The Trilateral Challenge: The Impact of Russian and Chinese Nuclear Threats on U.S. Strategy

Catherine Murphy

Follow this and additional works at: https://scholarship.claremont.edu/cmc_theses

Part of the Comparative Politics Commons, International Relations Commons, and the Political Theory Commons

Recommended Citation
Murphy, Catherine, "The Trilateral Challenge: The Impact of Russian and Chinese Nuclear Threats on U.S. Strategy" (2024). CMC Senior Theses. 3419.
https://scholarship.claremont.edu/cmc_theses/3419

This Open Access Senior Thesis is brought to you by Scholarship@Claremont. It has been accepted for inclusion in this collection by an authorized administrator. For more information, please contact scholarship@claremont.edu.
The Trilateral Challenge: The Impact of Russian and Chinese Nuclear Threats on U.S. Strategy

submitted to
Professor Lisa Langdon Koch

by
Catherine M. Murphy

for
Senior Thesis
Fall 2023
December 4, 2023
Abstract

The article explores the United States’ nuclear deterrence strategy in the context of rising nuclear threats from Russia and China. The U.S. arsenal has 1,770 deployed warheads across intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and bombers. A posture set by the presidential administration continues to reject a No First Use policy, focusing on modernization and renewed arms control with Russia and China. Russia, with 1,674 deployed warheads, suspended the New START Treaty following its invasion of Ukraine. China’s secretive nuclear program estimates 500 warheads, projecting growth and emphasizing its ICBM stockpile. The China-Russia partnership poses a significant risk to U.S. national security and international interests, necessitating reevaluating the United States’ deterrence strategies. Proposed solutions suggest increasing the U.S. nuclear stockpile, altering targeting policies, or pursuing arms control. Concerns about triggering an arms race and ethical implications arise. Restoring diplomatic efforts face challenges due to geopolitical complexities and adversaries’ reluctance. The article stresses the risks of inaction, highlighting that traditional policies are inadequate to address escalating threats. The article scrutinizes historical contexts, major powers’ current arsenals, geopolitical impacts, suggested remedies, and the urgent need for adaptive policy in navigating the dynamic nuclear landscape.
Table of Contents

Acknowledgements.............................................................................................................5  

Chapter 1: Introduction......................................................................................................6

Chapter 2: United States Nuclear Capabilities and Intentions...........................................17
  Evolution of United States’ Nuclear Arsenal.................................................................18
  Assessment of United States’ Current Nuclear Stockpile...............................................22
  United States’ Nuclear Strategy.......................................................................................26

Chapter 3: Russia and China Nuclear Capabilities and Intentions........................................32
  Russia Nuclear Capabilities and Intentions....................................................................33
  China Nuclear Capabilities and Intentions......................................................................40
  Russia and China’s Growing Relationship.......................................................................47
  Two Nuclear Peers: The United States’ Biggest Threat..................................................49

Chapter 4: United States’ Potential Solutions to the Two-Peer Threat..............................50
 Increasing in U.S. Nuclear Stockpile................................................................................52
  Altering Targeting Policy..............................................................................................57
  Pursuing Diplomatic Channels.......................................................................................60
  Impact of No United States Action................................................................................66

Chapter 5: Conclusion.......................................................................................................67

Bibliography.......................................................................................................................72
Acknowledgments

To Professor Koch, I am eternally grateful for your constant support and reassurance through this process. Your timeless wisdom and expertise have been an invaluable asset to my experience here at CMC. Your feedback and encouragement exceeded my expectations and made this project a true pleasure. Thank you for sharing your passion for nuclear policy and national security with me, as it is undoubtedly the reason I want to pursue these studies beyond my time here.

I am also indebted to other faculty members in the Government Department at Claremont McKenna College for their inspiration and guidance. Professors Sinclair, Miller, Pei, Branch, Uvin, and Pitney have all shown boundless dedication and excellence to their field, and their contributions have been instrumental in shaping my academic pursuits.

This thesis would not be where it is without my incredible parents. Thank you for taking hours out of your day to work out ideas with me over FaceTime, giving me extra support in difficult times, and reading my drafts cover to cover during Thanksgiving break. My reason to pursue politics and international relations is a direct result of my dad’s influence as a history teacher. Dad, thank you for lighting my path. Mom, thank you for keeping my feet on the ground and showing me what true strength, confidence, and kindness look like. I only hope to be half the woman you are.

A special note of appreciation goes to my sister, Celeste, whose unwavering support and understanding made this project an easier endeavor. You always believed in my capabilities even when I did not, which powered my motivation more than you can imagine. I try to be a good role model for you, but in this case, I found myself trying to embody your best characteristics: passion, steadfastness, humility, and creativity. Thank you for getting me through tough times and allowing me to be the best I can be.

To my best friends, this paper would not exist. The hours we spent in the living rooms bouncing ideas off each other and challenging each other have invaluably contributed to the outcome of this thesis. Life at CMC would not have been nearly as bright without you all, and I am forever grateful we found each other here. You all push me to be a better student, athlete, and friend. I genuinely look up to you all and love you deeply.
Chapter 1: Introduction

In the eerie silence of geopolitical uncertainty, the world stands on the precipice of a new era. Two formidable global powers, Russia and China, are looking to disrupt the global power hierarchy. We live in an environment where whispers of nuclear threats speak louder than ever before; with nine nuclear-capable states, all with different political strategies and global ambitions, the potential for a catastrophic nuclear event lurks in the background of everybody’s minds. The United States, a dominant player known to set the nuclear agenda, finds itself in a complex plight to navigate a perilous course of continuous Russian and Chinese nuclear threats. This resurgence of nuclear threat is an inflection point for the United States and the world; a delicate global order hangs in the balance, and the decisions the United States makes today will affect international relations for generations to come.

Since the birth of nuclear weapons at the end of World War II, the threat of nuclear proliferation has dominated our psyche. It has changed the way states shape their defense strategy and approach military conflicts. Whenever a nuclear-capable state has entered a conventional military conflict, a paralyzing question infiltrates everybody’s minds: “Will it use nuclear weapons?” A single use of a nuclear weapon opens unlimited possibilities for how other states might proceed, and they might end in cataclysmic destruction. Therefore, for nearly eight decades, the game has been about how to prevent this situation from happening. States grapple with how to possess a robust nuclear arsenal and still convince their citizens and allies that they are safe from a most terrifying fate: nuclear annihilation. Bilateral talks, arms control agreements, and crisis communication channels have all kept the world safe thus far. However, when irrational actors like Russia and China weaken those tools, nuclear-capable states like the United States are forced to rethink their assumptions and long-held policies surrounding nuclear
proliferation and escalation. An examination of how and why Russian and Chinese nuclear capabilities erode prevailing nuclear beliefs is essential to understanding how the United States can find a path to enduring deterrence and lasting peace.

Background

Deterrence theory has been around longer than nuclear weapons; the study of deterrence focuses on threatening an adversary with serious harm to prevent being attacked by said adversary.¹ After the United States dropped two nuclear bombs on Japan at the end of World War II, the world saw how destructive nuclear weapons were, thus sparking nuclear deterrence where states wanted to do what was necessary to avoid the “unacceptable damage” of nuclear proliferation.² Therefore, the core principle to nuclear deterrence theory is that for an adversary to cross a boundary, it must come at a tremendous cost. Thus, it dissuades the adversary from crossing the boundary in the first place. Deterrence is fundamentally a psychological game, and it relies on one of the most primal human emotions: fear.³ For a state to have plausible and respected deterrence, it must have credible capabilities (meaning the ability to inflict the harm it threatens to inflict) and a believable will to use its capabilities.⁴

Effective nuclear deterrence must also strike the right balance of clarity and ambiguity. According to Thomas Schelling, a state must say that it will act if a boundary is crossed, not that it may act.⁵ Then, the power of the decision lies with one being threatened, which creates an element of uncertainty about whether the opponent will try to cross that boundary or not;

---

⁴ Tertrais, "Principles of Nuclear Deterrence," 5.
⁵ Thomas C. Schelling, The Strategy of Conflict (Harvard University Press, 1980), https://books.google.com/books?hl=en&lr=&id=7RkL4Z8Yg5AC&oi=fnd&pg=PA3&dq=strategy+of+conflict+schelling&ots=44oQZa0Vji&sig=uoqgyC2P7p4rwR5cqPBi4sSS19M.
Schelling labels this a “threat that leaves something to chance.” In deterrence theory, one can never be sure what its opponent will do, and there are other factors of accidents, outside influence, and imperfect decision-making that alter the outcome of one’s original threat. These uncontrollable factors pose a great risk to nuclear proliferation, as one imperfect judgment or false alarm due to faulty technology puts potentially millions of lives at stake. Therefore, a state never wants to admit that these external mistakes might happen and cause an inadvertent war; all states know this to be a possible outcome, but nobody wants to take responsibility for any miscalculations.

Many scholars and policymakers debate whether nuclear deterrence works. Some argue that deterrence is the reason there have been no major boots-on-the-ground military conflicts between two nuclear-capable or nuclear-protected states. Others point to testimonies from leaders like Nikita Khrushchev and Ronald Reagan that states become more cautious when a nuclear threat is present. Opponents of deterrence theory’s efficacy calls into question how much credit we should give deterrence for preventing nuclear proliferation since WWII. One cannot prove that a state had an intention to attack another but did not solely because of its adversary’s threat, as leaders rarely want to disclose that they were intimidated by their adversary’s commands. In essence, there is no proof of deterrence being directly responsible for the absence of nuclear proliferation. Therefore, some argue that states should not use deterrence as the “fix-all” for non-proliferation. Some scholars even compare nuclear

---

6 Schelling, *Strategy of Conflict*, 188.
7 Schelling, *Strategy of Conflict*, 188.
9 Tertrais, “Principles of Nuclear Deterrence,” 34.
10 Tertrais, "Principles of Nuclear Deterrence," 34.
deterrence theory to terrorism.\textsuperscript{13} Terrorists threaten to kill civilians (and actually do) to terrify the public and get governments to comply with their demands; nuclear deterrence operates similarly.\textsuperscript{14} Even if nuclear warheads target military infrastructure, it would still probably kill civilians because nuclear weapons are not that precise.\textsuperscript{15} While the scale of the threats between terrorism and nuclear deterrence varies widely, the parallels reveal a disturbing element to deterrence theory’s framework.

The theory of nuclear deterrence is an essential foundation for understanding why the United States makes certain decisions regarding Russian and Chinese nuclear threats. The United States must have the \textit{capabilities} and the \textit{will} to make credible threats of unacceptable damage to Russia and China. For most of nuclear history, the United States has had to deter only one adversary that has nuclear parity (Russia). It must also credibly deter nuclear-capable adversaries that pose a threat to U.S. homeland but do not have an equal arsenal, such as North Korea. The United States must also maintain global stability with nuclear India and Pakistan threatening each other. Now, China’s rapid nuclear expansion and intentions to delegitimize the West’s global influence pose a greater threat to the United States’ stability and interests. China is not a nuclear peer with the United States when it comes to the size of its arsenals. However, its ability to inflict massive harm to U.S. infrastructure and potentially U.S. citizens with the arsenal it currently has and its improved nuclear survivability may make the United States assess its deterrence strategy at nearly the same level as it would for Russia. Now, there are three actors (the United States, Russia, and China) in a complex overlay of competing ambitions and strategies. Many label this situation a “three-body problem,” in which deterrence and efficient

\textsuperscript{13} Wilson, “The Myth of Deterrence,” 430.
\textsuperscript{14} Wilson, “The Myth of Deterrence,” 430.
\textsuperscript{15} Wilson, “The Myth of Deterrence,” 430.
communication between three states is exponentially more difficult than the same issue with two actors. This unprecedented challenge is not easy to approach, as it requires a paradigm shift of existing beliefs and long-held notions of deterrence strategy and policy. Therefore, it is worth analyzing where the United States, Russia, and China stand with their nuclear capabilities and intentions to examine how much the United States’ national security is threatened and what it can do to reinvigorate deterrence that provides enduring peace.

Summary of Argument

Since World War II, the United States has developed a sophisticated nuclear deterrence strategy to protect its interests and maintain international stability. With the nuclear triad system which divides various warhead types among several military branches, the number of nuclear weapons the United States possesses has changed dramatically over time. After the initial nuclear weapons use in Japan, the United States began a massive expansion of nuclear warheads as Cold War tensions rose; at its peak, the United States had 31,255 nuclear warheads in 1967. Then, bilateral talks and arms control agreements such as SORT, SALT I, START I, and New START treaties with the Soviet Union came in the following years when the United States committed to decreasing its arsenal to its current levels.

