

Reducing U.S. and Russian Non-Strategic and Forward-Deployed Nuclear Weapons

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Both the United States and Russia have in their arsenals nuclear warheads intended for use on non-strategic delivery systems. The United States reportedly has approximately 100 non-strategic nuclear weapons (NSNW) stored at NATO bases in Europe and approximately 130 stored in the continental United States,¹ while Russia reportedly maintains nearly 2,000 NSNW for use on various delivery platforms throughout its territory.² These U.S. and Russian weapons are currently not covered by any nuclear arms control treaties or constraints; hence their numbers, storage and deployment locations, alert status, and security are shrouded in uncertainty, which fuels mutual suspicion and could generate concerns in a crisis. The shorter range and vulnerability of their delivery systems raises the specter of early use in a regional crisis and the potential for escalation to large-scale nuclear exchange.

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Deployment and Programmatic Status

Nuclear weapons have played a key role in the collective defense policy of NATO since 1954 and are seen as the alliance's ultimate deterrent to aggression. The arsenal committed to NATO includes forward-deployed U.S. NSNW stored in Europe, U.S. strategic nuclear forces that compose the nuclear triad (i.e., land-, sea-, and air-based), and U.K. strategic nuclear weapons deployed at sea. As with most assets committed to NATO, the U.S. and U.K. nuclear forces are nationally owned and are under national command and control. In addition, France's independent strategic nuclear forces "have a deterrent role of their own" and "contribute to the overall deterrence and security of the Allies."³

According to published sources, today there are approximately 100 U.S. non-strategic gravity B61 warheads stored at six U.S. nuclear weapon facilities in five NATO countries: Belgium (10–20), Germany (10–20), Italy (40), Netherlands (10–20), and Turkey (20).⁴ These weapons are for use on U.S. and allied dual-capable aircraft (DCA); the weapons are under U.S. control and may only be used following presidential authorization.⁵ DCA currently deployed by the United States and NATO host countries include the F-15E Strike Eagle, F-16 Fighting Falcon, and Panavia PA-200 Tornado.

These capabilities and the accompanying supportive force structures, infrastructure, and exercises come under a long-established NATO nuclear consultation, planning, and decision-making framework. Although

the United States has a leading role, allied participation and burden-sharing remain central to the concept of NATO collective defense and nuclear deterrence.

Modernization

As part of a comprehensive plan to upgrade its nuclear forces, the United States has begun the process of modifying the existing B61 nuclear gravity bomb by consolidating all five current variants into a single weapon, the B61-12. Today, some current B61 variants can be delivered only by tactical DCA, whereas others can be delivered only by long-range strategic bombers. The new B61-12 (consisting of two components, the bomb assembly and the guided tail kit assembly that enables the bomb to be employed with greater accuracy than current gravity bombs) will be deliverable by both, increasing the weapon's flexibility and interoperability but potentially blurring the distinction between tactical and strategic missions. The first production unit of the new B61-12 will occur in fiscal year 2022 and will be completed in 2025.⁶

Concurrently, the inventories of DCA owned by NATO countries hosting the U.S. B61 are reaching the end of their original service lives. These countries therefore are making (or already have made) decisions regarding replacement aircraft and the investments necessary to retain the DCA mission. The Netherlands, Italy, and Belgium are planning to buy nuclear-capable F35-A Joint Strike Fighters from the United States, which will begin replacing existing NATO aircraft in 2024 (in 2019, the Trump administration halted delivery of F-35As to Turkey because of its plans to acquire the Russian S-400 air defense system). Germany is expected to extend the service life of its nuclear-capable PA-200 Tornado through the 2020s and purchase F-18 fighter jets to be used in part for the nuclear mission in later years.

Overall, the U.S. Congressional Budget Office estimates that over the 30-year period from 2017 to 2046, tactical nuclear forces will cost the United States \$25 billion, or an average of nearly \$1 billion per year.⁷

Nuclear Weapons in Russia

Today, Russia's nuclear arsenal of approximately 4,300 warheads is estimated to include approximately 1,870 so-called non-strategic or tactical nuclear weapons.⁸ These weapons, as well as ongoing improvements in Russia's conventional capabilities, often are cited as a core justification for retaining NATO's current nuclear posture.

