



## Nuclear Deterrence and Arms Control in the 21st Century

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The greatest geopolitical threat to the United States and the U.S.-led order is China. Russia, likewise, poses a pressing threat to U.S. vital interests, and it views and treats the United States and NATO as its primary foes. Rogue regimes, including nuclear North Korea and Iran, continue to seek more effective means of coercing the United States. Nuclear brinksmanship has become more common, and the risk of a nuclear exchange is becoming increasingly acute.

A combination of factors has led us to this point, but the crux of the problem is that as our enemies have become more able to challenge the United States. Simultaneously, they perceive an inverse correlation in the strength of American resolve to put up an adequate defense. Their doubt in U.S. resolve is abetting the deterioration of the credibility of strategic deterrence that has underpinned the U.S.-led order for 70 years.

Central to the effectiveness of U.S. strategic deterrence is convincing our enemies of our resolve to defend American vital interests from aggression with whatever combinations of weapons necessary. Weapons included within the arch of strategic deterrence are the nuclear deterrent—the keystone of our national defense. American observers might enthusiastically disagree with the notion that American resolve has weakened. Although they might be right, their view has no bearing on the effectiveness of deterrence. What matters for deterrence to hold is *our adversaries'* perception of our resolve, and both through inaction and action, the United States has given them reason to doubt.

We have given them reason to doubt through our failure to attend to both the weapons development and revanchist aims of our adversaries, as was famously the case with the rise of China. We must

change course. Admiral Charles Richard’s testimony to Congress has highlighted that “every operational plan in the Department... rests on an assumption that strategic deterrence and, in particular, nuclear deterrence is holding.”<sup>1</sup> Although this essay is primarily focused on our nuclear deterrent, it should be said that it must be a top priority for the United States to regain the competitive advantage versus China conventionally as well. After all, a strategic attack will not necessarily be a nuclear one—at first. Secretary James Schlesinger reminded Congress that one of the best ways to deter nuclear war was to deter conventional war, since nuclear wars are plausible when a conventional war escalates.<sup>2</sup>

We have also given our adversaries reason to doubt through our failure to truly modernize—not just maintain—our nuclear enterprise and delivery systems. We also have given them reason to doubt due to our policy statements that place a premium on arms control and Cold War notions of simple stability through vulnerability. Despite this archaic thinking about what constitutes “stability” today, the geopolitical landscape is dynamic, the strategic capabilities of our adversaries are advancing and changing, and the national aims, military strategies, and willingness to take on risk vary from adversary to adversary.

However, the bulk of commentary from advocates and analysts argues that many things threaten the “stability” paradigm, including strategic missile defense, theater missile defense that could become “too effective,” additional low-yield weapons, increasingly advanced conventional weapons such as hypersonic glide vehicles, any “new” capability that leverages modern technology, or anything that could be lethal in the space domain. Despite these intellectual and ideological headwinds, the Obama and Trump administrations and bipartisan congressional consensus concluded, as expressed in policy statements and modernization plans, that the U.S. deterrent is not only vital but also must be updated and even adapted.

This is because our nuclear enterprise is deteriorating. We placed a nuclear testing moratorium on ourselves and have not tested a nuclear weapon since the 1990s. North Korea tests, and there is reason to believe that Russia and China have tested, above a zero yield. As our nuclear stockpile ages and we eschew testing, we are also unable to produce the core component of our warheads: plutonium pits. Russia, China, and North Korea produce plutonium pits. As I penned with my colleague Tim Morrison, “Being able

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<sup>1</sup> Admiral Charles Richard, To receive testimony on United States Strategic Command and United States Space Command in review of the Defense Authorization Request for Fiscal Year 2022 and the Future Years Defense Program. (2021). [https://www.armed-services.senate.gov/imo/media/doc/21-22\\_04-20-2021.pdf](https://www.armed-services.senate.gov/imo/media/doc/21-22_04-20-2021.pdf)

<sup>2</sup> Secretary James Schlesinger, (rep.) Annual Defense Department Report FY1976 and FY 1977 (1975). [https://history.defense.gov/Portals/70/Documents/annual\\_reports/1976-77\\_DoD\\_AR.pdf?ver=5Yhnnnc5giX2RjfQtS-jD-Vw%3d%3d](https://history.defense.gov/Portals/70/Documents/annual_reports/1976-77_DoD_AR.pdf?ver=5Yhnnnc5giX2RjfQtS-jD-Vw%3d%3d)

to produce at least 80 plutonium pits per year is the minimum requirement articulated by our nation's senior military and civilian leaders across administrations that bipartisan majorities of Congress enshrined into law.”<sup>3</sup>

