

ISSUE BRIEF

The Special Role of US Nuclear Weapons

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This issue brief is based on Dr. Matthew Kroenig's written testimony at a hearing on "Nuclear Deterrence Policy and Strategy" before the Strategic Forces Subcommittee of the Armed Services Committee of the United States Senate, conducted on June 16, 2021.

US nuclear weapons play a special role in underpinning international peace and security and the US-led, rules-based international system. The nuclear threat to the United States and its democratic allies is growing, as nuclear-armed, revisionist, autocratic powers (Russia, China, and North Korea) are relying more on nuclear weapons in their strategies and are modernizing and expanding their arsenals. This means that the United States needs to retain a robust, flexible, and modernized nuclear force to meet its national security objectives.¹

The Special Role of US Nuclear Weapons

US nuclear strategy is an important, but widely misunderstood, subject.² Many do not appreciate the special role US nuclear weapons play. US nuclear weapons are distinctive for three reasons.¹ First, unlike other countries, the United States uses its nuclear weapons not only to defend itself, but also to protect the entire free world. The United States extends nuclear deterrence to more than thirty formal treaty allies in Europe and the Indo-Pacific. These allies depend on US nuclear weapons for their security. This extended deterrence policy advances US interests by ensuring stability in the world's most important geopolitical regions—countries protected by US nuclear weapons include the world's best-governed democracies, and combine to make up almost 60 per-

1 Matthew Kroenig, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters* (New York: Oxford University Press, 2018).

2 Nukes with Numbers: Empirical Research on the Consequences of Nuclear Weapons for International Conflict," *Annual Review of Political Science* Vol. 19 (2016) 397–412.



A Royal Netherlands Air Force F-16 in a training exercise. US nuclear weapons are capable of being delivered from dual-capable aircraft like the F-16 operated by NATO allies like the Netherlands. US Air Force photo/Master Sgt. Jeffrey Allen. <https://bit.ly/3m4Vpyl>.

cent of global gross domestic product (GDP).³ By extending nuclear deterrence to its allies, the United States also prevents the spread of the world's most dangerous weapons by dissuading these countries from building independent nuclear arsenals. The Joseph R. Biden administration has rightly made strengthening alliances and the US-led, rules-based international system a policy priority.⁴ A strong US nuclear deterrent is a (perhaps the) central pillar of the US alliance network and the rules-based international system.

US nuclear weapons are special for a second reason: the United States practices counterforce nuclear targeting.

Other countries, such as China, are believed to practice countervalue targeting. In other words, in the event of a nuclear war, China would employ its nuclear weapons against US population centers, with the goal of slaughtering as many innocent civilians as possible. In contrast, the United States plans to use its nuclear weapons only against legitimate military targets, such as enemy nuclear forces and bases, command-and-control nodes, and leadership sites. The United States practices counterforce targeting for legal, ethical, and strategic reasons. As President Barack Obama made clear in his 2013 nuclear employment guidance to the Department of Defense, a counterforce targeting strat-

3 Ash Jain and Matthew Kroenig, *Present at the Re-Creation: A Global Strategy for Revitalizing, Adapting, and Defending a Rules-Based International System*, Atlantic Council, December 2019.

4 "Interim National Security Strategic Guidance," White House, March 2021.

egy helps the United States remain in compliance with the Law of Armed Conflict, which requires countries to distinguish between military and civilian targets.⁵ It also helps the United States to meet its goal of “achieving objectives if deterrence fails.”⁶ The primary purpose of US nuclear weapons is to deter nuclear attack—but, if deterrence were to fail, the United States would not simply accept “mutually assured destruction.” Counterforce targeting potentially allows the United States to destroy enemy nuclear weapons before they can be used against the United States or its allies, limiting damage and saving millions of lives.