Russia is currently modernizing all aspects of its nuclear arsenal. As in its strategic weapons modernization program, Russia appears to be phasing out older Soviet-era weapons in favor of a smaller force of new systems. According to one comprehensive assessment of Russian nuclear forces, in the longer term, "the emergence of more advanced conventional weapons could potentially result in reduction or retirement of some existing nonstrategic nuclear weapons."⁹

The Russian Navy is fielding a new class of nuclear attack submarines, and a new dual-capable cruise missile has been demonstrated in ship- and submarine-launched strikes in Syria. The Russian Air Force also is fielding a new air-launched nuclear cruise missile. Another new system, the ground-launched 9M729 cruise missile, is the subject of U.S. accusations that Russia violated the Intermediate-Range Nuclear Forces Treaty by flight-testing and deploying a new ground-launched cruise missile in excess of the range limits on such capabilities.¹⁰ The missile was reportedly deployed in early 2017.¹¹

China

China has an estimated 320 nuclear warheads and, according to the head of the U.S. Strategic Command (Adm. Charles Richard), is undergoing an “unprecedented expansion” of its nuclear and strategic capabilities, driving to be a strategic peer by the end of the decade. This drive includes an increasing capability to produce plutonium for weapons with the intent of doubling China’s stockpile, and changes in its nuclear posture to ensure a credible nuclear triad. According to Richard, “China is capable of executing any plausible nuclear employment strategy regionally now and will soon be able to do so at intercontinental ranges”—a factor in both U.S. and Russian nuclear planning and decision making (though both the United States and Russia still possess vastly larger arsenals, at around 4,000 warheads each, deployed and stockpiled).¹²

Concerns Over Security

Although the United States and NATO have undertaken considerable efforts to improve the physical security of nuclear weapons stored in Europe, it should be assumed that those weapons remain potential targets for terrorist attacks. Storing nuclear weapons at locations throughout Europe to reassure some allies or to use as leverage in a future arms control deal with Russia, therefore, comes with the increasing risk of vulnerability to an evolving and deadlier terrorist threat. (In contrast, nuclear weapons in the continental United States are secured in central storage facilities that are easier to protect than dispersed underground vaults inside aircraft shelters across multiple bases in Europe.) Russia’s nuclear weapons may be similarly vulnerable, with an estimated 1,850 non-strategic nuclear weapons reportedly kept in storage facilities throughout the country, some located near operational bases.

Political and Security Context

The political and security context for any initiative to change NATO’s nuclear posture in 2021—including consolidating forward-deployed nuclear weapons from NATO/Europe to the United States—will remain challenging.

Public opposition to nuclear weapons in most NATO countries has produced a preference by most governments to avoid public discussion of nuclear weapons policy. The preference for a low profile has been reinforced by the tendency of alliance members to rely on U.S. leadership. The consequence is a reluctance to consider alternative approaches or to fundamentally reassess whether the current nuclear posture still meets contemporary deterrence and defense requirements, as well as the risks and costs associated with sustaining the current posture.

In the absence of substantial progress on Ukraine and other political and security issues relating to Russia, the case that forward-deployed nuclear weapons are more of a security risk than an asset likely will encounter substantial resistance from some NATO member states, in particular those nearer to Russia. In addition, allied unease has been compounded by the decades-long decline in U.S. military personnel and infrastructure in Europe, including most recently the Trump administration’s reductions in funding for the European Defense Initiative and proposed reductions in U.S. troops stationed in Germany. Despite the Biden administration’s recent announcement that it will increase the U.S. military presence in Germany, the uncertainties generated by these actions make “reassurance”—an essential prerequisite for a change

in NATO's nuclear posture—even more difficult. The demise of the INF and Open Skies treaties has accentuated both unease and nuclear uncertainty in the Euro-Atlantic region.