The Nuclear Notebook (a database exhibiting the nuclear arsenals of all nine nuclear-capable states) details the United States’ nuclear triad. The United States has three main delivery systems for a nuclear warhead, hence the name of nuclear triad. Intercontinental Ballistic Missiles (ICBMs) are launched from the ground, Submarine-Launched Ballistic Missiles (SLBMs) are launched from the sea, and bombers drop warheads from the air. The United States has 5,244 total nuclear warheads, 1,770 of which are deployed, meaning a warhead is attached to a delivery system and ready for immediate combat use. The warheads not deployed are in U.S.
reserve and hedge stockpiles on U.S. soil, and the remaining retired warheads are waiting for dismantlement by the Department of Energy. Of the deployed warheads, 1,370 are attached to ballistic missiles, 300 are in strategic bombers domestically, and 100 are in bombers in Europe.

Every presidential administration is expected to release a Nuclear Posture Review (NPR) outlining the government’s policies and strategies for handling the U.S. nuclear arsenal. The 2022 NPR affirms that the United States continues to not adhere to a No First Use policy, meaning it is not required to wait for an initial attack on U.S. soil to launch a nuclear attack on an adversary. The NPR then outlines programs it is pursuing in a decades-long nuclear modernization project to upgrade technologies from the Cold War era. It then emphasizes the United States will focus on renewed arms control with nuclear adversaries like Russia and China, and it will continue to adhere to the guidelines of the NPT and CTBT. Finally, the 2022 NPR outlines specific policy changes to address Russian and Chinese nuclear threats separately.

Similarly, Russia has a nuclear triad system, and up until the COVID-19 pandemic, the United States was allowed to inspect Russian nuclear facilities and was generally transparent about its stockpile numbers. The Nuclear Notebook estimates Russia has 4,489 nuclear warheads, 1,674 of which are deployed. 834 are on ballistic missiles, 640 are on SLBMs, and 200 are on bombers. The rest of the arsenal is in reserve, in nonstrategic positions, or retired. The Russian Federation published a nuclear policy report in 2020 that states Russia, similar to the United States, does not follow a No First Use policy. Russia’s invasion of Ukraine in 2022 saw a sharp increase in nuclear signaling from its leaders and there is a concern the invasion sets a dangerous precedent that a nuclear state can invade a non-nuclear state without repercussions. Last, Russia suspended its participation in the New START Treaty, meaning there are currently no arms control agreements between Russia and the United States.
Information about the size and composition of China’s nuclear stockpile is less known, as it keeps all nuclear activity classified. However, the Nuclear Notebook estimates China possesses 500 nuclear warheads, and the Department of Defense estimates China will have 1,000 warheads by 2030 and 1,500 by 2035. The most expansive arm of its nuclear forces is its ICBMs; the Pentagon thinks China could possess 400 ICBMs in the next few years, surpassing U.S. capabilities. Its Ministry of National Defense has a policy posted on its website that asserts China will keep a minimum level of nuclear weapons necessary for national security, but it does not explain what a minimum level consists of. Beyond the small amount that China publicly announces about its nuclear forces, one can make inferences about China’s nuclear intentions. China’s nuclear expansion could be for defensive purposes, as it might be nervous about an impending preemptive attack from an adversary like the United States. The severe lack of communication between China and the United States is also very concerning, as it allows opportunities for information to be misinterpreted, and unintentional conflicts could arise from these miscalculations. China’s expansion could also be in preparation for an upcoming conventional military operation, such as invading Taiwán.

There is also a growing relationship between Russia and China, as their leaders characterized their partnership as a “friendship without limits.” The union is most noticeable in China’s assistance in Russia’s invasion of Ukraine. In addition, they both have a shared goal of delegitimizing the West as a dominant force and often side with each other in intergovernmental organizations such as the UN Security Council, BRICS, and G20. This tightening relationship poses a great risk to U.S. national security, and it forces the United States to drastically rethink its nuclear forces and deterrence strategy.
With all these rising threats and an unprecedented three-body problem, U.S. policymakers and defense experts have started to propose potential solutions to help navigate the United States out of this crisis. First, a growing coalition has formed calling for an immediate increase in the U.S. nuclear stockpile. Advocates like the Center for Global Security Research at the Lawrence Livermore National Laboratory and the congressionally mandated Strategic Posture Commission believe the current stockpile numbers are no longer sufficient to deter Russia and China. They advocate for expansions beyond the current modernization program, including increasing the number of new-generation ICBMs and dual-capable bombers. They both endorse moving certain nuclear forces from its reserves to the active stockpile once the New START Treaty expires in 2026 or if the United States also decides not to participate. Many are concerned with this idea because it could trigger a trilateral nuclear arms race and could incur massive economic and political costs for the United States.

Others have argued that increasing the nuclear stockpile is unnecessary and the solution to deter Russia and China is to shift U.S. targeting policy. The United States has primarily used a counterforce policy, meaning it targets its deployed nuclear warheads at its adversary’s military infrastructure; the opposite policy would be a countervalue doctrine, where a state targets an adversary’s cities and civilian infrastructure. Scholars writing for *Foreign Affairs* Magazine and the Atlantic Council advocate to move away from a counterforce-only strategy. Instead, it suggests the United States should adopt a hybrid system where there is a range of targets based on the original threat or level of preemptive attack. There are many who are concerned with the legality and morality issues that come with the United States, the leader of the free world, targeting its nuclear forces at civilian populations. Scholars writing for the National Institute for Public Policy also argue a countervalue doctrine may not be an effective deterrence strategy for
Beijing or Moscow because they potentially value their military forces, political power, and leaders’ lives the most, so targeting civilians would not be prudent.

Another response to the rising Russian and Chinese nuclear threats is to attempt to restore and create more arms control agreements and crisis communication channels between Washington, Beijing, and Moscow. The Biden administration cites arms control as the preferred strategy to deal with escalating tensions between Russia and China. Many scholars credit arms control treaties as a main factor in settling tensions during the Cold War. As an example, nuclear “hotlines” were the reason the United States and the Soviet Union avoided nuclear proliferation during the Cuban Missile Crisis. When the New START Treaty expires in 2026, the United States will look to replace it with a similar agreement. The 2022 NPR also states it is ready to engage Beijing in arms control talks. Opponents of the diplomatic solution believe that the new geopolitical landscape is too difficult to achieve effective arms control agreements with two nuclear adversaries, especially when the adversaries either do not participate in existing treaties or refuse to communicate about the introduction of one.

Finally, a policy option that often gets forgotten but is also a path frequently taken is the absence of action. It is the easiest pathway for policymakers, as it does not require any work, and they often believe if they wait long enough, the issue will resolve itself or lose media attention. Inaction in this case would mean that the United States would a keep long-standing policy that no longer fits the situation of the three-body problem. In my view, Russian and Chinese nuclear threats are not an issue the United States can ignore and maintain tradition for. While other policy options may not be the obvious choice for the United States to pursue, it is clear that some sort of action and shift of policy is necessary to address these emerging challenges.

*Why Russia and China?*
While there are many interesting actors in the nuclear sphere that affect U.S. nuclear policy, Russia and China are the most significant adversaries that shape how the United States thinks about the composition and size of its nuclear arsenal. Russia has slightly more nuclear weapons than the United States does, and their stockpiles together eclipse every other nuclear-capable state. Russia and the United States’ nuclear arsenals make up 90% of the world’s nuclear warheads, making them the two dominant players in conversations of nuclear escalation, proliferation, and disarmament. The two states have a long history of bilateral nuclear talks and arms control agreements, which directly influence the prospects and direction of future global nuclear disarmament and non-proliferation.

While China’s nuclear arsenal does not come close to the size of Russia or the United States, its recent nuclear expansion and potential to rival the United States’ advanced technologies has left many U.S. officials concerned about the prospect of a U.S.-China nuclear conflict. Even a couple hundred nuclear weapons will ensure catastrophic damage to the United States if China decides to attack U.S. soil, so it does not make a huge difference whether China has a stockpile equal to the United States’ arsenal. In addition, China’s rising economic influence and ambition for global domination threaten the United States’ position as a global superpower and leader of democracy. The Pew Research Center found over two-thirds of Americans see China’s power and influence as a major threat. So if most Americans are concerned with China’s growing strength in the global sphere, then it must be worth examining how its nuclear capabilities play a role in its threats to U.S. national security and dismantling the global order.

Roadmap

---

This paper is organized into three body chapters, each analyzing the most essential aspects of the three-body problem. Chapter 2 will explore how the United States’ nuclear arsenal has changed over time. An in-depth examination of the current composition of the U.S. nuclear triad will assist in analyzing U.S. nuclear policy and strategy using reports from the U.S. Department of Defense (DOD) and the Biden administration. Chapter 3 will assess the nuclear capabilities and intentions of Russia and China using official documents from Beijing and Moscow, U.S. intelligence, and inferences based on observations of their leaders and past military operations. Subsequently, I will analyze the growing relationship between Russia and China and what the implications are for U.S. nuclear policy. In Chapter 4, I will explore some of the potential solutions that policymakers, scholars, and defense experts have developed in response to the rising nuclear threats from Russia and China.
Chapter 2: Current U.S. Nuclear Policy

In the ever-changing landscape of global politics and international security, the United States has valued nuclear deterrence as critical to its national security strategy since the weapons’ inception. The complex calculus of nuclear deterrence has drastically evolved since its introduction in World War II, forever shifting the global order. The United States continues to be one of the leading nuclear powers, innovating deterrence strategies to ensure global stability while preserving national interests. This chapter follows the evolution of the United States’ nuclear arsenal from its first use in 1945 at Hiroshima and Nagasaki through the Cold War to our peacetime. It then illustrates its current arsenal in detail. Finally, I explore the Biden administration’s 2022 Nuclear Posture Review and analyze DOD’s nuclear strategy. Without a security clearance, one cannot fully understand the reasons behind U.S. nuclear posture, so this evaluation is a limited perspective.

To understand the United States’ nuclear arsenal today, we must examine how the U.S. arsenal has evolved since WWII and how its nuclear strategy reflects it. An important aspect of the United States’ nuclear doctrine as it developed in the 1960s was the nuclear triad, which divided the different types of nuclear warheads into different military branches: the army was responsible for building its ICBMs, the navy was responsible for the submarine-launched ballistic missiles (SLBMs), and the air force was building and operating its long-range bombers and operating the ICBMs. This triad system is still in place today, although the responsibilities of different warheads between military branches are often exchanged and shared.

Evolution of United States Nuclear Arsenal

---

For a large portion of history, the American people have been in the dark about the number of nuclear weapons it possessed. Between 2010 and 2018, the U.S. government declassified its nuclear weapons stockpile. However, the Trump administration would not confirm stockpile numbers in 2019 and 2020. Finally, in 2021, the Biden administration revealed the United States’ complete history of its stockpile until 2020, allowing political scientists Hans M. Kristensen and Robert S. Norris of the Federation of American Scientists to create the Nuclear Notebook, which illustrates each country’s nuclear stockpile since 1945.

Figure 1 illustrates their work for the United States. After WWII, the United States slowly increased its arsenal between 1945 and 1952. Then, as Russia began to test and manufacture its own nuclear weapons during the Cold War, the United States and Russia entered a nuclear arms race where the United States dramatically increased its arsenal in 1952, peaking in 1967 with 31,255 warheads.

---

21 Kristensen, Korda, and Johns, “Nuclear Notebook.”
22 Kristensen, Korda, and Johns, “Nuclear Notebook.”
In 1960, the U.S. drafted its first nuclear war plan, the Single Integrated Operational Plan (SIOP), which targeted every valuable facility in the Soviet Union, China, and Eastern Europe.\footnote{Kaplan, “Rethinking Nuclear Policy,” 19.} Therefore, the military needed many more weapons than might have seemed necessary. President John F. Kennedy’s Secretary of Defense, Robert McNamara, thought this doctrine was too extreme, so he gave the President the option to launch limited attacks on Soviet military targets rather than cities, and McNamara limited the ICBM arsenal to 1,000 warheads (the Joint Chiefs of Staff wanted 10,000).\footnote{Kaplan, “Rethinking Nuclear Policy,” 19.} In response to these limitations, the military developed independently targetable reentry vehicles (MIRVs) that flung several warheads in separate directions to hit a different target.\footnote{Kaplan, “Rethinking Nuclear Policy,” 20.} MIRVs increased the United States’ ability to hit hardened targets (targets buried deep underground) with improved accuracy, which enhanced the arsenal’s utility.\footnote{Brendan Rittenhouse Green, \textit{The Revolution That Failed: Nuclear Competition, Arms Control, and the Cold War}, 1st ed. (Cambridge University Press, 2020), https://doi.org/10.1017/9781108779593, 97.} While these weapons are not operational today, they created a new level of instability and crisis scenarios that deeply troubled both American and Soviet military officials during the Cold War.

