had fatal defects."[24] Unfortunately, a single deployed dud could destroy the Triad by about 2050.

This chart demonstrates the high cost of the science-based stockpile stewardship program and the huge decline in productivity resulting from it.[25]

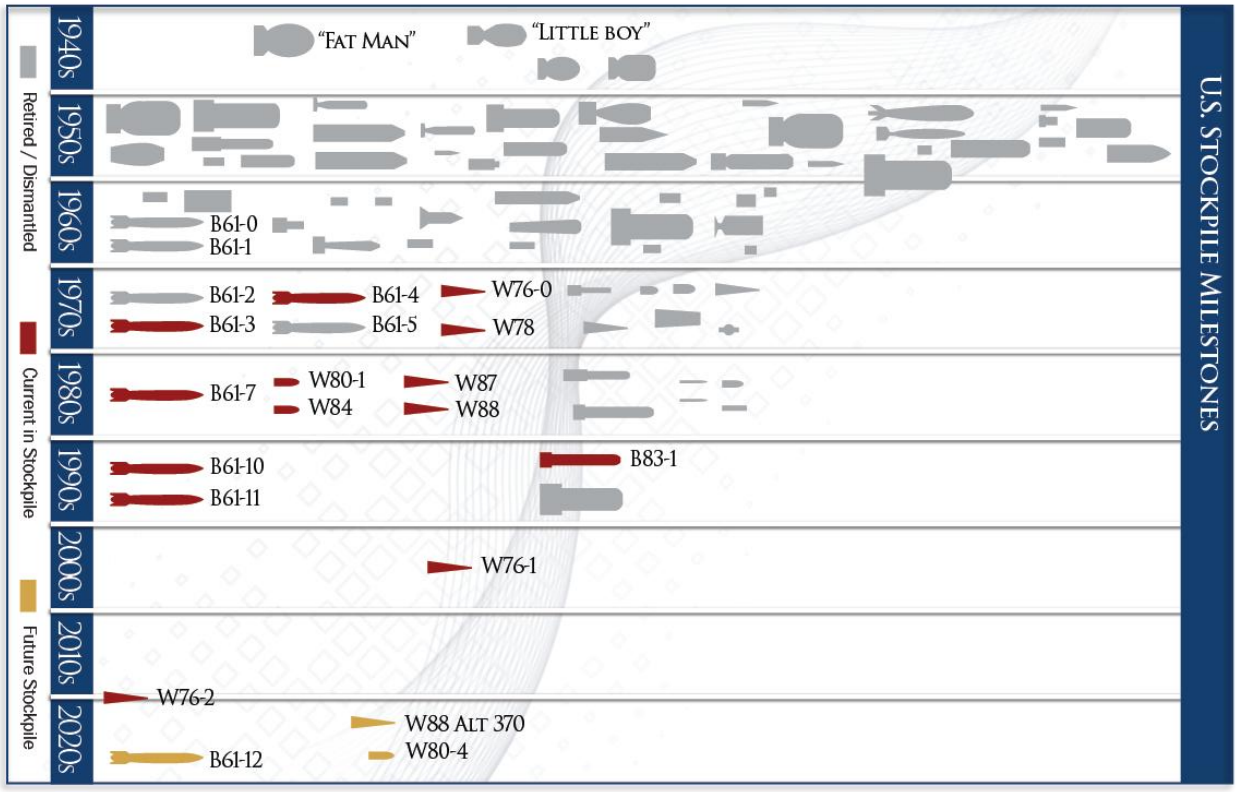
[21] Sidney Drell, Chairman, "Nuclear Testing Summary and Conclusions," JSR-95-320, August 3, 1995, https://rlg.fas.org/jsr-95-320.htm.

[22] George H. Miller, Paul S. Brown, Carol T. Alonso, *Report to Congress on Stockpile Reliability, Weapons Remanufacture, and Role of Nuclear Testing* (Livermore, CA: Lawrence Livermore National Laboratory, October 1987), p. 20, available at https://www.osti.gov/servlets/purl/6032983.

[23] Ibid., pp. 23.

[24] Tom Ramos, *From Berkeley to Berlin - How the Rad Lab Helped Avert Nuclear War* (Annapolis, MD: Naval Institute Press, 2022), p. 185.

[25] Office of the Secretary of War, *The Nuclear Matters Handbook 2020 [Revised],* 2020, chapter 4, https://www.acq.osd.mil/ncbdp/nm/NMHB2020rev/chapters/chapter4.html.



The Case for Resumed Nuclear Testing

In short, our nuclear deterrent is critically important and must be reliable and safe. U.S. inherently safe weapons are uniquely vulnerable without nuclear testing. The Clinton Administration's zero-yield CTBT was opposed by the Pentagon and all of the national nuclear weapon laboratories. It was rejected by a majority of the Senate. In reality, the arms control rationale for the CTBT is bogus—it cannot prevent nuclear proliferation.