However, recent instability along NATO's borders—and even within individual NATO countries—also highlights the continued and perhaps growing risks associated with the current posture. The COVID-19 pandemic will continue to inflict severe economic costs on the United States and NATO member states, perhaps for years to come. It is hard to see how U.S. and NATO defense budgets escape this pandemic without significant adjustments. The potential for widespread and perhaps long-standing cuts in U.S. and NATO defense spending will contribute to unease among NATO member states; however, it may also provide an incentive for a review of defense capabilities, including nuclear capabilities, in light of post-pandemic security and economic priorities. Resistance in NATO (and within the U.S. government) to changing NATO's nuclear status quo could also be reduced if accompanied by an arms control proposal to address Russia's forward-deployed nuclear weapons. Moreover, there is also the possibility of a change in government in at least one key NATO member state, Germany, where the Green Party (which has enshrined the goal of a nuclear-free Europe into their party platform and calls for a Germany without U.S. nuclear weapons) could emerge as a political power in Germany's post-September 2021 election government.

Finally, even in the absence of a COVID-19-inspired review, a new U.S. administration will almost certainly conduct a defense policy review that would include nuclear policy and posture, and NATO. Indeed, a new Strategic Concept and/or Deterrence and Defense Policy Review might be a logical follow-on to the NATO secretary general's "forward-looking reflection process," which was charged with offering recommendations to reinforce alliance unity, increase political consultation and coordination between allies, and strengthen NATO's political role. The analysis and recommendations of the Reflection Group were made public in November 2020.¹³

The rationale for maintaining U.S. and Russian forward-deployed nuclear weapons in Europe indefinitely is dangerously out of date, for both countries and for Europe.

Five Commitments

Allied perceptions regarding threats and responses will never completely overlap in an alliance with 30 member states; however, differences must not lead to alliance stagnation when it comes to reducing the risk of nuclear use.

The rationale for maintaining U.S. and Russian forward-deployed nuclear weapons in Europe indefinitely is dangerously out of date, for both countries and for Europe. Engaging political leaders on both sides of the Atlantic—and substantial dialogue with Russia—will be required to change the status quo to better match today's realities.

Any near-term initiative to eliminate forward-deployed nuclear weapons must proceed and succeed within the frame of the persistent negative political dynamic between NATO and Russia. Addressing issues related to reducing the risk of nuclear use, sharing nuclear risks and responsibilities, assuring allies, and defining a strategy for engaging Russia are and will remain central. In this context, any reduction in costs associated

with the nuclear mission could free up resources for NATO member countries to focus on other urgent tasks, including post-pandemic economic recovery, conventional reassurance, and cyber defense.

As part of a new nuclear and defense policy review in 2021, the United States and NATO should develop a set of commitments to provide a foundation for changing the nuclear status quo. An early focus should be to remove weapons from areas where there is a heightened risk of terrorism or political instability (recognizing how recent events underscore how quickly assumptions about the safety and security of U.S. nuclear weapons stored abroad can change).

Commitments

1. Reaffirm the principle of collective defense as enshrined in Article 5 of the Washington Treaty.

This step underscores NATO unity and cohesion—and the U.S. commitment to the defense of NATO. U.S. leadership is the essential prerequisite to a reexamination of NATO nuclear policy, beginning with a compelling reaffirmation by the president of the principle of collective defense enshrined in Article 5 of the Washington Treaty. President Trump’s questioning of America’s commitment to defend all allies, in particular those who did not pay their “fair share” of defense, set a historic low bar. Less than one month into his term, President Biden did not hesitate to reaffirm America’s commitment: “We’ll keep faith with Article 5. It’s a guarantee. An attack on one is an attack on all. That is our unshakable vow.”¹⁴

2. Strengthen extended deterrence. NATO will seek to sustain nuclear burden-sharing and consultations within NATO so that NATO will have a safer, more secure, and more credible extended nuclear deterrent—with or without nuclear weapons stationed in Europe—and remain a nuclear alliance for as long as nuclear weapons exist. Such steps will not preclude the B61-12 life extension program (which also has a role in U.S.-based strategic forces) or plans by some NATO allies to purchase F-35 and F-18 aircraft. NATO should affirm that it will not base or provide the infrastructure to base nuclear weapons at locations where they are not currently present. The supreme guarantee of the security of the allies is provided by the strategic forces of the alliance.