A counterforce targeting policy has important implications for nuclear force sizing. If the United States pursued a countervalue policy designed to kill large numbers of innocent civilians in Beijing and Moscow, then a small nuclear arsenal might suffice. A counterforce policy, however, requires the United States to possess sufficient numbers of nuclear weapons to cover the nuclear-related targets (missile silos, naval bases, air bases, command-and-control nodes, leadership sites, etc.) in Russia, China, and North Korea. Moreover, military planners are cautious. When planning something as important as destroying an enemy nuclear system, one does not want to miss. Outside analysts, therefore, often assume that the United States should plan to allocate two offensive nuclear warheads against each enemy nuclear target.⁷ According to open sources, there are approximately one thousand nuclear-related targets in Russia, China, and North Korea. Those targets, therefore, call for slightly more than two thousand warheads, which is roughly the size of the US nuclear arsenal today.⁸

Third, US nuclear weapons are unique because the United States can afford them. Other countries, such as France and (in the past) China, settled for a smaller nuclear force because they could not hope to build a superpower nuclear arsenal.⁹ The United States, on the other hand, has possessed the world’s largest and most innovative economy since the beginning of the nuclear age. It has been able to

field a robust nuclear force at a reasonable cost. Indeed, current planned nuclear-weapons modernization efforts are expected to make up only around 5 percent of the US defense budget.

In sum, the United States demands more of its nuclear weapons than other countries and, therefore, requires a more robust force. As US President John F. Kennedy put it in 1961, the United States needs a nuclear arsenal “second to none.”¹⁰

The Deteriorating International Security Environment

The international security environment for the United States and its allies has deteriorated over the past decade as autocratic, great-power competitors Russia and China have pursued more aggressive, revisionist foreign policies.¹¹ The United States’ three nuclear-armed adversaries—Russia, China, and North Korea—are all modernizing and expanding their nuclear arsenals and are relying more on nuclear weapons in their defense strategies.

Russian revisionism, including its conventional aggression and nuclear buildup, poses a serious threat to the security of the United States and its NATO allies. In recent years, Russia has invaded its neighbors, projected military force into distant regions, threatened the United States and NATO, and meddled in Western elections. At the same time, Russia is expanding and modernizing its nuclear arsenal.¹² Even as it complies with the New Strategic Arms Reduction Treaty (New START), Moscow builds up categories of nuclear weapons not covered in the treaty, including battlefield and so-called “exotic” nuclear weapons.¹³ This unconstrained buildup arguably gives Russia a quantitative advantage, and some qualitative nuclear advantages, over the United States. Russia regularly employs its nuclear weapons as a backstop to coercion and aggression. It is likely that, in the event of a major conflict with the United States or NATO,

5 “Report on Nuclear Employment Strategy of the United States,” Office of the Secretary of Defense, 2013.

6 Ibid.; “Nuclear Posture Review,” Office of the Secretary of Defense, 2018.

7 Keir Lieber and Daryl Press, “The End of MAD: The Nuclear Dimension of US Primacy,” *International Security*, 30, 4, Spring 2006, 7–44.

8 Kroenig, *The Logic of American Nuclear Strategy*, 202.

9 Matthew Kroenig, “The History of Proliferation Optimism: Does it Have a Future?” *Journal of Strategic Studies*, 38, 1–2, 2015, 98–125.

10 “Remarks of Senator John F. Kennedy in the United States Senate, Monday, February 29, 1960,” JFK Library and Museum.

11 2017 NSS; Matthew Kroenig, *The Return of Great Power Rivalry: Democracy versus Autocracy from the Ancient World to the US and China* (New York: Oxford University Press, 2020).

12 Matthew Kroenig, *The Renewed Russian Nuclear Threat and NATO Nuclear Deterrence Posture*, *Atlantic Council*, February 2016.

13 Matthew Kroenig, Mark Massa, and Christian Trotti, *Russia’s Exotic Nuclear Weapons and Implications for the United States and NATO*, *Atlantic Council*, March 2020.



Russia's Kh-47M2 Kinzhal is a dual-capable hypersonic weapon shown here on a MiG-31 interceptor. It is featured here in the 2018 Moscow Victory Day Parade. Image courtesy Russian Presidential Press and Information Office. <http://www.kremlin.ru/events/president/news/57436>.

Russia would use, or threaten to use, nuclear weapons in a bid to terminate the conflict on terms favorable to Moscow.¹⁴

China's rise, and its assertive and revisionist foreign policy, poses the greatest threat to US national security and the US-led, rules-based international system.¹⁵ Beijing is also rapidly expanding its nuclear capabilities. The Defense Intelligence Agency has estimated that China's nuclear forces will at least double within the next decade, and Admiral Charles Richard, commander of US Strategic

Command, has predicted that the Chinese arsenal might triple or quadruple.¹⁶ China also maintains a large arsenal of nuclear-capable short-, medium-, and intermediate-range missiles, providing Beijing a theater nuclear advantage in the Indo-Pacific.¹⁷ China's nuclear buildup threatens the US goal, articulated in the 2018 US National Defense Strategy, of maintaining a favorable regional balance of power.¹⁸ It also undermines all of the major goals articulated in the 2018 Nuclear Posture Review, including: deterrence, assurance, achieving objectives if deterrence fails, and hedging

14 Matthew Kroenig, *A Strategy for Deterring Russian De-escalation Strikes*, Atlantic Council, April 2018.

15 Matthew Kroenig and Jeffrey Cimmino, *Global Strategy 2021: An Allied Strategy for China*, Atlantic Council, December 2020.