The United States entered a period of disarmament after its 1967 peak. Some scholars credit the Johnson administration for creating a foundation of cooperation with the Soviet Union through bilateral talks of ABM (Anti-Ballistic Missile) developments and the Treaty on the Non-proliferation of Nuclear Weapons (NPT) in the 1960s.\footnote{Hal Brands, “Progress Unseen: U.S. Arms Control Policy and the Origins of Détente, 1963–1968,” \textit{Diplomatic History} 30, no. 2 (2006): 253–85.} These negotiations with Moscow indicated cooling tensions between the Union States and the Soviet Union, which led to a slowing in the U.S. nuclear arsenal expansion. These early talks set up the Nixon administration to realize the United States did not benefit from pursuing an unlimited arms race, which led to
the United States engaging in arms control talks with the Soviet Union. The Strategic Arms Limitation Talks (SALT I) entered the force in 1972 between the United States and the Soviet Union. SALT I included the Anti-Ballistic Missile Treaty (ABM), which limited each state to 200 missile defense interceptors, and it also capped the number of ICBMs and SLBMs the United States and the Soviet Union could possess.

The United States then immediately started dismantling its weapons and maintaining an arsenal of around 23,000 to 25,000 until the end of the Cold War in 1991. The United States then cut its arsenal in half only three years after the end of the Cold War. Then, the Strategic Arms Reduction Treaty (START I) came into effect in 1994, where Washington and Moscow agreed to reduce its nuclear arsenals to no more than 6,000 deployed warheads and 1,600 ICBMs. Both states completed their reductions by 2001, and they continued to reduce the number of nuclear warheads until its expiration in 2009. This treaty was significant because it was the first bilateral agreement that required arms reductions of the United States and Russia/Soviet Union.

These cuts occurred not only because of arms control treaties from the 1970s but also because both the George H.W. Bush and Bill Clinton administrations reevaluated SIOP and determined that its “necessary” targets were extremely inflated, and even then, the military did not see the need for multiple types of weapons for a single target. Figure 1 shows a plateau

---

30 “Strategic Arms Limitation Talks (SALT I)”
31 Kristensen and Norris, “Nuclear Notebook.”
32 Kristensen and Norris, “Nuclear Notebook.”
34 “START I at a Glance.”
between 1993 and 2003 where the U.S. kept between 10,000 and 11,000 warheads. However, the Clinton administration also advocated to maintain a robust nuclear triad to hedge against an “uncertain future.” Clinton’s Secretary of Defense, William Perry, wrote in his 1995 Annual report that “recent international upheavals have not changed the calculation that nuclear weapons remain an essential part of American military power. Concepts of deterrence... continue to be central to the U.S. nuclear posture.” These contradictory priorities for the Clinton administration point out the frequent clashes between different political actors who disagreed about an adequate number of nuclear weapons for effective deterrence. There was, and still is, a constant tension between having “too many” or “too little” nuclear weapons; defense experts and policymakers often feud over these details. The U.S. nuclear arsenal is a political game, and just like any policy, full of contrasting interests and priorities.

Furthermore, the United States and Russia signed the Strategic Offensive Reductions Treaty (SORT) or the Moscow Treaty in 2002, which required each state to reduce strategic nuclear warheads between 1,500 and 2,200 by the following ten years. However, neither the United States nor Russia would ever reduce their arsenals below 4,000 warheads. Both states continued to slowly reduce their arsenals but did not reach the levels required by SORT. They reached another bilateral agreement in 2010. The New Strategic Arms Reduction Treaty or New START allowed each party to maintain 1,550 warheads each, including 800 deployed and non-deployed ICBM and SLBM launchers and heavy bombers with at most 700 deployed ICBMs.

---

36 Kristensen and Norris, “Nuclear Notebook.”
SLBMs, and heavy bombers.$^{40}$ Neither country could reach these requirements by its 2021 expiration. Two days before the treaty expired, the Biden administration and the Russian Foreign Ministry agreed to extend the treaty for five years.$^{41}$ However, in February 2023, Russian President Putin announced Russia’s suspension of participating in the New START treaty, leaving the United States and Russia with no arms control treaties.$^{42}$ This leaves the U.S. where it is today with its nuclear stockpile.

**Assessment of United States’ Current Nuclear Stockpile**

The Nuclear Notebook, written and published by Federation of American Scientists (FAS) Hans M. Kristensen and Matt Korda, has been the most reliable source for accessing an accurate count of the global nuclear stockpile since 1987.$^{43}$ In 2021, the Biden administration approved FAS’ request to declassify nuclear stockpile numbers through 2020.$^{44}$ However, the administration has not yet responded to its request to declassify numbers for 2021, 2022, or 2023, so this year’s Nuclear Notebook is only an estimate of 2023 stockpile numbers.$^{45}$

The Nuclear Notebook estimates that DOD maintains 5,244 nuclear warheads, including deployed, reserved, and retired ones.$^{46}$ They estimate an active stockpile of 3,708 warheads, 1,770 of which are currently deployed, meaning that the nuclear explosives are attached to any type of delivery vehicle and are ready for combat use.$^{47}$ Of the 1,770 deployed warheads, 1,370

---


$^{43}$ Kristensen and Norris, “Nuclear Notebook.”

$^{44}$ Kristensen and Korda “United States 2023,” 28.


are attached to ballistic missiles, and 300 are in strategic bombers at bases in the United States.\textsuperscript{48} The last 100 warheads are deployed in bombers at various European bases.\textsuperscript{49} Strategic nuclear weapons refer to a warhead that targets a facility or infrastructure essential to the adversary’s ability to conduct nuclear warfare on its end. Tactical nuclear weapons, on the other hand, are much smaller in size and used in a battlefield setting. The Department of Energy (DOE) holds the remaining 1,938 warheads in the active stockpile in reserve.\textsuperscript{50} The final 1,536 nuclear warheads of the 5,244 arsenal are retired and are awaiting dismantlement, which is the responsibility of DOE.\textsuperscript{51} Table 1 displays these total numbers.

<table>
<thead>
<tr>
<th>Type/Designation</th>
<th>No.</th>
<th>Year deployed</th>
<th>Warheads x yield (kilotons)</th>
<th>Warheads (total available)\textsuperscript{a}</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICBMs LGM-30G Minuteman III</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MK12A</td>
<td>200</td>
<td>1979</td>
<td>1–3 W78 x 335 (MIRV)</td>
<td>600\textsuperscript{b}</td>
</tr>
<tr>
<td>MK21/SERV</td>
<td>200</td>
<td>2006\textsuperscript{c}</td>
<td>1 W87 x 300</td>
<td>200\textsuperscript{d}</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td></td>
<td></td>
<td>800\textsuperscript{e}</td>
</tr>
<tr>
<td>SLBMs UGM-133A Trident II D5/LE</td>
<td>14/280\textsuperscript{f}</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mk4A</td>
<td></td>
<td>2008\textsuperscript{g}</td>
<td>1–8 W76-1 x 90 (MIRV)</td>
<td>1,511\textsuperscript{h}</td>
</tr>
<tr>
<td>Mk4A</td>
<td></td>
<td>2019</td>
<td>1–2 W76-2 x 8 (MIRV)\textsuperscript{i}</td>
<td>25\textsuperscript{i}</td>
</tr>
<tr>
<td>MK5</td>
<td></td>
<td>1990</td>
<td>1–8 W88 x 455</td>
<td>384</td>
</tr>
<tr>
<td>Total</td>
<td>14/280</td>
<td></td>
<td></td>
<td>1,920\textsuperscript{j}</td>
</tr>
<tr>
<td>Bombers B-52H Stratofortress</td>
<td>87/46\textsuperscript{k}</td>
<td>1961</td>
<td>ALCM/W80-1 x 5–150</td>
<td>500</td>
</tr>
<tr>
<td>B-2A Spirit</td>
<td>20/20</td>
<td>1994</td>
<td>B61-7 x 10–360/-11 x 400</td>
<td>288</td>
</tr>
<tr>
<td>Total</td>
<td>107/66\textsuperscript{l}</td>
<td></td>
<td></td>
<td>788\textsuperscript{n}</td>
</tr>
<tr>
<td>Total strategic forces</td>
<td></td>
<td></td>
<td></td>
<td>3,508</td>
</tr>
<tr>
<td>Nonstrategic forces</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-15E, F-16C/D, DCA</td>
<td>n/a</td>
<td>1979</td>
<td>1–5 B61-3/-4 bombs x 0.3–170\textsuperscript{o}</td>
<td>200</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>200\textsuperscript{p}</td>
</tr>
<tr>
<td>Total stockpile</td>
<td></td>
<td></td>
<td></td>
<td>3,708</td>
</tr>
<tr>
<td>Deployed</td>
<td></td>
<td></td>
<td></td>
<td>1,770\textsuperscript{q}</td>
</tr>
<tr>
<td>Reserve (hedge and spares)</td>
<td></td>
<td></td>
<td></td>
<td>1,938</td>
</tr>
<tr>
<td>Retired, awaiting dismantlement</td>
<td></td>
<td></td>
<td></td>
<td>1,536</td>
</tr>
<tr>
<td>Total Inventory</td>
<td></td>
<td></td>
<td></td>
<td>5,244</td>
</tr>
</tbody>
</table>

Table 1: United States Nuclear Stockpile 2023
Hans M. Kristensen and Matt Korda

An important trend Kristensen and Korda noticed when the Biden administration revealed the complete history of the United States’ nuclear stockpile is the slowing down of

\textsuperscript{49} Kristensen and Korda “United States 2023,” 28.
\textsuperscript{50} Kristensen and Korda “United States 2023,” 28.
\textsuperscript{51} Kristensen and Korda “United States 2023,” 28.
retired warhead dismantlement in the past ten years. In the 1990s, DOE dismantled an average of 1,000 warheads yearly, but they only dismantled 184 retired warheads in 2020 and 275 in 2022.\footnote{Kristensen and Korda, “United States 2023,” 28; “Stockpile Stewardship and Management Plan - Biennial Plan Summary” (National Nuclear Security Administration and United States Department of Energy, April 2023), https://www.energy.gov/sites/default/files/2023-04/FY23%20SSMP_FINAL.pdf.} According to DOE’s 2023 Stockpile Stewardship and Management Plan, the slowing dismantlement rates are due to “many factors,” including a lack of qualified workers, facilities, and equipment, increasing weapons complexity, legislative requirements, and changing policy directives.\footnote{Kristensen and Korda, “United States 2019,” 124.} The United States spends over $34 billion a year to sustain and operate the current nuclear arsenal; DOD incurs two-thirds of the cost and DOE pays for the last third.\footnote{“Projected Costs of U.S. Nuclear Forces, 2023 to 2032” (Congressional Budget Office, April 6, 2023), https://www.cbo.gov/publication/59365.} This cost does not include modernization programs for nuclear warheads, delivery systems, equipment, facilities, and command, control, communication mechanisms.

The exact location and types of weapons stored and deployed strategically are classified; however, Kristensen and Korda use known government energy laboratories and locations of international strategic allies to infer that most warheads are in eleven different states in the United States and five European countries. They believe the location with the most warheads (around 2,500) are in the Kirtland Underground Munitions and Maintenance Storage Complex in New Mexico.\footnote{Hans M. Kristensen and Matt Korda, “United States Nuclear Forces, 2019,” Bulletin of the Atomic Scientists 75, no. 3 (May 4, 2019): 122–34, https://doi.org/10.1080/00963402.2019.1606503.} In descending order, the United States holds warheads in Washington, Georgia, North Dakota, Montana, Missouri, Texas, Nebraska, Colorado, Wyoming, and California.\footnote{Kristensen and Korda, “United States 2019,” 124.} Finally, a couple dozen warheads each are in Turkey, Italy, Belgium, Germany, and the Netherlands.\footnote{Kristensen and Korda, “United States 2019,” 124.}
It is important to understand the different aspects of the United States’ nuclear arsenal in the context of the nuclear triad system. The number of warheads deployed by each type of delivery system (land, sea, or air) indicates DOD’s intentions and attitudes. When a nuclear weapon is launched into the air, the warhead travels at high speeds through the atmosphere, causing friction on the casing. This friction causes extremely high temperatures for the warhead, which could potentially destabilize its contents and cause malfunctions. A reentry vehicle (RV) houses the warhead to protect it from high temperatures. The Nuclear Notebook accounts for both warheads and RVs, but the official U.S. arsenal stockpile only counts the warhead, not the RVs or delivery systems. Starting with ICBMs, the United States uses the LGM-30G Minuteman III missile, a silo-launched ground-attack missile. The Pentagon is estimated to have 600 W78 warheads coupled with the Mk-12A RVs and 200 W87 warheads with Mk-21 RVs. For SLBMs, the United States uses the UGM-133A Trident II, a submarine-launched fleet ballistic missile. It also has 1,511 W76-1 and 25 W76-2 warheads, both carried by Mk4A RVs, and 384 W88 warheads with the Mk5 RV. The Air Force operates two types of nuclear-equipped strategic bombers to complete the triad. First, the B-52H Stratofortress bomber carries air-launched cruise missiles (ALCMs). The United States operates 500 W80-1 ALCMs, and because a bomber is carrying it, it does not need a reentry vehicle. The B-2A Spirit stealth bomber carries gravity bombs. The United States possesses 288 B61-7 and B83-1 gravity bombs and also does not require RVs. Finally, the United States operates F-15D, F-16C, and F-

16D fighter jets that carry B61-3/-4 bombs that are tactical; there are 500 of these warheads.\textsuperscript{66} All of these warheads complete the 3,708-warhead active stockpile in the U.S. nuclear triad.