Russia and possibly China are testing and the action-reaction arms race argument is a myth. No other weapon is fielded without extensive testing of the finished product. Science Based Stockpile Stewardship is far more costly and much less certain than explosive testing. In addition, life extension programs are several times as expensive as the original weapons development. The high cost of the stockpile stewardship program is dangerously reducing the number of U.S. nuclear weapons types and increasing the impact of a dud.

Unfortunately, thirty-three years without testing and little in the way of new design efforts has created the least experienced nuclear weapons designers since the late 1940s. As Dr. Harold Agnew, former Director of Los Alamos National Laboratory concluded in 2000, "…to consider putting those things [redesigns] into the stockpile without testing is nonsense."[26]

[26] James Glanz, "Testing the Aging Stockpile In A Test Ban Era," *The New York Times*, November 28, 2000, p. 1.

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Franklin C. Miller
Franklin Miller is former Special Assistant to President George W. Bush and a longtime Pentagon official.

Thanks to David Trachtenberg and to NIPP for inviting me today.

The question of whether the United States should resume some form of nuclear warhead testing in response to Russian and Chinese testing is an important one. Sadly, much of the press coverage and some of the political statements about it have only served to confuse rather than illuminate and clarify the issue.

The question should be analyzed in two distinct but related planes: political and technical.

The political question should be framed as follows: "Does the fact that Russia and China are conducting extremely low yield nuclear warhead testing 'in violation of the Comprehensive Test Ban Treaty's Zero Yield provision' demand a political response in the form of renewed U.S. testing?"

A few facts are in order here:

- First, the United States, while a signatory to the Comprehensive Test Ban Treaty (CTBT), did not ratify it and therefore is not legally bound by its requirements.
- Second, the CTBT did not establish what "zero yield" meant. In the Treaty's endgame negotiations in the mid-1990's, the United States circulated a unilateral note to the UK, France, Russia, and China stating that it interpreted "zero yield" as forbidding the initiation of a fission/fusion reaction. London and Paris issued similar notes. Moscow and Beijing did not respond, and in so doing essentially rejected the U.S. interpretation.
- Third, while Russia and more recently China have been conducting extremely low-yield nuclear tests in a clandestine manner for many years, neither can be accused of violating the CTBT because the treaty does not define the term.
- Fourth, in all candor, during the Treaty negotiations, I, as a senior DoD official at the time, proposed permitting extremely low-yield testing (known as "whisper boosting") to maintain confidence in our stockpile. The British and French governments agreed with this, and Prime Minister Major and President Chirac so wrote to President Clinton. Then-Defense Secretary Bill Perry also supported whisper boosting. It was vigorously opposed, however, by Energy Secretary Hazel O'Leary, a strong proponent of nuclear disarmament. When the U.S. laboratory directors indicated support for whisper boosting, O'Leary threatened them with massive cuts to their budgets unless they supported zero yield; they caved. Faced with the lab directors' position, Secretary Perry changed his stance and reluctantly supported zero yield. Clinton, in one of his classic triangulations, established the Stockpile Stewardship Program to sustain confidence in the U.S. stockpile and compensate for the lack of whisper boosting. As a result, while the United States,

Britain, and France turned away from whisper boosting, Russia and China embraced it.

- Fifth, another question remains: "Just because our principal adversaries do something is the United States required to proceed down the same path?" My view is that we should pursue paths we need to pursue for our own reasons, not simply because Russia and China are doing them. As evidence, I note that the USSR sought (among other things) to develop a "wing in ground" aircraft called "Ekranoplan" and Russia has developed the trans-oceanic torpedo ("Status-6" or "Poseidon") and the nuclear-powered cruise missile called "Burevestnik"—all of which are expensive failed programs. The United States, properly, has not pursued these failures, opting to pursue programs we need.

The technical question needs to be framed in this manner: "After more than 30 years of the Stockpile Stewardship Program (SSP) to sustain confidence in the stockpile, is nuclear testing now required to supplement that program and provide additional data to undergird our warheads' reliability, safety, and effectiveness?" Under the SSP, our nation's foremost nuclear scientists—including my friend and co-panelist Dr. Mike Anastasio—who was the head of Los Alamos National Lab and also the Livermore National Lab—have examined America's existing nuclear stockpile annually. They have concluded, and so reported to the Commanders of U.S. Strategic Command (who in turn notified the Secretaries of Defense and Energy and whose views then went to the President), that nuclear testing is not necessary at this time.

Given that our weapons experts believe testing is not required now, I support that position and will continue to do so until the annual inspection suggests otherwise.