As for the U.S. nuclear triad, our nuclear delivery systems rely on decades-old technology.<sup>4</sup> The United States' 400 Minuteman III intercontinental ballistic missiles (ICBMs) entered service in 1970 and were scheduled to retire a decade later. The replacement missile, the Ground-based Strategic Deterrent, is needed because it will grant the United States a significant increase in reliability and will integrate cutting-edge technologies, giving our ICBMs an advantage over the kinds of defenses we anticipate our adversaries will possess in the decades to come. Similarly, the current Air Launch Cruise Missile (ALCM) carried by our bombers is scheduled to retire in 2030, and the Long Range Stand Off (LRSO) weapon, if supported, will replace it. Like the ALCM and Minuteman III, there are real challenges due to component part obsolescence with the Ohio-class ballistic missile submarine (SSBN), and the entire fleet must be retired by 2039 regardless of whether its replacements (the Columbia-class SSBNs) are ready.<sup>5</sup>

In the United States, military and government leaders face domestic headwinds opposing any adaptation to U.S. strategic deterrence and allocation of the necessary resources over many budget cycles. Meanwhile, U.S. adversaries march ahead with their conventional, nuclear, and defensive systems in all domains with temerity.

China is investing with focus and prioritization of its nuclear weapons, and it is doing so as it becomes bolder in its threats against the United States and our allies in the region. As Commander of U.S. Strategic Command Admiral Richard recently summarized:

[China's] strategic dyad of ICBMs and SLBMs will soon become a triad, with the completion of a nuclear-capable long-range bomber. China is building new land-based, road-mobile ICBMs, providing its forces more flexibility and capability. The PLA Navy Jin-class ballistic-missile submarines carry up to 12 SLBMs each. China has built new warning and C2 capabilities and improved its readiness. Further, China's nuclear weapons stockpile is expected to double (if not triple or quadruple) over the next decade.<sup>6</sup>

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<sup>3</sup> Jonathan Medalia, *Manufacturing Nuclear Weapon Pits: A Decisionmaking Approach for Congress*. (2014). Congressional Research Service. <https://sgp.fas.org/crs/nuke/R43685.pdf>

<sup>4</sup> Patty-Jane Geller, & Rebecca Heinrichs, (rep.) *Extending New START Makes U.S. Nuclear Modernization Imperative*. (2021). Washington, DC: The Heritage Foundation.

<https://www.heritage.org/arms-control/report/extending-new-start-makes-us-nuclear-modernization-imperative>

<sup>5</sup> Dakota Wood, (rep.) *2020 Index of U.S. Military Strength* (p. 389). (2020). Washington, DC: The Heritage Foundation. [https://www.heritage.org/sites/default/files/2019-11/2020\\_IndexOfUSMilitaryStrength\\_WEB.pdf](https://www.heritage.org/sites/default/files/2019-11/2020_IndexOfUSMilitaryStrength_WEB.pdf)

<sup>6</sup> Admiral Charles Richard. *Forging 21st-Century Strategic Deterrence*. (2021). U.S. Naval Institute Proceedings, Vol. 147/2/1,416. <https://www.usni.org/magazines/proceedings/2021/february/forging-21st-century-strategic-deterrence>

Despite the relief of some Democrats and other liberal internationalist analysts, the New START Treaty has neither moderated Russia's behavior nor stopped the growth of Russia's nuclear weapons program. Setting aside the accounting problems in the New START Treaty, Russia has simply gone around the treaty's parameters to build delivery systems that are not limited by the agreement. As the Trump administration's Missile Defense Review explains, "Moscow is fielding an increasingly advanced and diverse range of nuclear-capable regional offensive missile systems, including missiles with unprecedented characteristics of altitude, speed, propulsion type, and range. These missile systems are a critical enabler of Russia's coercive escalation strategy and nuclear threats to U.S. allies and partners."<sup>7</sup>

When President Donald Trump entered office, North Korea's dictator Kim Jong-Un was repeatedly testing nuclear weapons and missiles, flying them over Japanese territory, and threatening to shoot at Guam, where American citizens live and on which our military operations in the region rely. In 2017, they successfully tested the Hwasong-14 ICBM, demonstrating that North Korea could likely deliver a nuclear warhead all the way to the American Midwest. Since the summits with President Trump, Chairman Kim has not resumed testing ICBMs, but he has tested other missiles in violation of United Nations Security Council Resolutions.<sup>8</sup>

Iran has demonstrated a commitment to improving its nuclear program and has sought to extort the United States for sanctions relief by threatening further nuclear weapons work. At the same time, it continues to improve its massive missile arsenal. In 2020, the Islamic Revolutionary Guard Corps conducted a successful satellite launch. The Iranian regime's space-launch program is developing capabilities directly applicable to the advancement of an ICBM program. Iran has now shown it is willing not only to arm its proxies in Yemen to be used against Saudi Arabia, but also to launch other kinds of missile attacks against U.S. partners—and even ballistic missiles against U.S. bases.