16 Robert P. Ashley, Jr., "Russian and Chinese Nuclear Modernization Trends," Remarks at the Hudson Institute, May 29, 2019; Charles A. Richard, "Forging 21st-Century Strategic Deterrence," *Proceedings*, February 2021.

17 "Military and Security Developments Involving the People's Republic of China: Annual Report to Congress," Office of the Secretary of Defense, 2020.

18 "Summary of the 2018 National Defense Strategy of the United States of America: Strengthening the American Military's Competitive Edge," Office of the Secretary of Defense, 2018.

against an uncertain future.¹⁹ Perhaps most significantly, China's nuclear buildup means that, for the first time, the United States will need to plan for two distinct adversaries (Russia and China) with significant nuclear capabilities. China maintains a formal "no first use" policy (NFU), but the Pentagon questions this stated policy, and China would likely brandish its nuclear weapons for deterrent and coercive purposes in the event of conflict.²⁰

North Korea has become the third US adversary with the ability to hold the US homeland at risk with the threat of nuclear war. It is estimated that Pyongyang possesses dozens of nuclear warheads and the ability to deliver them against US bases, forces, and allies in the Indo-Pacific.²¹ Moreover, North Korea's intercontinental ballistic missiles (ICBMs) can reach Hawaii, Alaska, and much of the continental United States.²² In the event of a conflict, North Korea would have an incentive to use nuclear weapons early in an attempt to halt a major war and preserve the regime of Kim Jong-Un.

Iran does not possess nuclear weapons, and US nonproliferation policy should be to prevent Tehran from obtaining them. Nevertheless, Iran possesses a latent nuclear-weapons capability and, if US policy fails, Tehran could become a nuclear-weapons power in short order. Moreover, like the above countries, Iran has the ability to conduct a variety of nonnuclear strategic attacks against the United States and US forces, bases, allies, and partners.

US Nuclear Posture and Capabilities

To address these threats, the United States needs to maintain a robust, flexible, and modernized nuclear deterrent. The United States should continue with the bipartisan nuclear-modernization plan started by President Obama and continued by President Donald Trump. This includes: the Ground Based Strategic Deterrent (GBSD); B-21 bombers; the long-range standoff weapon (LRSO); *Columbia*-class ballistic-missile submarines; nuclear command, control, and communications (NC3); and the underlying nuclear enterprise. In addition, the United States should continue with the "supplemental capabilities" called for in the 2018 US Nuclear Posture Review, including the W76-2 low-yield

submarine-launched ballistic missile (LYBM) and a modern nuclear sea-launched cruise missile (SLCM-N). These capabilities are important for deterring Russian nuclear "de-escalation" strikes, for redressing nonstrategic nuclear imbalances with China, and for assuring allies in both Europe and the Indo-Pacific.²³

In its Interim National Security Strategic Guidance, the Biden administration announced an intention to "reduce the role of nuclear weapons."²⁴ This statement provides cause for concern. Some have suggested this could be achieved by reducing the size of the US ICBM force, delaying the purchase of GBSD, or scrapping SLCM-N or LRSO. Shedding these needed US nuclear capabilities would not produce much in the way of meaningful benefits, but would weaken the US nuclear deterrent, be interpreted as a lack of resolve by US adversaries, and cause US allies to doubt whether Washington intends to live up to its alliance commitments. Instead, the Biden administration should meet its stated objective of reducing the role of nuclear weapons through other, more responsible, measures, such as strengthening US conventional capabilities and missile defenses.