3. Bolster reassurance measures. NATO will seek to adopt a diverse and robust set of reassurance measures—beyond those relating to adapting existing arrangements for nuclear sharing—that will tangibly enhance confidence in NATO’s capabilities to defend against existing and emerging threats both conventional and nuclear, and institute a process for periodic review and adoption of new measures.

4. Prioritize steps to reduce the risk of nuclear use. Reducing the risk of nuclear use should be and must remain one of NATO’s highest priorities and a guiding principle for further changes to NATO’s nuclear posture. In this context, NATO is prepared to proceed with further reductions of U.S. forward-deployed nuclear weapons in Europe, with the goal of completing the consolidation of U.S. forward-deployed nuclear weapons to the United States, with the timing and pace to be determined by broad political and security developments between NATO and Russia.

5. Pursue dialogue, confidence building, and arms control measures with Russia to address both sides’ forward-deployed nuclear weapons. As part of this dialogue, NATO and Russian political leaders should jointly recognize their mutual interest in the physical safety and security of forward-

deployed nuclear weapons in and near Europe, and in avoidance of their use. Steps to improve the security of forward-deployed nuclear weapons now should be a priority. Possible measures include the following:

- **Site visits to nuclear storage sites**—The U.S./NATO and Russia could conduct site visits to a NATO and Russian nuclear warhead storage site to demonstrate best security practices and build confidence.
- **Transparency and data exchanges**—The U.S./NATO and Russia could declare the exact number of non-strategic nuclear weapons located at or near NATO and Russian bases west of the Urals.
- **Reciprocal consolidation**—The United States and Russia would agree to consolidate Russian and U.S. nuclear warheads, respectively, at central storage sites away from operational bases in and near Europe (west of the Urals), reducing the risk of nuclear use and the problem of short-warning attacks using nuclear-capable systems with short times of flight to their presumed targets. In this concept:
 - Russia could agree to remove nuclear warheads from storage sites associated with operational bases near Russia’s western border (including in Kaliningrad), and to consolidate those warheads at declared central storage sites in Russia’s interior.
 - In return, the United States, in consultation with NATO allies, would agree to remove its forward-based nuclear weapons from NATO bases in Europe and consolidate them at central storage sites in the United States, while the DCA could remain forward-based if desired.
 - A verification regime would be designed to confirm on an ongoing basis the absence of nuclear weapons from each operational base and warhead storage area from which they had been removed.

Endnotes

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- ² See Hans M. Kristensen and Matt Korda, “Russian Nuclear Forces, 2020,” *Bulletin of the Atomic Scientists* 76, no. 2 (2020), 102, <https://www.tandfonline.com/doi/pdf/10.1080/00963402.2020.1728985?needAccess=true>.
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- ⁹ Kristensen and Korda, “Russian Nuclear Forces, 2020,” 111.
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- ¹¹ Thomas Gibbons-Neff, “This Is the Ground-Launched Cruise Missile That Russia Has Reportedly Just Deployed,” *Washington Post*, February 15, 2017, <https://www.washingtonpost.com/news/checkpoint/wp/2017/02/15/this-is-the-ground-launched-cruise-missile-that-russia-has-reportedly-just-deployed/>.
- ¹² U.S. Strategic Command and U.S. Space Command, Senate Armed Services Committee testimony, April 21, 2021. Available at: <https://www.stratcom.mil/Media/Speeches/Article/2580698/us-strategic-command-and-us-space-command-sasc-testimony/>.
- ¹³ The report concluded that “Given the deterioration of the Cold War-era arms control framework, it is critical to sustain nuclear deterrence ... in the 21st century as the bedrock of NATO security” and that “NATO should adapt its defence and deterrence posture in the post-INF setting to take into account the threat posed by Russia’s existing and new military capabilities.” Available at: https://www.nato.int/nato_static_fl2014/assets/pdf/2020/12/pdf/201201-Reflection-Group-Final-Report-Uni.pdf.
- ¹⁴ “Remarks by President Biden at the 2021 Virtual Munich Security Conference,” February 19, 2021. Available at: <https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/02/19/remarks-by-president-biden-at-the-2021-virtual-munich-security-conference/>.