United States Nuclear Strategy

Now, with a better picture of what the United States’ nuclear arsenal looks like today, it is helpful to understand what the U.S. government’s current policies and strategies for nuclear deterrence are. Each administration is encouraged to publish a Nuclear Posture Review (NPR) prepared by DOD, outlining U.S. nuclear capabilities, strategy, and policy plans for the next five to ten years. The Biden administration published its long-awaited NPR in late 2022, as the Ukraine invasion in early 2022 probably altered perspectives of U.S. nuclear strategy. Unlike past NPRs, the 2022 took a special interest in nuclear deterrence policy with Russia and China, given rising tensions and increased nuclear capabilities. In its introduction, the NPR emphasizes Russia and China’s threat to the United States’ national security policy. DOD states, “By the 2030s the United States will, for the first time in its history, face two major nuclear powers as strategic competitors and potential adversaries.”\textsuperscript{67} As I will argue in Chapter 3, Russia and China’s nuclear capabilities and intentions pose a far more immediate and dangerous threat to the U.S. than DOD states in the 2022 NPR. I believe the day to drastically reassess U.S. deterrence, arms control, and risk reduction policy has already come.

The 2022 NPR reaffirms the important role nuclear weapons play in U.S. defense priorities and maintains the system of a nuclear triad. However, DOD states the ultimate goal is to reduce the role of nuclear weapons in U.S. defense posture.\textsuperscript{68} It states the purpose of U.S.

\textsuperscript{66} Kristensen and Korda, “United States 2023,” 41.
\textsuperscript{68} United States Department of Defense, “NPR 2022,” 1.
nuclear weapons is to “deter strategic attacks, assure allies and partners, and achieve U.S. objectives if deterrence fails.”  

The United States rejects both No First Use and Sole Purpose policies consistent with previous nuclear policy and instead leaves the option for “the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its Allies and partners.”  

A No First Use policy refers to a state’s declaration that it will not use a nuclear weapon unless it is a retaliatory attack to an adversary. A Sole Purpose declaratory policy means the United States will use nuclear weapons only to deter nuclear attacks rather than conventional, biological, chemical, or cyber-attacks.

Regarding the composition of the U.S. nuclear arsenal, the Biden administration believes that certain programs in the decades-long modernization efforts are more important to focus on than others. The NPR states that DOD will fully fund a new Sentinel ICBM program with W87 warheads to replace the Minuteman III. It will also continue the W76-2 warheads on SLBMs to deter China, which the 2018 NPR introduced during the Trump administration. The NPR also cancels the low-yield nuclear-capable Sea-Launched Cruise Missile (SLCM/N) as DOD and the Biden administration believe it is redundant with the development of the W76-2 warhead and the extension of the Trident II SLBMs.

However, as Chapter 4 will explain, there are inter-branch struggles as to which nuclear upgrades are most crucial. In the air, the Biden administration decided to continue to modernize the B-52H Stratofortress bomber while investing in the B-21 Raider program to replace the B-2A Spirit stealth bomber. Finally, the NPR indicated plans to retire and dismantle the B38-1 gravity bomb.

---

71 Interview with Richard Johnson, Deputy Assistant Secretary of Defense for Nuclear and CWMD Policy, Department of Defense.
The most important distinction between the 2022 NPR and past NPRs is its renewed interest and emphasis on arms control. The 2010 NPR rarely mentions arms control, and the report did not go far beyond the indication that they are “pursing arms control efforts.”72 The 2018 version recognizes the increasing difficulties with effective arms control agreements “in an environment that is characterized by continuing significant non-compliance with existing arms control obligations and commitments.”73 The 2022 NPR does not specifically outline the same concerns, but current government officials have expressed the same frustrations in other forms of reporting. DOD believes deterrence alone will not achieve its objectives, and “mutual, verifiable nuclear arms control offers the most effective, durable and responsible path to achieving a key goal: reducing the role of nuclear weapons in U.S. strategy.”74 The NPR addresses the specific challenges Russia and China pose to the United States’ interest in expanding arms control dialogue: “Russia will remain a focus of U.S. efforts given the size, diversity, and continuing modernization of its nuclear arsenal. However, we will need to account for the China’s nuclear expansion in future U.S.-Russia arms control discussions.”75 The Biden administration published this report before Russia suspended its participation in the New START Treaty, so I will outline in Chapter 3 how these changing circumstances have altered policy originally outlined in the NPR. Overall, the United States is committed to using arms control as an essential part of its nuclear posture. Last, it remains an enthusiastic participant in the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the Comprehensive Nuclear-Test-Ban Treaty (CTBT), and they

advocate for continued discussion and eventual ratification of the Fissile Material Cut-off Treaty (FMCT).\textsuperscript{76}

The NPR outlined country-specific approaches to deterrence strategies, focusing largely on Russia and China. It identifies Russia as its largest nuclear-capable adversary. To deter nuclear threats and prevent a potential limited nuclear war in a regional conflict, the United States will maintain a “resilient” nuclear triad, focusing on the F-35A dual-capable fighter aircraft that can carry a W76-2 warhead, a B61-12 bomb, and a Long-Range Standoff (LRSO) weapon.\textsuperscript{77} The NPR affirms its goal of integrating arms control as a priority by committing to renegotiate and replace the New START Treaty after its expiration in 2026 despite Russia’s refusal to participate in the agreement or engage in conversation in restoring arms control with the United States at this time.\textsuperscript{78} DOD admits their “priorities are not identical, underscoring the importance of dialogue… to address each side’s differing goals and perceptions of military systems that affect strategic stability.”\textsuperscript{79}

The NPR outlines a flexible strategy for deterring China due to its rapidly changing arsenal and unpredictable political maneuvers. The Biden administration believes SLBMs with a W76-2 low-yield warhead, globally-deployable bombers, dual-capable fighter aircraft, and air-launched cruise missiles are all sufficient tools to convey to China that the United States “will not be deterred from defending [its] Allies and partners or coerced into terminating conflict on unacceptable terms.”\textsuperscript{80} The U.S. military might be more interested in the sea and air-launched missiles to deal with China because it is more difficult for the Chinese military to track, target,
and destroy a moving delivery system than a ground-based missile system. The NPR also focuses heavily on opening communication channels as the lack of transparency and willingness to share military intentions poses an immense threat to the United States’ priorities and alters its own defense strategies. DOD would like to engage with China for “military de-confliction, crisis communications, information sharing, mutual restraint, risk reduction, emerging technologies, and approaches to nuclear arms control.” However, Beijing has been unwilling to engage in these discussions for some time.\(^81\)

In conclusion, this chapter provided a comprehensive overview of the United States’ nuclear arsenal and strategy, including its historical evolution, present condition, and the Biden administration’s outlined policies. The historical examination revealed the consequential progress from the United States’ first detonation to the Cold War’s arms race, leading to the various arms control treaties and de-escalation posture that are intact today. Examining the current arsenal in detail showed a resilient nuclear triad, integrating ICBMs, SLBMs, and strategic bombers, bolstering strategic stability. This diverse stockpile highlights the complex nature of nuclear deterrence and demonstrates the importance of maintaining an arsenal that is flexible to the changing security landscape. The 2022 Nuclear Posture Review highlights the modernization and cancellation of several programs, emphasizing a renewed interest in arms control with the goal of reducing the role of nuclear weapons as a defense strategy and working towards a world without nuclear weapons. It also underscores the threat Russia and China’s nuclear capabilities and intentions pose to the United States’ national security interests and outlines several tools to ensure credible deterrence. With this groundwork laid, the subsequent

---

chapters will delve into how the United States could further adapt its arsenal to address the increasing nuclear pressure mounted by Russia and China.
Chapter 3: Russia and China Nuclear Capabilities and Intentions

For the first time in the era of nuclear weapons, the United States will face two formidable nuclear peers in the foreseeable future with the capabilities and political will to inflict massive damage to the United States. Since the dawn of the nuclear age, the United States has consistently crafted a strategic doctrine, enabling it to exert dominance in the nuclear sphere, shape the nuclear global order, and safeguard its national interests. For the last five decades, the United States has tried to keep arms control treaties, non-proliferation agreements, and gradual disarmament at the center of its relationships with Russia and China to avoid nuclear catastrophe.

As mentioned in Chapter 2, the United States has had multiple arms control treaties with Russia/Soviet Union from the 1970s until 2023. The United States and China have no arms control agreements.

As we step into the third decade of the 21st century, the world is witnessing a resurgence of world power competition, and the role of nuclear weapons adds a significant dimension when policymakers, world leaders, and scholars analyze emerging threats and the United States’ status as a global power. The potential use of nuclear weapons has the power to alter the course of international politics drastically and may forever change the geopolitical landscape more than it already has. The United States should be troubled by the growing ambitions of Russia and China to delegitimize and dethrone Western hegemony in the economic, political, and defensive arenas. Through their words and actions, Russia and China prove their intentions to damage the United States’ position as a global superpower. It is crucial for steadfast democratic and peaceful values that the United States stays in a dominant global position to ensure nuclear nonproliferation and de-escalation. Understanding these considerations is critical for the United States to create an
appropriate posture that both safeguards its national security interests and maintains global stability.

In this chapter, I will outline the nuclear capabilities of both Russia and China from FAS in a similar manner to the introduction to the United States’ stockpile. I will then illustrate both the explicit and implicit strategies Russia and China have publicly disclosed and what nuclear experts believe is going on beyond the stated intentions of its governments. It is also important to discuss the relationship between Russia and China and how their “friendship without limits” poses an even greater threat to U.S. national security. All this evidence will point to the glaringly obvious fact that the United States is in more immediate nuclear danger than ever before.

Russia Nuclear Capabilities and Intentions

Russia is not as publicly transparent about its nuclear stockpile as the United States is, especially as arms control treaties deteriorate and its continuing noncompliance with inspections from U.S. officials and the International Atomic Energy Agency (IAEA).82 There have been no on-site inspections of its nuclear forces since April 2020; this was initially due to COVID-19, but even after travel restrictions were lifted, Russia still has refused any inspections from U.S. officials.83 In response, the United States currently does not allow Russia to inspect its nuclear forces on U.S. territory.84 Russia has been vocal about its decades-long efforts to modernize its nuclear weapons systems from the Soviet era.85 Hans Kristensen, Matt Korda, and Eliana Reynolds from the FAS Nuclear Information Project assert Russia’s modernization efforts are to compete with the United States’ supposed superior ICBM and conventional weapons program,

---

83 Kristensen, Korda, and Reynolds, “Russia 2023,” 177.
and because the Russo-Ukrainian war is depleting its conventional weapons stockpile, Russia might have to rely on its nuclear weapons for its defense posture.\textsuperscript{86}

With all this uncertainty, the language in this Nuclear Notebook report is much less concrete, using words like “possibly,” “potentially,” and “probably” because, as previously mentioned, Russian does not disclose its nuclear stockpile numbers, and U.S. intelligence agencies do not disclose how much information they may know about Russia’s arsenal. The Nuclear Notebook estimates that Russia maintains an active stockpile of 4,489 nuclear warheads, 1,674 of which are deployed.\textsuperscript{87} Of these deployed warheads, 834 are attached to ballistic missiles, 640 are on SLBMs, and the last 200 warheads are potentially found at heavy bomber bases.\textsuperscript{88} Outside of the active 4,489 stockpile, 2,815 warheads are in reserve, 999 of them being strategic and 1,816 being tactical.\textsuperscript{89} Finally, 1,400 mostly intact warheads are retired and awaiting dismantlement.\textsuperscript{90} The active stockpile plus reserve and retired warheads makes the entire Russian stockpile 5,889 warheads.\textsuperscript{91} These estimates indicate Russia increased its arsenal by 12 warheads since last year, due to its ICBM and SLBM modernization programs.\textsuperscript{92} Table 2 illustrates these calculations.

