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The U.S. Needs to Modernize Its Nuclear Arsenal Regardless of Arms Control

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When the Obama Administration submitted the New Strategic Arms Reduction Treaty (New START) for the Senate’s lame-duck session approval, the accompanying resolution of ratification stated that the Senate “is committed to proceeding with a robust stockpile stewardship program, and to maintaining and modernizing the nuclear weapons production capabilities and capacities.” Despite rhetoric calling for a world without nuclear weapons in his April 5, 2009, Prague speech, President Obama also acknowledged that the U.S. must “maintain a safe, secure and effective arsenal to deter any adversary, and guarantee that defense to our allies.”¹ To that end, the Obama Administration submitted a plan to invest over \$80 billion in the nuclear arsenal between fiscal years (FY) 2010 and 2020.²

In light of Russia’s potential violation of New START in 2018, questions will arise on whether the U.S. should remain a party to the treaty, and, subsequently, on U.S. commitment to nuclear modernization. Regardless of the fate of New START, Congress must continue to support investments in the U.S. nuclear enterprise—particularly since the national security situation has deteriorated since New START entered into force.

U.S. and Russian Nuclear Weapons Under New START

New START has put the U.S. at a disadvantage to Russia because the Treaty has required the U.S. to make a disproportionate reduction in the number of strategic nuclear systems. When New START entered into force, the U.S. had 1,800 accountable nuclear warheads, while Russia had 1,537.³ Six years later, the U.S. deploys 1,411 warheads to Russia’s 1,765.⁴

Russia’s warhead count is above New START’s limits, which caps the number of accountable warheads at 1,550. But, since New START’s implementation period does not complete until 2018, Russia is not technically in violation of the Treaty. However, they are certainly in violation of the spirit of the agreement. Russia has maintained roughly a consistent number of launchers since New START entered into force. This means that Russia is changing its force posture by deploying more nuclear warheads on each of its delivery vehicles, a manner deemed highly destabilizing since it puts a premium on offense.

Russia is also modernizing its nuclear forces, including building new nuclear warheads that likely employ new knowledge obtained through nuclear weapons testing. Meanwhile, Russia is also violating a range of its arms control commitments, including the Conventional Forces in Europe Treaty and the Intermediate-Range Nuclear Forces Treaty.

The U.S. Must Consider New Nuclear Warheads

The U.S. nuclear arsenal was designed with a primary focus on a single adversary: the Soviet Union under conditions of Mutually Assured Destruction (MAD), which required a sufficiently large arsenal

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to be able to inflict a devastating attack after the other country launched a first strike. While the U.S. plans on modernizing its delivery platforms (bombers, intercontinental-range ballistic missiles, and strategic submarines), it manages its nuclear warhead stockpile without conducting yield-producing experiments or building new nuclear warheads. The challenge inherent in the process is the management of uncertainty (knowing whether the U.S. nuclear warheads will perform up to their military specifications) as well as the maintenance of the technical skills critical to building new nuclear warheads, should the need arise.

The national security environment is more complex than what it was during the Cold War. North Korea's nuclear weapons arsenal adds challenges to U.S. nuclear weapons policy. Pyongyang is hostile to the U.S. and its South Korean and Japanese allies. North Korea periodically tests its nuclear weapons and maintains a very active ballistic missile program. Its ballistic missiles are now reportedly capable of reaching the U.S. homeland.⁵ Iran engaged in nuclear weaponization activities in the past and remains hostile to the United States and its allies in the Middle East.

In a May 9, 2014, memorandum to directors of the national security laboratories, President Obama's Secretary of Energy Ernest Moniz argued, "If nuclear military capabilities are to provide deterrence for the nation, they need to be relevant to the emerging global strategic environment."

He observed further,

[A] more complex, chaotic, and dynamic security environment is emerging.... [W]e must ensure our nuclear capabilities meet the challenges of

known and potential geopolitical and technological trends. Therefore we must look ahead using the expertise of our laboratories, to the capabilities that may be employed by other nations [that] could impact deterrence over the next several decades.