Some have also recommended that the United States adopt an NFU, but the United States already has one for the vast majority of states. Current US policy provides assurances that "the United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the [Non-Proliferation Treaty] and in compliance with their nuclear non-proliferation obligations."²⁵ The US nuclear threat remains on the table, therefore, for only a handful of nuclear-capable adversaries, such as Russia, China, North Korea, and Iran. Adopting an NFU would, in practice, be a move to assure autocratic and revisionist adversaries that they can engage in nonnuclear aggression against the United States and its allies without fear of a US nuclear response. An NFU, therefore, would provide little practical benefit, but could encourage adversary aggression and undermine assurances to US allies.

Indeed, given the deteriorating security environment, the United States must consider whether additional steps are needed to strengthen the US nuclear deterrent. The cur-

19 "2018 Nuclear Posture Review."

20 "Military and Security Developments Involving the People's Republic of China," Office of the Secretary of Defense, 2020.

21 "North Korea's Nuclear Weapons and Missile Programs," Congressional Research Service, April 14, 2021.

22 Ibid.

23 Kroenig, *A Strategy for Deterring Russian Nuclear De-escalation Strikes*.

24 "Interim National Security Strategic Guidance," 13.

25 "Nuclear Posture Review," 21.



An unarmed Minuteman III intercontinental ballistic missile launches during an operational test September 5, 2016, at Vandenberg Air Force Base, CA. The Minuteman III is being upgraded through the Ground Based Strategic Deterrent (GBSD) program. US Air Force photo/Michael Peterson. <https://www.flickr.com/photos/usairforce/28941210274/in/photolist-itwqQi-cid6Z7-L6rgw3-2g8E4EW-iEuYgn-8DzH6e>.

rent and planned US nuclear force structure was decided in 2010, at a time when the security environment was benign and the risk of nuclear conflict was described as “remote.”²⁶ That is not the security environment today. It is hard to imagine that the strategic forces designed for 2010 are still suitable in 2021. As explained above, the US nuclear force should be sized to cover enemy strategic and nuclear targets. As Russian, Chinese, and North Korean nuclear capabilities have grown over the past decade, so have the number of targets that US nuclear forces must be able to hold at risk. Congress should require the Department of Defense to conduct an assessment as to whether it can still cover relevant enemy targets with 1,550 strategic deployed

nuclear warheads, or whether a quantitative increase might be necessary.

The Russian and Chinese nonstrategic nuclear advantages over the United States and its allies in Europe and the Indo-Pacific, respectively, provide another reason for concern. The United States does not need to match its adversaries warhead for warhead at the nonstrategic level, but it does need a flexible force that includes lower-yield capabilities that can be reliably delivered to targets in theater in order to deter Russian and Chinese limited nuclear strikes. The LRSO, LYBM, and SLCM-N provide capabilities in this space. Congress should require the Department of Defense

²⁶ “Nuclear Posture Review Report,” Office of the Secretary of Defense, 2010, 3.



President Barack Obama signs the instrument of ratification of the New START Treaty in the Oval Office, February 2, 2011. It is not clear that the warhead limits agreed to in 2010 are suitable for 2021 and beyond. Official White House Photo by Chuck Kennedy. <https://obamawhitehouse.archives.gov/blog/2011/02/02/new-start-treaty-signed>.

to study whether existing capabilities are sufficient to deter the most plausible limited nuclear-escalation scenarios with Russia and China, or whether additional capabilities are needed to redress the United States' nonstrategic nuclear disadvantages.

Arms Control and Nuclear Nonproliferation

The United States should also seek to address the threats posed by adversary nuclear programs through arms control and nonproliferation. A new arms-control agreement with Russia should incorporate all nuclear weapons, including those not covered in New START. If arms control is to be meaningful in the twenty-first century, then China must be brought into the fold.²⁷ It will be difficult to reach new, binding arms-control agreements with these countries in the near term, however, so the United States should begin with

smaller steps, such as strategic security dialogues. The United States should continue to pursue nonproliferation policies to denuclearize North Korea and prevent Iran from acquiring nuclear weapons.

Conclusion

As the above analysis makes clear, if the United States were willing to abandon its alliance commitments, ignore international law, and pursue a more isolationist foreign policy, then it could afford to make deep cuts to its nuclear arsenal and maintain only a minimum deterrent. However, so long as the United States wants to continue to play its traditional international leadership role, comply with the Law of Armed Conflict, and defend its allies and the rules-based international system, it will continue to require a robust nuclear deterrent.

27 Matthew Kroenig and Mark J. Massa, *Toward Trilateral Arms Control: Options for Bringing China into the Fold*, Atlantic Council, February 2021.

About the Author

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