\textsuperscript{86} Kristensen, Korda, and Reynolds, “Russia 2023,” 174.  
\textsuperscript{87} Kristensen, Korda, and Reynolds, “Russia 2023,” 174.  
\textsuperscript{88} Kristensen, Korda, and Reynolds, “Russia 2023,” 174.  
\textsuperscript{89} Kristensen, Korda, and Reynolds, “Russia 2023,” 175.  
\textsuperscript{90} Kristensen, Korda, and Reynolds, “Russia 2023,” 175.  
\textsuperscript{91} Kristensen, Korda, and Reynolds, “Russia 2023,” 175.  
\textsuperscript{92} Kristensen, Korda, and Reynolds, “Russia 2023,” 174.
The United States has a long history of trying to decode Russia’s defense and nuclear intentions, both as partners and adversaries. We are certainly in an era where the United States sees Russia as an adversary. Until recently, post-Cold War arms control treaties have allowed the United States to keep a close eye on all activities relating to nuclear testing, modernization, and innovations within Russia’s arsenal. Recent years have brought uncertainty and discomfort to the way the United States understands Russia’s strategy and long-term goals for its nuclear arsenal.

First, it is critical to examine the explicit doctrine published by the Kremlin in 2020. As it is the most recent publication by the Russian Federation about its nuclear intentions, it is the only way

---

**Table 2: Russian Nuclear Stockpile 2023**

*Hans M. Kristensen, Matt Korda, and Eliana Reynolds*
to understand Russian defense strategy apart from its actions and words from those in power. Some of these actions, like its military strategy in the Ukraine War, explicit nuclear signaling from President Vladimir Putin, and suspension of the New START Treaty, can illustrate a more accurate picture of what Russia’s nuclear strategy is.

In June 2020, Russia released an updated nuclear doctrine titled “On Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence.” The previous version was published in 2014.\(^\text{93}\) The 2020 document outlines Russia’s deterrence policy and establishes what circumstances could lead Russia to use its nuclear weapons.\(^\text{94}\) It states the purpose of nuclear weapons to be “exclusively as a means of deterrence” and the Russian Federation will take “all necessary efforts to reduce nuclear threat and prevent aggravation of interstate relations, that could trigger military conflicts, including nuclear ones.”\(^\text{95}\) Russia emphasizes they retain the right to use nuclear weapons in response to the use of nuclear weapons against the state or its allies. In addition, Russia does not adhere to a No First Use policy, similar to the United States.\(^\text{96}\)

The Russian Federation lists four circumstances in which it would consider using its nuclear forces. First, if the government receives reliable data that a ballistic missile is launched towards its territory or its allies’ territories, the Russian president could decide to respond with a nuclear attack.\(^\text{97}\) Second, it could respond to the “use of nuclear weapons or other types of weapons of mass destruction by an adversary against the Russian Federation and/or its allies.”\(^\text{98}\)

\(^\text{95}\) Putin, “State Policy.”
\(^\text{96}\) Kristensen, Korda, and Reynolds, “Russia 2023,” 178.
\(^\text{97}\) Putin, “State Policy.”
\(^\text{98}\) Putin, “State Policy.”
Third, it considers any attack on essential government and military sites that might disrupt its nuclear forces grounds to respond with nuclear weapons. Last, the doctrine states any act of aggression with conventional weapons towards Russia where the “very existence of the state is in jeopardy” is a reason to use nuclear weapons against an adversary. These circumstances, especially the fourth and final threshold, has alarmed many U.S. government officials and nuclear experts because it creates the possibility that Russia might use nuclear weapons if it were losing a conventional war, which is certainly the case today in the Russian-Ukraine War.

Russia’s invasion of Ukraine in February 2022 brought another dimension of global nuclear risks. This ongoing conflict confirms a concern shared by many scholars: Russia is leveraging the threat of nuclear force against a non-nuclear Ukraine to invade, secure in the knowledge that serious intervention from another nuclear-capable state is unlikely. This concern continues to dominate conversations, as it could embolden Russia to invade other non-nuclear states in the future without a response from nuclear-capable states like the United States or intergovernmental organizations backed by nuclear-capable states like NATO. Additionally, this belief might signal other non-nuclear states with nuclear-capable adversaries to increase security measures and maybe even attempt to develop their own nuclear weapons to defend themselves. These events would throw the global nuclear order out of balance, creating a plethora of international security issues that go beyond the scope of this analysis. Regardless, any increase in the number of nuclear-capable states would stray further from the goal shared by many: a world without nuclear weapons.

---

99 Putin, “State Policy.”
100 Putin, “State Policy.”
The Russian-Ukraine War has also brought a new era of nuclear signaling and threats made by President Putin and some of his top officials. Since the early days of the war, Russia has referenced its nuclear forces numerous times to deter the West from intervening in the conflict. Just three days after Russia’s invasion, Putin announced he put Russia’s nuclear forces into “special combat readiness.”\textsuperscript{102} Two months later, Russian Foreign Minister Sergei Lavrov warned adversaries not to escalate the risk of nuclear war. He says, “Many would like that. The danger is serious, real. And we must not underestimate it.”\textsuperscript{103} In September 2022, Putin stated, “In the event of a threat to the territorial integrity of our country and to defend Russia and our people, we will certainly make use of all weapon systems available to us. This is not a bluff.”\textsuperscript{104} Many believed “all weapon systems” meant to include nuclear weapons.\textsuperscript{105} Comments like these have continued throughout the Russian-Ukraine War; however, there have been mixed sentiments on whether this signaling has been successful in its goal of deterrence.

Some might argue that Russia’s consistent public threats to use nuclear weapons against Ukraine has prevented or pulled back United States and NATO intervention in the conflict.\textsuperscript{106} If Russia did not signal its intention to use nuclear weapons potentially, the United States and NATO may have taken a more active role in assisting Ukraine, and then maybe Russia would have lost the War much faster. Others argue the United States and NATO may still have had a

\textsuperscript{106} Pifer, “Nuclear Rhetoric.”
limited role even if there was no signaling, out of an abundance of caution.\textsuperscript{107} Additionally, nuclear signaling may have stalled certain decisions made by U.S. and NATO officials to send certain types of military aircraft and weaponry to Ukraine, like the F-16 fighter jet.\textsuperscript{108} They might not have been sure if Russia would see an introduction of the F-16 as an invitation to treat the conflict as if it were fighting the United States and all its nuclear capability. Regardless, nearly twenty months into this war, the world has not seen any movement in Russia’s nuclear forces or any indication that it might use its nuclear forces soon.\textsuperscript{109} Therefore, the United States and NATO now see these threats as empty words, defeating the purpose of Russia’s nuclear signaling as a deterrence tactic. However, the United States and NATO should pay special attention to what Russia will do once its conventional weapons stockpile runs low as this war plays out. Many scholars, such as Steven Pifer, senior fellow at the Brookings Institution, warn that Russia’s assertion to “defend [their] land with all the forces and resources [they] have” cites the United States’ nuclear attacks on Japan as a “precedent” to play the nuclear card to end a conventional conflict.\textsuperscript{110} Therefore, some are concerned Russia potentially might turn to nuclear weapons if it is concerned it will not succeed in Ukraine using conventional weapons.

Another way to analyze Russia’s nuclear intentions is through its suspension of participation in the New START treaty. President Putin announced in February 2023 that Russia would “suspend” its participation in the New START Treaty until the United States stops aiding Ukraine and until France and the United Kingdom go into arms control talks with Russia.\textsuperscript{111}

While this is a decision that can be reversed, experts say there has never been a salvageable

\textsuperscript{107} Pifer, “Nuclear Rhetoric.”
\textsuperscript{108} Pifer, “Nuclear Rhetoric.”
\textsuperscript{109} Pifer, “Nuclear Rhetoric.”
\textsuperscript{110} Pifer, “Nuclear Rhetoric.”
treaty in the event one party does not want to participate.\textsuperscript{112} Defense experts are concerned that there have been no successful efforts to get both states to the negotiating table and “we are hurtling toward a moment where for the first time in probably seventy years, where U.S. and Russian nuclear forces will be completely unconstrained.”\textsuperscript{113} This probability is extremely concerning in the context of U.S. national security because Russia would then have an opportunity to build up its nuclear arsenal with no checks or restraints and its adversaries might not even know that a buildup is happening. This scenario would be a dangerous situation for the United States, and there are currently no actions from either state to prevent Russia from getting to this point in which its nuclear activities go unmonitored.

\textit{China Nuclear Capabilities and Intentions}

China initiated its nuclear program in the 1960s; however, its nuclear arsenal is not nearly to the level of the United States and Russia’s forces, but the recent growth rate of its stockpiles is cause for concern for its adversaries. China has never been transparent about its nuclear stockpile size, so U.S. intelligence agencies and DOD have had to use alternative methods to obtain information on China’s arsenal. These estimates are known to often overestimate China’s arsenal growth rate, occasionally projecting a stockpile nearly twice the actual number.\textsuperscript{114} Therefore, it is important to approach these numbers reported by DOD and expanded upon by the Nuclear Notebook cautiously.


\textsuperscript{113} Chappell, “What Happens Now.”

In a report published in October 2023, the Department of Defense estimates China has more than 500 operational nuclear weapons as of May 2023.\textsuperscript{115} DOD also predicts China’s stockpile will likely reach 1,000 warheads by 2030 and might even reach 1,500 warheads by 2035.\textsuperscript{116} Earlier this year, the Nuclear Notebook published its annual country report, estimating its own numbers prior to DOD’s update. The Nuclear Notebook estimates China’s nuclear arsenal has 410 nuclear warheads, but they do not know how many of these warheads are deployed.\textsuperscript{117} Of the 410 warheads, 318 are attached to land-based ballistic missiles, 72 on SLBMs, and 20 on air bombers.\textsuperscript{118} There is no information on the stockpiles of reserved or retired forces; however it can be estimated that many warheads are retired and potentially in the process of dismantlement given what we know about its modernization cycle in the last twenty years.\textsuperscript{119} Table 3 displays the Nuclear Notebook’s approximations of China’s nuclear triad.


\textsuperscript{116} “2023 PRC Report,” 122.

\textsuperscript{117} Kristensen, Korda, and Reynolds, “China 2023,” 108.

\textsuperscript{118} Kristensen, Korda, and Reynolds, “China 2023,” 108.

\textsuperscript{119} Kristensen, Korda, and Reynolds, “China 2023,” 108.
Table 3: China Nuclear Stockpile

Hans M. Kristensen, Matt Korda, Eliana Reynolds

China has its nuclear and defense policy posted on the Ministry of National Defense website, but it does not produce a yearly posture in the same way DOD does. According to its webpage, China’s nuclear policy has always been to “keep its nuclear capabilities at the minimum level required for national security.” However, the government never defines what constitutes a “minimum” level of capability, which allows it to continually expand its arsenal without any restraints and still call it a “minimal” defense strategy. Beijing’s defense policy in the “New Era” emphasizes “efforts… made to deepen bilateral and multilateral security cooperation, promote a coordinated, inclusive and complementary cooperation among security mechanisms.” From the perspective of the United States, this claim is not credible, as the Chinese government repeatedly ignores any effort from the United States to enter arms control

---

121 “Defense Policy.”
talks or open crisis communication channels.\textsuperscript{122} Since it is evident that China does not live up to its word on this front, it begs the question whether any part of its stated posture is a reliable guideline for how China will behave.

Outside of China’s reported nuclear policy, there are other actions the United States can use to interpret China’s intentions. It is possible that China sees the United States as a major adversary, and it would not like to be caught with inferior nuclear forces. China might be rapidly expanding its nuclear forces because it believes the United States may preemptively attack China in a future military conflict. While Beijing recognizes that it cannot reach nuclear parity with the United States and Russia anytime soon, the buildup is for its capability to defend itself from a perceived future attack. As tensions between China and the United States rise in the economic, political, and military arenas, China may think a larger arsenal is the necessary “minimum level” of capabilities to engage with an adversary with as large of an arsenal as the United States. The United States may interpret this buildup as a move to surpass it as a global superpower. The concern is not completely invalid, as Chinese President Xi Jinping repeatedly shares his ambitions to become a “great modern socialist country in all respects and to advance the rejuvenation of the Chinese nation” by the 2049 centennial celebration of the People’s Republic of China.\textsuperscript{123} These statements imply that Jinping has ambitions to lead China to be a global superpower within the next three decades. It is likely robust nuclear forces are a part of that vision.