Until testing may become necessary, I would recommend that the funds, which some might devote to testing, instead be allocated to our strategic modernization and to improving our non-strategic nuclear weapons (NSNW) arsenal, especially in fielding the SLCM-N nuclear sea-launched cruise missile more rapidly and developing a nuclear standoff capability for our dual-capable aircraft.

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Thomas Scheber

Thomas Scheber is former Vice President of National Institute and Director of Strike Policy and Integration in the Office of the Secretary of Defense.

My comments today will focus on the need for an informed, reasoned debate on the need for nuclear testing—now and in the future. There is clearly a strong bias against nuclear testing in almost all open press articles, and the lack of analysis and reasoning in most articles is appalling.

In particular, I want to identify five questionable statements that are typically assumed to be true and that are used often to oppose renewed nuclear testing. Eash of these assertions is typically made without factual documentation but each is questionable or just not true.

The author Samuel Clemens called such assertions, "Things we know that just ain't so."

Assertion #1. Why now? Commentators often assert that there have been no warhead problems over the past 33 years that have required testing.

First, it is not true that there have been no warhead problems. I offer two examples:

- The first is a nuclear test failure of a warhead currently in the stockpile. This test was conducted prior to 1992. To this day, the reason for the test failure is unexplained. Modifications were made to the warhead design and servicing procedures. However, since the United States was observing a nuclear test moratorium, no nuclear test was conducted to confirm that the problem had, in fact, been fixed.
- The second warhead problem is a concern over the proper function of a moveable component in a warhead in the stockpile. The movable component could be used to select differing output options from the warhead. Instead of fixing the problem and confirming the fix with a nuclear test, the ability to move this component was eliminated, thereby reducing the utility of this warhead.

Both warhead issues, in the past, would have led to confirmatory tests. In the post-1992 test moratorium, the problems were assumed to be corrected with minor changes or warhead options eliminated as no longer required.

I expect that there are more issues since I have not had access to details of warhead reliability for a number of years. Certainly, life-extension modifications to warheads have introduced significant changes to warheads that are now deployed in configurations that differ from the test-certified configurations.

In the early 1990s, the widely accepted mantra at the nuclear labs was, "there is no such thing as a small change to a nuclear warhead."

Assertion #2. The United States has conducted over a thousand nuclear tests. The data from those tests should be sufficient for analysis of warhead issues in the future.

This assertion is partially true. Depending on the issues to be resolved, test data in the archives may or may not be helpful in addressing a warhead issue of interest.

Remember, in the United States, the vast majority of nuclear tests were conducted to push the envelope of understanding and to explore new concepts, and not to gather a vast array of data to validate computer simulations for existing warheads. Also, nuclear testing was abruptly halted as a political decision in the early 1990's. The labs had no opportunity to design and conduct tests specifically to collect the data that would have been important to benchmark the advanced computer simulation codes developed over the past 30 years.

In general, our nuclear test database may or may not be adequate to resolve future warhead technical issues. This will depend on the particular issues in question.

Assertion #3. If the United States conducts one or a few nuclear tests, that act will unleash a wave of testing by others, nuclear proliferation, and new nuclear weapon development.

There exists a wealth of studies on the drivers of nuclear proliferation. The vast majority of studies conclude that countries act in their own best interests at the time and not because another country conducts a certain action.

I will not spend any time elaborating on this assertion as others have already commented regarding the errors in this assertion. This assertion should be dismissed as uninformed by decades of studies on decision-making by the leaders of other countries.

Assertion #4. Lab directors have testified that given the choice of diverting funds from existing stockpile stewardship programs—computer simulation and experiments—in order to prepare for a nuclear test—they would not choose testing.

The unspoken assumption with such statements by laboratory directors is that preparing for a nuclear test would require existing programs and people at the labs to be cut in order to fund test preparation activities. However, other options exist to fund preparations for a nuclear test but, to my knowledge, have not been pursued. Options include establishing a test preparation escrow fund at the National Nuclear Security Administration (NNSA) for use to begin test preparation activities.

Assertion #5. Since the most recent U.S. nuclear test in 1992, high-rise development in the city of Las Vegas, NV would preclude nuclear testing because of urban considerations, especially potential damage to high-rise structures.

This objection to testing contains the unspoken assumption that the United States would test at a relatively high yield—something near the 150-kiloton limit permitted by the Threshold Test Ban Treaty. However, our scientists could learn a lot about existing warhead reliability from tests at fairly low warhead yields. That is why the Joint Chiefs of Staff recommended a very low level of testing be permitted instead of the zero-yield version that President Clinton adopted for the CTBT.

In conclusion, the decision whether to conduct one or more nuclear tests is a complex topic on which reasonable people may disagree. This national issue deserves in-depth, reasoned debate that involves determining reasons for the potential need for testing, the technical issues to be resolved, data needed, and the risks and benefits of different approaches.