New START and Nuclear Weapons Stockpile Management: A Reality Check

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The New Strategic Arms Reduction Treaty promises to put Washington and Moscow back on the path of verifiable nuclear weapons reductions and cooperation on related nuclear security priorities. The treaty, which is now before the Senate, would:

- mandate modest reductions in both sides arsenals to no more than 1,550 deployed strategic warheads. Without New START, Russia could maintain a larger deployed strategic nuclear force;
- replace the 1991 START verification regime, which expired last December and reestablish a system of intrusive on-site inspections and information exchanges to provide high confidence regarding compliance with treaty limits. Delaying New START ratification weakens the United States' ability to assess Russia's strategic nuclear capabilities.

For these and other reasons, the U.S. military establishment and a large, high-level, bipartisan group (http://www.armscontrol.org/issuebriefs/BipartisanSupportforSTART) of former senior national security officials strongly support prompt ratification of New START.

Despite the overwhelming evidence to the contrary, a few Senators cling to the erroneous belief that the United States is not "modernizing" its nuclear weapons production infrastructure and have said they would find it very hard to support New START if there is not a robust and adequately funded, long-term plan for "modernizing" U.S. nuclear weapons.

One Senator, Jon Kyl (R-Ariz.), has taken these views to the extreme by threatening that he will not allow New START to come before the Senate "until I'm satisfied about some of these things," in comments reported July 23 in The New York Times.

Such tactics are unwarranted and irresponsible. A sober examination of the record reveals that:

- the existing strategy for warhead life extensions can continue to maintain the effectiveness of the arsenal indefinitely;
- a long-term, robust nuclear weapons "modernization" plan is in place;
- the administration's long-term stockpile stewardship and management plan pledges more than enough resources to sustain the effort;
- New START does not affect the strategy or the funding requirements to maintain an effective nuclear arsenal without nuclear test explosions.

As the Senate prepares to formally vote on New START in the next few weeks, it is important to separate fact from fiction by examining what the record says about the following issues:

1. Life Extension Programs Can Maintain the Stockpile for Decades

Since the United States ended nuclear explosive testing in 1992, the stockpile stewardship program was fortified to maintain the nuclear stockpile through non-nuclear tests and evaluations, combined
with the refurbishment of warhead components. In 1996, the United States became the first nation to sign the Comprehensive Test Ban Treaty (CTBT).

Since then our nation has invested billions of taxpayer dollars in the nuclear weapons laboratories’ science and technical base, stockpile surveillance and maintenance programs, advanced computer modeling, new experimental facilities, and studies on the aging of warhead materials to help inform future stockpile stewardship approaches.

As the director of the Los Alamos National Laboratory said in a July 15 hearing before the Senate Foreign Relations Committee, "Because of the science we’ve developed, we now know more about nuclear weapons than we ever have."

Since 1994, each warhead type in the U.S. nuclear weapons arsenal has been determined to be safe and reliable through a rigorous certification process. Life Extension Programs have refurbished and modernized major warhead types and are scheduled to tackle the remaining warhead types in the years ahead.

Unfortunately, there remain some who erroneously believe that we cannot maintain the safety and reliability of the nuclear arsenal in the future without a continuous program of nuclear test explosions. In truth, nuclear explosive testing has never been relied upon to check the reliability of proven U.S. nuclear warhead designs and is not needed to do so in the future.

A September 2009 report by the JASON independent technical review panel concluded that the "lifetimes of today's nuclear warheads could be extended for decades, with no anticipated loss in confidence." The report also found "no evidence that accumulation of changes incurred from aging and LEPs have increased risk to certification of today's deployed nuclear warheads."

The JASON report also found that: "1) changes induced from component aging can be erased by a LEP, and 2) changes introduced by LEPs are carefully chosen and assessed --they are not random--so that each LEP to date has produced a warhead with higher confidence factors than the original."

2. A Robust Nuclear Modernization Program is Underway

The United States is continuing the process of upgrading all of its strategic delivery systems, the warheads they carry, and the production complex for the next 20-30 years or more.

The ten-year plan outlined in the Obama administration's "Section 1251" report to Congress calls for $80 billion over ten years for these NNSA weapons activities, and another $100 billion for updating or replacing strategic nuclear delivery systems. By any common-sense definition, this amounts to a very robust modernization plan that covers all aspects of the nuclear enterprise, including:

- **Enhancing nuclear warheads through NNSA's Life Extension Program (LEP).** The W87 Minuteman warhead has already been refurbished to last past 2025, and NNSA is requesting $63 million for additional work on this warhead in FY 2011. The B61-7 and B61-11 bombs for the B-2 bomber were recently refurbished for an additional 20 years. In 2009, NNSA began delivery of refurbished W76 Trident warheads with service lives of an additional 30 years. NNSA is requesting almost $1 billion over the next five years for an LEP study on the W78 Minuteman warhead. This ongoing process can continue indefinitely.

- **Modernizing the U.S. nuclear weapons production complex.** The FY 2011 NNSA budget request includes large increases for the Chemistry and Metallurgy Research Replacement plutonium facility at Los Alamos National Laboratory, which would see its budget jump from $97 million in FY 2010 to $225 million in FY 2011. The Uranium Processing Facility at Oak Ridge would increase from $94 million to $115 million.