The most significant expansion in Chinese nuclear forces is the development of ICBMs and ICBM facilities. U.S. government officials and nuclear experts disagree on the size of this expansion. The Pentagon estimated China possessed 100 ICBM launchers in 2020 and 2021, then 300 launchers in 2022, and now it reports China has 500 launchers as of October 2023. Scientists at the Nuclear Notebook had some serious doubts that China’s ICBM force could increase by 400 launchers in three years. Kristensen and Korda contend that the Pentagon counted ICBM silos, or missile launch facilities, that are in the middle of construction and do not yet have a missile loaded into them. The 2023 Nuclear Notebook asserts China has 142 ICBM launchers, which is a large deviation from Pentagon estimates. However, FAS experts still express concern over the rapid movement of missile silo construction in China. They estimate China is building about 350 new missile silos near Yumen, Hami, and Yulin (cities in northern China). This indicates that China would like to increase its ICBM capacity to fit these new silos. The Nuclear Notebook contends that “it seems possible that China’s ICBM force could potentially exceed that of either Russia or the United States a decade from now.”

This rapid expansion is extremely concerning for many who want to follow China’s nuclear intentions. These movements clearly depart from its long-standing posture of defenses that are at a “minimum” level. China’s lack of transparency with its current arsenal size and

---

future stockpile ambitions leaves its adversaries to guess and potentially overestimate a threat that further escalates tensions. In addition, the absence of effective communication between Washington and Beijing opens the opportunity for either party to make serious miscalculations and wrong assumptions about the other’s intentions. In congressional testimony, Jedidiah Royal, an Indo-Pacific Security Affairs official in the DOD, claims China has rejected nearly every invitation to speak with Chinese counterparts of the Secretary of Defense, Joint Chiefs of Staff, and other DOD officials.129 This misunderstanding further takes away a situation where bilateral arms control and crisis diffusion are possible. A lack of communication about arms control talks also indicates that China had no intention of slowing the rapid expansion of its arsenal, and the United States may no longer possess an arsenal fit for large-scale defense from a nuclear Russia and China in the future.

Another alarming policy China has decided to adopt is the “launch-on-warning,” or LOW posture. The LOW policy states that when it anticipates an enemy missile strike, a counterattack is launched before the enemy’s initial strike can detonate.130 The Pentagon assesses that China has multiple command and control divisions with space and ground sensor capabilities to detect incoming adversarial military strikes.131 The United States and Russia have a similar LOW policy, but it is most concerning for China to have a LOW posture because the United States is unfamiliar with the Chinese military’s technological capabilities. Its sensors could not be as technologically advanced as those of the United States and Russia, which causes concern that China may launch a preemptive strike against the United States based on false readings from the

sensors. The United States also does not know if Chinese sensors can differentiate between a conventional and nuclear weapon, and many weapons manufacturers are creating delivery systems that could carry both types of weapons. Therefore, a conventional strike could be confused for a nuclear attack, which could prompt a devastating exchange of nuclear weapons. Having all three biggest nuclear-capable states adopt a LOW posture creates more instability and puts the world closer to the edge of an inadvertent nuclear catastrophe.

Many experts believe a reason for China’s massive and quick nuclear expansion is to conduct conventional military operations as it wishes while using its larger nuclear force as a hedge against outside intervention. U.S. intelligence agencies believe President Jinping has a goal to annex Taiwan in 2027 or potentially sooner, and Chinese armies are preparing for an invasion. China might be ramping up its nuclear stockpiles for this event. A more robust nuclear force might deter outside intervention from the United States or other critical allies like Japan if China threatens to use nuclear weapons while it conducts conventional warfare in Taiwan. This is a similar tactic Russia has been using in Ukraine to deter United States and NATO involvement, as previously mentioned. Beijing may believe that the United States is not willing to go into a nuclear conflict over Taiwan, which is all the more reason for China to use nuclear threats while trying to control Taiwan for good.

**Russia and China’s Growing Relationship**

It is essential to examine the relationship between China and Russia and how it causes more instability and complexity for U.S. national security issues. As President Putin called it a

---


friendship without limits, both states are committed to cooperation on multiple fronts, to “pursue true multilateralism,” and to build mutual trust and understanding. Jinping stated the Russia-China relationship will shape the “global landscape and the future of humanity,” as they try to win over the Global South from Western influence. In a military capacity, China has supported Russia in the war in Ukraine in modest economic and military ways. In 2022 and 2023, “Chinese firms exported more than $12 million worth of drones and drone components to Russia... [used] for targeting, surveillance, and strike missions in Ukraine.” The war in Ukraine has solidified the close partnership between Beijing and Moscow, and they most certainly have a shared disdain for the West, which brings the two states even closer. If either were to engage in a conflict with the United States, it is likely the other would aid either financially, militarily, or in some other capacity.

Both Russia and China share economic interests, as they try to “de-dollarize” the global economy. They do this both to delegitimize the influence of U.S. monetary policy affecting the global economy and shield themselves from U.S. economic sanctions. As the U.S. dollar is the standard currency for global reserve banks, Russia and China would like to see the Western influence taken out of the global market and insert themselves as a dominant financial leader. China is attempting to achieve this by developing a digital currency to use domestically and

---

138 Barrios and Bowen, “China-Russia Relations.”
potentially in global payment networks.\textsuperscript{140} Russia is trying to reduce its holdings of dollars in its central banks and reduce the amount of trade conducted in dollars.\textsuperscript{141} Finally, Russia and China find themselves in agreement in many diplomatic settings. They use their veto powers as permanent members of the United Nations Security Council, and they are on similar intergovernmental organizations such as BRICS (Brazil, Russia, India, China, and South Africa) and Group of 20 (G20).\textsuperscript{142}

The deepening relationship between Russia and China presents the threat of a shifting global dynamic, which prompts the United States to reassess its approach to its nuclear arsenal and defense strategy. First, established military ties between Beijing and Moscow prove that either state is willing to assist one another in a military conflict. So, it is not out of the realm for Russia and China to help each other in a nuclear conflict with the United States. This precedent is important for the United States to consider when thinking about engaging either adversary in a military context; going to nuclear war with Russia or China might mean war with both states at the same time. This emerging friendship also means the United States and its allies must now worry about keeping stability in Asia while the crisis in Ukraine continues. It must determine whether the U.S. nuclear arsenal is sufficient to potentially engage in a conflict with both peers if necessary, and if it is not, the United States needs to examine ways to increase its nuclear capacity while also meeting its overall goal of avoiding nuclear proliferation.

\textit{Two Nuclear Peers: The United States’ Biggest Threat}

The United States has fought adversaries in a conventional military context many times throughout history, and in many of those cases, it has demonstrated its place as a global

\textsuperscript{140} Nelson and Sutter, “De-Dollarization Efforts.”
\textsuperscript{141} Nelson and Sutter, “De-Dollarization Efforts.”
\textsuperscript{142} Barrios and Bowen, “China-Russia Relations.”
superpower. However, now we find ourselves in an unprecedented time in modern history where multiple adversaries aim to disrupt this global order and are using nuclear weapons as a tool to do so. This introduction of a new nuclear-capable adversary drastically complicates an already intricate situation. As of December 2023, the United States has virtually no arms control agreements with either of its two major adversaries, and both adversarial states indicate they have no interest in beginning or restoring such agreements. This period of unrestrained expansion and mounting aggression has left the United States with no choice but to rethink its strategic posture. Scientists at the Nuclear Notebook created a “Doomsday Clock” to warn how close the world is to destruction with the dangerous weapons we have created. Currently, the clock is ninety seconds until midnight (the closest it has ever been), which means the world is on the precipice of global catastrophe and is in “unprecedented danger.”

The United States now faces a geopolitical setting in which it is woefully unprepared to handle both Chinese and Russian nuclear capabilities and goals. It has the task of simultaneously deterring two nuclear-capable adversaries handling a massive modernization cycle of its own nuclear arsenal, all while assuring its allies and the world that it deserves to be the global leader in nuclear policy and other world conflicts. The United States has never faced such a feat, but nuclear experts and government officials have been exploring ways it can address these challenges both immediately and in the coming years to ensure lasting global stability. Chapter 4 will explore the advantages and weaknesses of these proposed solutions.

Chapter 4: Pathways to Address Rising Nuclear Threats from Russia and China

With Russia and China’s well-established intentions to disrupt the United States’ long-standing position as a global security leader, the United States now faces an unprecedented challenge that transcends political party divides and administrations. This issue demands immediate attention and a swift solution to address escalating nuclear threats from Russia and China. While many indications point to a tightening relationship between Beijing and Moscow, Washington unfortunately cannot know what a nuclear exchange will look like with two nuclear peers. It is more dangerous for the United States to have two nuclear peers rather than one. Additionally, the three-body problem presents new challenges in navigating de-escalation strategies and strategic arms reduction. In short, the United States should calculate its strategy most cautiously, as it cannot afford to be caught in a nuclear war where it is not prepared to defend itself and unable to degrade the nuclear capacities of both adversaries.

As the United States grapples with the evolving nuclear postures of its adversaries and shifting global dynamics, it must formulate a strategy to address these challenges. Government officials, politicians, and nuclear experts have since raced to put potential solutions on the table, and the proposal list is exceptionally long and growing. As I write this thesis, newspaper articles, commission reports, think tank posts and press releases are constantly published; everybody in the U.S. national security sphere has something to say about the rising two-peer nuclear threat. I will focus on four potential options from a wide range of actors in the nuclear deterrence sphere. This chapter will explore calls for increasing the U.S. nuclear stockpile, changing U.S. weapons employment policy, focusing on diplomatic channels like arms control treaties and open crisis communications channels, and continuing the current nuclear strategy and modernization cycle. This chapter is an academic exercise and is not meant to advocate for a particular pathway.
Despite the disagreements among nuclear experts about the extent to which Russia and China’s nuclear capabilities and intentions face an existential threat to U.S. national security, there are a few points of consensus within the realm of U.S. nuclear defense strategy. First, the United States should still maintain a robust nuclear triad supporting ground-based, sea-based, and air-based nuclear delivery systems. This long-standing posture has been a hallmark of U.S. nuclear strategy since the beginning of the Cold War; nobody in the nuclear community disagrees that this triad system should continue to provide sufficient deterrence for its rising nuclear peers. The other agreement is that the United States must modernize its arsenal in some capacity. Nuclear weapons are made up of materials like steel, plutonium, uranium, plastics, and explosives. Over time, plastics and metals can corrode and deteriorate, and various elements become unstable from fluctuating temperatures and radiation fields. Malfunctions, in general, are more likely with an older warhead, which is a dire problem when dealing with nuclear weapons. Therefore, the Obama administration initiated a decades-long project to rebuild the U.S. nuclear triad and its infrastructure, which both the Trump and Biden administrations have continued. The Congressional Budget Office expects the United States to spend over $756 billion through 2032 on its nuclear forces. While experts disagree about the size of the overhaul efforts, nearly everybody agrees that the United States should not rely on Cold War era nuclear weapons to address Russia and China’s nuclear capabilities in 2030.

*Increasing the United States Nuclear Stockpile*

---

147 “Projected Costs of U.S. Nuclear Forces.”
The intensifying nuclear threats posed by Russia and China have reignited a contentious debate regarding whether the United States needs to expand its nuclear stockpile. The most recent and prominent advocates for an arsenal expansion come from two reports written by former government officials and experts in the nuclear field. These two reports, although consisting of different specific recommendations, argue a similar position that the current U.S. nuclear stockpile is inadequate to address both Russia and China if a simultaneous nuclear conflict were to occur. In addition, both reports emphasize the urgency with which the United States must reevaluate its policy and deterrence practices. They come to a similar conclusion as my assessment that Russia and China’s threat to U.S. national security is more hazardous and pressing than anyone could have imagined in a post-Cold War world.

First, a study group at the Center for Global Security Research (CGSR) at the Lawrence Livermore National Laboratory (LLNL), made up of eighteen bipartisan defense experts, published a report in April 2023 titled “China’s Emergence as a Second Nuclear Peer: Implications for U.S. Nuclear Deterrence Strategy.” The group consisted of LLNL employees, think tank fellows, congressional staff members, military officials, and international academics.148 The Two-Peer report estimates China will achieve peer status to Russia and the United States in quantitative and qualitative terms in the next decade.149 The report provided sixty recommendations on various areas, including U.S. nuclear deterrence strategy, strategic nuclear forces, hedging, extended deterrence, force survivability, arms control strategy, and strategic communications.150 Although the report advocates for a buildup in U.S. stockpile

---

numbers, it never provides specific numbers because “that must be derived from classified
guidance and threat analysis.”  

The report recommends that the United States start developing plans to build more nuclear warheads and delivery systems after New START expires in 2026 or it decides to suspend its participation. The Two-Peer report also recommends plans to upload SLBMs and potentially some ICBMs from U.S. reserves to a deployed position as soon as it is no longer contingent on New START. The main concern that the report found in the U.S. nuclear arsenal is the need for more nuclear weapons to respond to an adversary in a regional or small-scale conflict. While it did not explicitly recommend focusing on the buildup of low-yield nuclear weapons to address a small-scale conflict, it proposed to deploy “limited cruise and ballistic missile defenses to protect select assets.”