The Secretary concluded by stating that "we must challenge our thinking about our programs of record in order to permit foresighted actions that may reduce, in the coming decades, the chances for surprise and that buttress deterrence."⁶

These efforts outlined by then-Secretary Moniz are critical to keeping the U.S. nuclear deterrent relevant as future challenges emerge. Congress and the Trump Administration ought to encourage them in its ongoing Nuclear Posture Review (NPR).

Next Steps

In order to ensure U.S. security in the context of advancing unknown threats in the future, Congress should:

Continue to Support the Nuclear Weapons Modernization Program. U.S. nuclear weapons must be modernized regardless of whether New START remains in force. Additionally, the bulk of the modernization funding will be invested after New START expires. Congress must support nuclear weapons modernization on its own metric because of the enduring value that the U.S. nuclear deterrent brings to the U.S. and its allies. The U.S. must have a flexible, credible, and reliable deterrence posture in the decades ahead.

Support Efforts to Modernize U.S. Nuclear Warheads. The U.S. must revitalize its nuclear warhead modernization program. Its needs to ensure it

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1. President Barack Obama, "Remarks in Prague as Delivered," given in Prague, Czech Republic, April 5, 2009, <https://obamawhitehouse.archives.gov/the-press-office/remarks-president-barack-obama-prague-delivered> (accessed July 27, 2017).
 2. The White House, "Fact Sheet: An Enduring Commitment to the U.S. Nuclear Deterrent," November 17, 2010, <https://obamawhitehouse.archives.gov/the-press-office/2010/11/17/fact-sheet-enduring-commitment-us-nuclear-deterrent> (accessed July 27, 2017).
 3. U.S. Department of State, "New START Treaty Aggregate Numbers of Strategic Offensive Arms," June 1, 2011, <https://2009-2017.state.gov/t/avc/rls/164722.htm> (accessed July 27, 2017).
 4. Ibid.
 5. Jeff Daniels, "North Korea's ICBM Test Raises Stakes on US Homeland Defense amid 'Gap in Capabilities,'" CNBC, July 6, 2017, <http://www.cnbc.com/2017/07/06/north-koreas-icbm-test-raises-stakes-on-us-homeland-defense-amid-gap-in-capabilities.html> (accessed July 27, 2017).
 6. Ernest Moniz, "Memorandum for Charles McMillan, Director, Los Alamos National Laboratory; William Goldstein, Director, Livermore National Laboratory; and Paul Hommert, Director, Sandia National Laboratories," U.S. Department of Energy, May 9, 2014.
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has a relevant deterrent in the context of modern technologies.

Require the Trump Administration to Consider Negative National Security Developments Since the 2010 NPR. The possession and communication of credible capabilities to destroy what an adversary values is at the heart of deterrence. Other nations' modernization programs must inform U.S. targeting and operational plans. The U.S. would be ignoring them at its own peril.

Improve Nuclear Test Readiness in the National Security Laboratories. Congress should do away with policy that bans yield-producing experiments. Moreover, it should fund improvements in test readiness to ensure that the U.S. retains skills critical to conducting and instrumenting these experiments with the ultimate goal of finding the best possible way to maintain the U.S. nuclear warhead stockpile for the foreseeable future.

Fund Nuclear Warhead and Design Development Efforts to Increase U.S. Understanding of Other Nations' Nuclear Weapon Programs. The U.S. needs to understand the technological options available to other countries who have no self-imposed restraints regarding the development of new nuclear weapons.

Conclusion

The U.S. is overdue for revisiting its nuclear capabilities. As other countries continue to modernize their arsenals in new and potentially innovative ways, the U.S. must ensure it maintains the intellectual talent and capabilities necessary to react to unforeseen circumstances in a timely manner. Congress has an indispensable role to play in this process.

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