- **Maintaining and replacing strategic delivery systems,** including complete rebuilds of the Minuteman III Intercontinental Ballistic Missile and Trident II Submarine-Launched Ballistic Missile. Minuteman can serve until 2030, and Trident is expected to last until 2042. The service lives of Trident Ohio-class ballistic missile submarines are being extended, and a new fleet of submarines is under development at an expected cost of $85 billion. The B-2
"stealth" bomber is being upgraded at a cost of $1 billion over the next 5 years. The Air Force is also planning to replace the Air-Launched Cruise Missile.

As Secretary of Defense Robert Gates wrote in his preface to the April 2010 Nuclear Posture Review (NPR), "These investments, and the NPR's strategy for warhead life extension, represent a credible modernization plan necessary to sustain the nuclear infrastructure and support our nation's deterrent."

3. Appropriators have fully backed the fiscal 2011 budget request

Senator Kyl has suggested that before New START is ratified, the Obama administration must demonstrate that Congress has endorsed its budget request for NNSA weapons activities. In a sign that the administration's plan is sound and sustainable, earlier this month the House Energy and Water Subcommittee appropriated all but $19 million of the administration's $7 billion request for fiscal 2011 NNSA weapons activities, a 10% increase from the year before with greater increases for stockpile stewardship programs. And last week, the Senate Energy and Water Subcommittee appropriated $10 million above the administration's request. For all intents and purposes, the net result is a fully-funded program.

Nevertheless, for Sen. John McCain (R-Ariz.) the $9 million net reduction from the administration's budget request for NNSA weapons activities is a cause for alarm. In the July 20 hearing of the Senate Armed Services Committee, McCain suggested to principal undersecretary for defense policy Jim Miller that the failure to fully fund the budget request might be grounds for a presidential veto. Hardly.

Rather than hold New START and U.S. national security hostage for a few million more for the weapons laboratories, these Senators should recognize that rejection of New START--as well as further delay of CTBT ratification--will create greater uncertainty about U.S. nuclear policy that could jeopardize the political consensus regarding the strategy and budget for maintaining the U.S. nuclear stockpile in years ahead.

4. New-Design Warheads Not Necessary, But Are Still An Option

The April 2010 Nuclear Posture Review (NPR) Report establishes that the United States will not resume nuclear testing and "will not develop new nuclear warheads. Life Extension Programs will use only nuclear components based on previously tested designs, and will not support new military missions or provide for new military capabilities."

This is a prudent and technically sound approach. Given the success of the ongoing U.S. warhead Life Extension Program, there is currently no technical need for new-design warheads and renewed nuclear testing.

To minimize the risks posed by changes to warhead components--particularly the nuclear components in warhead primaries and secondaries--the JASON group has recommended against unnecessary replacement of nuclear components not validated by nuclear test experience. A 2006 NNSA study concluded that weapons plutonium is not affected by aging for 85 years or more.

The directors of the three U.S. nuclear weapons labs have strongly endorsed the NPR's approach. In their April 9 joint statement, they said:

"We believe that the approach outlined in the NPR, which excludes further nuclear testing and includes the consideration of the full range of life extension options (refurbishment of existing warheads, reuse of nuclear components from different warheads and replacement of nuclear components based on previously tested designs), provides the necessary technical flexibility to manage the nuclear stockpile into the future with an acceptable level of risk."

Nonetheless, some have suggested that this policy will stifle the creative and imaginative thinking of lab scientists.
In fact, as NNSA Administrator Thomas D'Agostino made clear in an April 14 House Armed Services hearing, the NPR will allow the national nuclear weapons laboratories to "study all options for ensuring the safety, security, and effectiveness of our nuclear warheads, and we'll do so on a case-by-case basis."

In a June 25 letter (http://www.armscontrol.org/system/files/Gates-Chu%20to%20Foster-25Jun10.pdf) to John Foster and other former lab directors, Defense Secretary Robert Gates and Energy Secretary Steven Chu wrote that "The Laboratory Directors ... will be expected to provide findings associated with a full range of LEP approaches and to make a set of recommendations based solely on their best technical assessment of each LEP to meet stockpile management goals. [T]his is essential to exercising the full suite of skills needed to sustain the nuclear deterrent."

Testifying before the Senate Armed Services Committee July 15, Michael Anastasio, director of Los Alamos National Laboratory, concurred, stating that "we have both the authority and the responsibility to explore, on a case-by-case basis, what's the best technical approach for each weapon system, to extend its life well into the future."

If at some point in the future it becomes evident that the replacement of certain nuclear components is the most cost-effective way to improve warhead reliability, safety, or surety, that option remains available, but to pursue it, it must be authorized by the President and by Congress.

**Conclusion**

Lingering concerns that the United States does not have a plan and the budgetary resources to maintain and modernize its nuclear forces are based on myth, not reality. And, contrary to outdated thinking, there is no technical or military reason to resume U.S. nuclear testing or to pursue new-design nuclear warheads to maintain and enhance the safety, security, and reliability of the U.S. nuclear arsenal.

The Obama administration has put forward a plan and a budget for maintaining the U.S. nuclear arsenal that is more than adequate. The fiscal year 2011 budget request of $7 billion for NNSA weapons activities has been adopted by the House and Senate appropriations subcommittees. The long-range plan calls for annual increases, totaling $80 billion over ten years. If over the course of the next several years there are additional program costs, future Presidents and Congresses can make appropriate changes--up or down--to the budget.

It would be tragic if Senators allowed concerns over these and other issues to prevent them from supporting New START and the Comprehensive Test Ban Treaty, which would reduce the very real nuclear weapons threats posed by other nations. - DARYL G. KIMBALL

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