Regarding specific delivery systems, the report asserts that the F-35 Lightning II and B-21 Raider stealth bombers must become dual-capable (aircraft can carry both conventional and nuclear warheads) by 2024. The report also wants the United States to consider making its current ICBMs road-mobile and potentially making the Sentinel ICBMs road-mobile if necessary. A road-mobile ICBM is launched on a mobile platform, usually a large semi-truck, so it is more difficult for an adversary to detect and target a missile rather than if it was in a fixed position in an underground silo. Most of the study group members supported the development of a Sea-Launched Cruise Missile (SLCM/N), a controversial project that the Biden administration

---

153 Roberts et al., “China’s Emergence as a Second Nuclear Peer,” 67, 68.
155 Roberts et al., “China’s Emergence as a Second Nuclear Peer,” 70.
156 Roberts et al., “China’s Emergence as a Second Nuclear Peer,” 45.
does not want to develop. Still, Congress is adding funding for the program in the 2024 Annual Defense Authorization Budget.\(^\text{158}\)

Furthermore, in 2022, a congressionally mandated commission consisting of twelve bipartisan former government officials and defense experts convened to provide threat assessment and recommendations for U.S. defense posture. They published their findings and recommendations in October 2023 as the Strategic Posture Commission (SPC). The SPC is the second of its kind; the first SPC resulted from a similar commission authorized by the 2008 National Defense Authorization Act. The 2009 version is much less alarming, mainly focusing on continuing bilateral arms reduction through arms control treaties and supporting non-proliferation policies.\(^\text{159}\) It mentions that “new weapons with new military characteristics” were unnecessary, given the improved security environment.\(^\text{160}\) The findings and recommendations outlined in the 2023 SPC tell the opposite story; the new SPC believes the United States has found itself in an unprecedented security environment with the increasingly aggressive behaviors of Russia and China.\(^\text{161}\)

The SPC believes the current U.S. nuclear modernization program is not sufficient to successfully deter two nuclear peers in a tense security environment that the United States currently finds itself in.\(^\text{162}\) It recommends qualitative and quantitative adjustments to the


\(^{160}\) Perry et al., xvi, xviii.


\(^{162}\) Creedon et al., “America’s Strategic Posture 2023,” 34.
warheads and delivery systems beyond current modernization plans.\textsuperscript{163} First, it proposes that the United States should prepare to deploy some or all of the ICBMs and SLBM hedged warheads when New START no longer prevents it.\textsuperscript{164} The SPC also advocates for an increase in the production of LRSOs, B-21 bombers, and Columbia Ballistic Missile Submarines (SSBNs) with the Trident II D5LE2 warhead.\textsuperscript{165} These upgraded systems are already part of the current modernization, as illustrated in Figure 2; however, the SPC believes a higher number of these advanced systems are necessary for effective deterrence.\textsuperscript{166} Last, the Commission also advocates that the United States exercise the option to position some of its ICBMs to a road-mobile configuration.\textsuperscript{167} Similar to the CGSR Two-Peer report, the SPC does not provide specific numbers for an ideal arsenal, nor does it address the cost of an increase in production of these new warheads and delivery systems.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Figure2.png}
\caption{Transition from Old to New Systems in the U.S. Nuclear Triad}
\end{figure}

Madelyn Creedon et al.

\textsuperscript{163} Creedon et al., “America’s Strategic Posture 2023,” 34.
\textsuperscript{164} Creedon et al., “America’s Strategic Posture 2023,” 48.
\textsuperscript{165} Creedon et al., “America’s Strategic Posture 2023,” 48.
\textsuperscript{166} Creedon et al., “America’s Strategic Posture 2023,” 43.
\textsuperscript{167} Creedon et al., “America’s Strategic Posture 2023,” 48.
Both the CGSR report and the SPC endorse a similar strategy for an eventual United States buildup of its nuclear arsenal, and they both emphasize taking advantage of the release of constraints when New START expires in 2026. It is curious to note that a nuclear stockpile buildup can only occur after the end of New START when an administration endorses the idea of an increase and only after Congressional approval and large amounts of funds are appropriated to these efforts. But these programs are supposed to be the “urgent” solution to the rising threats of Russia and China. One could argue that an eventual and gradual arsenal buildup could ensure extended deterrence through the following decades. There might be a political landscape where both the executive and legislative branches agree to fund and execute an arsenal buildup. Still, it seems politically unfeasible given little interest in the current administration and most congressional members have shown.

Many critics argue that a U.S. nuclear buildup would likely trigger a trilateral arms race with Russia and China.\textsuperscript{168} Many consider an arms race destabilizing, dangerous, or illogical, as this was the experience during the Cold War arms race. A further expansion of nuclear weapons from the United States, Russia, and China could embolden other nuclear-capable states such as India, Pakistan, and Israel to increase their nuclear arsenals so they can sufficiently defend themselves from massive stockpiles of the main competitors in the nuclear field.\textsuperscript{169} This scenario could have serious adverse effects, such as incurring a massive economic cost on the American people that could last decades and increasing the likelihood of a nuclear war. Some might respond by saying that a costly arms race that has the potential to create global stability is more


beneficial and less expensive than a full-scale conventional or limited nuclear war that might occur otherwise. Whether or not an increase in the U.S. nuclear stockpile will provide lasting deterrence and stability is outside the scope of this paper. However, I predict that this suggestion will enter the forefront of national security conversations as the three-body problem grows more complex and if arms control agreements become an unrealistic possibility.

*Alterning U.S. Nuclear Targeting Policy*

Scholars have long debated how employment policy affects nuclear deterrence. A state’s nuclear employment policy can include the circumstances in which it might use nuclear weapons and where it might target its weapons. In 2013, DOD announced that the United States’ nuclear strategy is to “maintain significant counterforce capabilities against potential adversaries.” A counterforce doctrine is when a state targets its weapons toward an adversary’s military infrastructure. For the United States, that means targeting the adversary’s command-and-control systems, aiming to dismantle any network that can launch retaliatory strikes against the United States. A counterforce doctrine intends to exchange nuclear weapons in a limited way that minimizes civilian casualties and does little to harm civilian infrastructure and economies. The opposite of this policy is a countervalue doctrine in which a state targets the adversary’s cities and civilian population.

With the rise of two nuclear peers, a new coalition has introduced a shift in the United States’ nuclear employment and targeting policy as a way to deter both Russia and China and also not increase its nuclear stockpile. Nuclear experts Charles Glaser, James Acton, and Steve Fetter writing for *Foreign Affairs* argue that the United States should abandon its counterforce

---

targeting strategy. They believe that Russian and Chinese nuclear forces and command-and-control systems would mostly survive a preemptive nuclear attack from the United States and not be limited in function enough to launch counterstrikes against the United States. Rather, the authors suggest the United States should threaten to strike a range of targets from isolated infrastructure (energy and communication systems, ports, and transportation nodes) and also threaten to strike large cities to inflict maximum civilian and societal damage. This policy allows the United States freedom to inflict harm in either a limiting or destructive way and still be within the confines of its declared doctrine. The authors argue that a spectrum of target options nullifies the logic of increasing a nuclear stockpile because deterrence depends only on an arsenal’s ability to inflict damage and to have sufficient retaliatory capabilities.

Keir Lieber and Daryl Press released a paper through the Atlantic Council in April 2023 with a similar message. They believe a counterforce-only strategy requires the United States to constantly build up its nuclear forces as its adversaries do the same, triggering an unwanted trilateral arms race and providing a weaker deterrent. In addition, a countervalue-only strategy also has many drawbacks; it limits retaliatory options for U.S. leaders and lowers U.S. credibility for its allies and adversaries to prevent proliferation and deterrence effectively. Therefore, this report advocates for a hybrid approach that uses counterforce and countervalue doctrines for different circumstances. In cases where the United States conflicts with an adversary with a

---

172 Glaser et al., “America Doesn’t Need More Missiles.”
173 Glaser et al., “America Doesn’t Need More Missiles.”
174 Glaser et al., “America Doesn’t Need More Missiles.”
176 Lieber and Press, “Era of Nuclear Tripolarity.”
177 Lieber and Press, “Era of Nuclear Tripolarity.”
smaller arsenal, it would rely on threats of damage-limiting retaliatory strikes or a counterforce strategy.\textsuperscript{178} Against adversaries with nuclear arsenals too large for effective damage limitation, the United States would use a countervalue policy and threaten to target cities and essential infrastructure.\textsuperscript{179} In the case of Russia and China, the report says the United States should threaten a massive punishment to Russia if it were to attack the U.S. homeland with “a hundred (or so) weapons.”\textsuperscript{180} If China were to do the same, the United States would threaten to use its remaining weapons to inflict devastating damage to China’s cities too.\textsuperscript{181}

Opponents of a U.S. nuclear employment shift argue that a countervalue strategy has more disadvantages than benefits for a strong deterrence. The National Institute of Public Policy outlines the concerns some might have about the United States targeting cities and civilian infrastructure. The most significant concern that one might have about the United States targeting an adversary’s cities is that a preemptive strike against a city violates DOD’s \textit{Law of War Manual}, not to mention the many moral issues that arise from a global superpower inflicting a catastrophe onto the lives of innocent civilians.\textsuperscript{182} In addition, a countervalue doctrine might not be the most effective deterrent for an adversary like Russia or China because Moscow and Beijing potentially value their military powers and infrastructure more than the lives of their citizens, so threatening civilian lives might not be a good enough incentive not to use nuclear weapons against the United States.\textsuperscript{183} They also argue that if the United States targets cities, its military will have to spend more money to build up non-nuclear forces in case of a conventional

\textsuperscript{178} Lieber and Press, “Era of Nuclear Tripolarity.“
\textsuperscript{179} Lieber and Press, “Era of Nuclear Tripolarity.“
\textsuperscript{180} Lieber and Press, “Era of Nuclear Tripolarity.“
\textsuperscript{181} Lieber and Press, “Era of Nuclear Tripolarity.“
\textsuperscript{183} Payne et al., “Rejection of Intentional Population Targeting,” 3-4.
conflict with an adversary.\textsuperscript{184} Last, city-targeting is thought to limit future opportunities for arms reductions and control treaties with adversaries.\textsuperscript{185}

\textit{Pursuing Diplomatic Channels}

There is a large coalition of policymakers and nuclear experts who believe that diplomatic measures like new arms control treaties and crisis communication channels are still the most effective way to reduce nuclear tensions with Russia and China. Nuclear arms control treaties were the prevailing method in which the United States addressed arms reductions with Russia in the past, so it is natural for many experienced national security experts to be inclined to use the same method that led the United States and Russia out of the Cold War arms race. The Biden administration adopted this choice as their strategy for addressing two nuclear adversaries.\textsuperscript{186} The prospect for successful arms control talks between the United States, Russia, and China remains grim, not to mention there is an inherent complexity of cooperation with three nuclear states rather than two. However, U.S. policymakers are unwilling to give up diplomatic channels as the best course of action while dealing with two nuclear adversaries.

The United States and Russia have a long history of arms reduction efforts, and it would be helpful to explore why they have worked in the past to understand if the same situation applies today. First, the 1962 Cuban Missile Crisis opened a new opportunity for arms control efforts during the Cold War. The near-nuclear exchange was a wake-up call for the United States and the Soviet Union to improve crisis communications channels, better known as nuclear “hotlines.” In the decade after the Crisis, the United States and Soviet Union ratified the Limited Test Ban Treaty, the Nuclear Non-Proliferation Treaty (NPT), the Strategic Arms Limitation

\textsuperscript{184} Payne et al., “Rejection of Intentional Population Targeting,” 4-5.
\textsuperscript{186} United States Department of Defense, “NPR 2022,” 1.
Talks, the Anti-Ballistic Missile Treaty, and Incidents at Sea Agreement. While it would not be ideal for another near-nuclear catastrophe for new arms control and hotline renewals to be achievable, it is an essential context for understanding why arms reductions were possible during the Cold War era.

The Cuban Missile Crisis resulted in the world’s first nuclear “hotline,” known as the Direct Communication Line (DOL) in 1963, where officials from Washington and Moscow could quickly transmit messages to each other in times of escalation. These communication channels have been used in both nuclear and conventional contexts, and over the years, the United States and Russia have set up different lines of communication for different issues like space, cyber, and regional conflicts in Syria and Ukraine. The United States set up a hotline with China in 1997, where the two heads of state could speak directly; however, this line has rarely been used. Washington and Beijing also established space and cyber hotlines and audio/visual links for military crises. The issue with analyzing the efficacy of crisis communication channels is that there is little public knowledge about how often they are used and how effective they are in limiting escalation and managing a crisis. For good reason, the United States keeps the nature of its secure communication of its hotlines confidential unless there is a severe lack of communication with the state, which is the case with China.

Over the years, U.S. government officials have expressed frustration with Beijing frequently ignoring calls from the hotline, which defeats the purpose and effectiveness of quick

---

and concise communication in a crisis. In a June 2022 meeting between U.S. Secretary of Defense Lloyd J. Austin III and Chinese Defense Minister Wei Fenghe, Austin urged Beijing to engage more actively with the crisis communication channels already in place to avoid any misunderstandings or miscalculations that could potentially lead to unnecessary military conflict.\textsuperscript{192} Some argue that getting China to “pick up the phone” is not worth the effort, as the United States and China value nuclear hotlines differently.\textsuperscript{193} However, as there are few other efficient ways to communicate with Beijing to navigate crises, U.S. officials continue to find ways to persuade China to participate in this system.

As mentioned in Chapter 2, the 2022 Nuclear Posture Review emphasizes arms control as a top priority for the Biden administration’s approach to risk reduction with two nuclear adversaries.\textsuperscript{194} While the report says the United States is ready to renegotiate a replacement to the New START Treaty in 2026, it recognizes that the United States’ military priorities and goals differ from Russia’s. Hence, it must approach dwindling arms control talks with the utmost caution and care.\textsuperscript{195} It also reports that Washington continues to pursue strategies to de-escalate nuclear tensions with China, as Beijing currently seems uninterested in any arms control agreements until the United States reduces its arsenal.\textsuperscript{196} Still if the United States remains ready for talks with China if it chooses.\textsuperscript{197} Again, it is not clear whether U.S. officials are completely transparent about all that goes on between Washington and Beijing communications, but it can


\textsuperscript{194} United States Department of Defense, “NPR 2022,” 16.

\textsuperscript{195} United States Department of Defense, “NPR 2022,” 17.

\textsuperscript{196} United States Department of Defense, “NPR 2022,” 17.

\textsuperscript{197} United States Department of Defense, “NPR 2022,” 17.
be inferred from the frequent public calls to urge China to engage in talks that it is highly critical to U.S. national security strategy to reduce risk with the intensifying Chinese nuclear threat.

One glimmer of hope and an essential foundation needed to engage in productive arms control talks is the recognition by all parties that the main objective is to avoid nuclear war. In January 2022, five nuclear-capable states, known as the P5 (United States, United Kingdom, France, China, and Russia), issued a joint statement affirming their intentions to prevent nuclear war. The five states agree that “a nuclear war cannot be won and must never be fought.”¹⁹⁸ All five states agree to the conditions of the NPT, which include an obligation to pursue nuclear disarmament negotiations.¹⁹⁹ While the United States, Russia, and China disagree on many issues, they agree on the premise that a nuclear exchange must be avoided at all costs. This shared goal was an important precedent for Cold War-era arms control agreements, and it is plausible that the same level of confidence between the United States, Russia, and China can grow again.²⁰⁰

Many scholars have characterized the state of nuclear arms control as “dead,” at least in a way that nuclear-weapons states have always conducted arms control treaties in the past.²⁰¹ The world finds itself in a completely different geopolitical landscape, where it must deal with three nuclear superpowers. While the path to lasting global stability remains unclear, reducing the role nuclear weapons play in international relations must be a part of the solution. Some argue that the United States should be a responsible global superpower and pursue “behavioral” arms

¹⁹⁹ “Joint Statement.”
control. The United States would encourage allies and other supporters in the Global South to stigmatize escalatory activities and pursue responsible nuclear behaviors such as arsenal number and composition transparency, risk reduction efforts, and implementation of crisis communication channels. Only time will tell whether the international environment will be ready for a renaissance of new arms control agreements or if states will pursue another avenue to reduce the risk of nuclear conflict.

**Impact of No United States Action**

There is an important option that many tend to forget about and remember it is sometimes the best course of action: do nothing. It is the policy most loved by politicians because it is the easiest option; it requires only maintaining the status quo. Inaction in public policy often occurs because a government is uncertain whether a decision will further escalate the issue; there may be too many policy options or constraints to address the problem properly. Policymakers often hope the issue will diffuse itself over time; then, there can be no miscalculations and no responsibility for incorrect actions. Other times, inaction can lead to worse outcomes and more responsibility held onto policymakers, such as when Congress fails to pass gun control legislation and another mass shooting occurs. Outrage is usually directed at the policymakers who either inadvertently or deliberately did not issue gun control legislation that might have prevented this mass shooting.

---

202 Kuhn and Williams, “A New Approach.”
203 Kuhn and Williams, “A New Approach.”
For nuclear issues, it is unclear what “inaction” would look like for the United States. As administrations change potentially every four years, nuclear policy change is inevitable. However, the United States has adopted long-standing nuclear doctrines and behaviors that it could continue to pursue and still be considered “doing nothing” to address Russia and China as nuclear threats. The United States’ reliance on arms control agreements has been well-documented as its primary form of maintaining stability and control in the nuclear sphere. Therefore, it could continue to try to revamp failed arms control talks with Russia and begin conversations with China despite neither actor seeming interested in arms control talks at this moment. Inaction in this context would also mean for the United States to continue its nuclear modernization program and to continue to address the increasing cost of advancing technologies and more precise weapons. Pursuing a counterforce doctrine and rejecting a No First Use policy would also be a continuation of the long-established nuclear policies that would not likely change the Russian or Chinese course of action as it has not deterred its ambitions thus far.

What does all this mean for the United States if it continues to address Russia and China the same way that it always approaches nuclear issues? Maintaining these policies means the United States is stuck in the past with its nuclear policy. As I have argued in previous chapters, the political, economic, and military circumstances have dramatically changed; it is no longer the same game as World War II or the Cold War. The 21st century has brought new challenges for the United States to address. Therefore, the established assumptions and foundations upon which it crafts its policies must be deconstructed. There is always the possibility that tensions fizzle out themselves, and waiting it out might work. However, it is unlikely that Russia and China will “go away” as an issue for the United States. There is one consensus from my research that nearly every scholar, politician, and defense expert believe: Russian and Chinese nuclear threats pose a
national security threat to the United States and the U.S. government must find an effective solution.
Chapter 5: Conclusion

The global nuclear landscape, shaped by the escalating capabilities of Russia and China, has undeniably changed the trajectory of U.S. nuclear strategy. The United States’ post-WWII nuclear doctrine has evolved significantly over time, employing a triad system distributed across all military branches. Initially expanding its arsenal with an arms race with the Soviet Union, bilateral talks and arms control treaties like SALT I, START I, SORT, and New START forced both states to decrease their nuclear forces to their current numbers. The United States still maintains a robust nuclear triad and is undergoing a decades-long effort to modernize and replace old warheads and delivery systems from the Cold War era. The 2022 Nuclear Posture Review published by the Biden administration rejects a No First Use policy and emphasizes arms control, modernization, and policy adjustment against the backdrop of Russian and Chinese threats.

Russia has a similar nuclear triad system with slightly fewer deployed warheads than the United States and also does not adhere to a No First Use policy. Russia’s invasion of Ukraine brings new instability to the nuclear landscape as its leaders frequently refer to Russian nuclear forces in the context of potentially using them against Ukraine. Russia also suspended its participation in the New START Treaty, leaving Russia and the United States with no bilateral arms control agreements. China’s secretive nuclear program estimates around 500 warheads, with future projections indicating massive growth in the next five to ten years. China’s intentions with its nuclear forces remain somewhat ambiguous, with speculation about defensive motives in preparation for a potential U.S. preemptive strike or a military conflict in Taiwan. The partnership between Russia and China adds complexity to the three-body problem, endangering U.S. national security and prompting strategic reassessment.
Proposed solutions for how the United States should address these rising threats from Russia and China all have their advantages and flaws. Some scholars, defense experts, and U.S. policymakers call to increase the U.S. nuclear stockpile and expand the current modernization plan. A short-term solution would be for the United States to move some of its reserves and hedge warheads to a deployed position as soon as the New START Treaty expires in 2026. Critics of this position argue an arsenal buildup would trigger an arms race, which could incur unnecessary political and economic costs for the United States. Others advocate for a shift in U.S. targeting policy, moving away from a counterforce-only strategy and towards a hybrid system where the size of the threat determines a counterforce or countervalue targeting strategy. However, some are concerned with the ethical implications of the United States targeting an adversary’s civilians, as it is against the DOD’s Law of War Manual.

Many promote diplomatic solutions such as arms control agreements and reinvigorating crisis communication channels, as they cite past successes in bilateral talks with the Soviet Union during the Cold War. It is the path that the U.S. government is currently pursuing, as the 2022 Nuclear Posture Review prioritizes arms control as the most effective way to achieve the long-term goal of reducing the role of nuclear weapons in U.S. defense strategy. However, there are no current arms control agreements with Russia or China, and neither state seems interested in engaging in bilateral or trilateral talks with the United States. Therefore, promoting arms control as a prominent strategy when one party is unenthusiastic about an agreement is unproductive. Last, I warn against the perils of U.S. inaction, as maintaining traditional policies are not sufficient to address the escalating threats posed by Russia and China.

It is extremely difficult to advocate for any one of these options, as any of them could have significant and dangerous consequences. It is also difficult to imagine what nuclear
proliferation looks like; the bombings in Japan exist only as a distant memory or abstract lesson from history class for many of us. Improved technology has increased the size, accuracy, and destructive capabilities of all nuclear warheads; to visualize nuclear annihilation in this new era is petrifying. Hence, the decisions the United States will make about its nuclear forces in the near future are crucial to ensuring these imagined horrors never become a reality. I am hesitant to embrace any one of these proposed solutions by itself due to their limitations. For a stockpile buildup, I am not convinced that more nuclear weapons will keep the United States safe. Russia and China already have the capability to inflict catastrophic damage to the U.S. homeland, and the United States has that same capability. An increase in that capacity does not make much of a difference regarding unacceptable damage (five versus ten destroyed cities is comparably devastating) and, therefore, is not an effective deterrent. I have serious concerns about the precedent that would be set if the United States began targeting civilians. The United States has a responsibility as a global superpower to uphold basic human rights, and a countervalue strategy is a violation of not only its responsibility but national and international war crime laws; it is simply a bad idea. Diplomatic channels are a noble solution but are entirely ineffective if only one party (the United States) is willing to cooperate. As of December 2023, Russia and China appear disinterested in arms control treaties and the effective use of nuclear hotlines and are increasingly opaque about the composition and size of their stockpiles.

Given my animosity towards the full adoption of any one solution, I believe small parts of some of these solutions are the correct course of action for the United States to pursue. While I do not believe a flat-out increase in deployed nuclear warheads will be beneficial, a further expansion of the U.S. nuclear modernization program is prudent. The United States should continue to retire and dismantle warheads at a quicker pace. It should not increase the number of
deployed weapons; however, it should improve the technology of the delivery systems. Similar to the CGSR report, the United States should ensure the dual-capability of the F-35 Lightning II and B-21 Raider bombers, expand the production of Columbia-class SSBNs, and consider making some of its ICBMs road-mobile. The improved technology of its delivery systems assures more accuracy and potentially makes it more difficult for adversaries to track and target U.S. nuclear forces.

While the prospect of more arms control agreements seems bleak at the moment, the United States can make more of an effort to improve crisis communication channels with Russia and China. It has been sixty years since the United States and Russia opened a Direct Communication Line (DOL) and over twenty-five years for the United States and China. Therefore, it is time for all three states to reconsider the importance of direct, transparent, and open communication in this new era of escalating tensions. While it is not as large of an impact as arms control treaties, DOLs are the next best option when looking at diplomatic solutions. President Xi Jinping visited the United States in November 2023 and met with President Biden, and both parties agreed to reinstate a DOL between military operational commanders. While this is an important diplomatic step, one can only tell if China fulfills this promise if it picks up the phone in a crisis.

As the United States continues to navigate the intricacies of a multipolar world, the imperative lies in fostering stability and averting the dangerous path of nuclear proliferation. Embracing transparency, bolstering delivery capabilities, and reaffirming commitment to arms control frameworks stand as pivotal pillars in mitigating nuclear risks. Ultimately, the future of

---

U.S. nuclear strategy in response to Russian and Chinese nuclear prowess hinges upon a comprehensive, adaptable, and pragmatic approach. It needs continuous evaluation and reassessment that coincides with geopolitical shifts, technological advancements, and the evolution of security challenges. Navigating these complexities with foresight will allow the United States to achieve a delicate balance that promotes international stability and advances the overall cause of global disarmament and non-proliferation.
Bibliography


https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/03/p5-statement-on-preventing-nuclear-war-and-avoiding-arms-races/.

https://www.ucsusa.org/resources/i-wish-i-didnt-know.