Despite the variety of threats and the dangerous trends for missile development and proliferation, U.S. missile defense is not advancing at the necessary pace to stay ahead of the threats. The Missile Defense Agency is repeatedly asked to do more but with a painfully small budget that does not grow with the increased responsibilities. The

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<sup>7</sup> Office of the Secretary of Defense, (rep.) 2019 Missile Defense Review (p. 8). (2019). [https://www.defense.gov/Portals/1/Interactive/2018/11-2019-Missile-Defense-Review/The%202019%20MDR\\_Executive%20Summary.pdf](https://www.defense.gov/Portals/1/Interactive/2018/11-2019-Missile-Defense-Review/The%202019%20MDR_Executive%20Summary.pdf)

<sup>8</sup> Rebecca Heinrichs, *What North Korea's First Missile Test during the Biden Administration Means*. National Review. (2021). Retrieved from <https://www.nationalreview.com/2021/03/what-north-koreas-first-missile-test-during-the-biden-administration-means/>

Next Generation Interceptor will be added to missile fields in Alaska sometime by the end of the decade, evolving the entire homeland missile defense system, the Ground-based Midcourse Defense, if administrations and Congress support and sustain it.

Despite regularly opposing U.S. and ally missile defense advancements, Russia and China are investing in significant missile defense systems. Both are developing antisatellite systems. Russia has not failed to modernize its missile defense system deployed around Moscow and throughout Russia, including 68 nuclear-armed interceptors and other mobile missile defense systems. The Trump administration wisely included these advances in the 2019 Missile Defense Review, undermining the argument that there is credibility to Russian and Chinese opposition to U.S. missile defense developments.<sup>9</sup>

To bolster the credibility of our strategic deterrence, the United States must take the following bold, coordinated steps across administrations. These five steps will signal to our adversaries that they would be mistaken to calculate that the United States would be unwilling to do whatever is necessary to defend our vital interests and that, should strategic deterrence fail, we are committed and willing to fight to a conclusive victory.

1. *The first step is a matter of rhetoric and statements of policy.* The president should eschew the aspirational claim that his or her priority is to reduce the role of nuclear weapons in our defense strategy. Instead, the president should issue a clear statement that the United States will defend its sovereignty and vital interests by any means consistent with American principles of justice (i.e., laws of war and, loosely, just war doctrine). Then the president should proceed to outline the agenda to make sure we are able to do this by making a full commitment to modernize as quickly as possible the nuclear stockpile and attendant infrastructure, to reconstitute the plutonium pit production capability at two sites, and to develop the next generation of nuclear delivery systems.

2. *Policymakers should resist pressure to elevate arms control as a national security achievement on its own.* Arms control can be a tool to contribute to stability; for example, greater insight and restrictions on Chinese nuclear-capable weapons would be welcome as would be constraints on Russian theater nuclear weapons. However, arms control can also be an impediment to the United States bolstering its security and sovereignty, as was

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<sup>9</sup> Office of the Secretary of Defense, (rep.) 2019 Missile Defense Review (p. 8). (2019). [https://www.defense.gov/Portals/1/Interactive/2018/11-2019-Missile-Defense-Review/The%202019%20MDR\\_Executive%20Summary.pdf](https://www.defense.gov/Portals/1/Interactive/2018/11-2019-Missile-Defense-Review/The%202019%20MDR_Executive%20Summary.pdf)

the case when the Russians continued to violate the Intermediate Nuclear-Force Treaty and the Open Skies Treaty. The ballyhooed Joint Comprehensive Plan of Action also had a deleterious impact on U.S. and regional security.

3. *With great intentionality, the United States should strengthen our network of allies and partners with the express purpose of deterring shared adversaries from carrying out their revanchist aims.* This step will greatly enhance assurance aims as well. Improving U.S. conventional advantage is a priority, but we must be ready with credible nuclear options in a state of acceptable readiness in the event of escalation that results in strategic attack. To do this, we must fortify Guam. It is critical that Guam receive the full missile and air defense capabilities that U.S. Indo-Pacific commanders have requested, along with greater cruise and ballistic missile sensor awareness and more regular practicing of “fly-on-warning” takeoffs for our bombers. The ALCM-B will remain serviceable until LRSO comes online. Also, the Trump administration reintroduced the W76-2 low-yield Trident submarine warhead to deter Russian aggression. The Biden administration should maintain this and signal its willingness to consider it in the Pacific as well.

4. *The United States should maintain high nonproliferation and counterproliferation standards for our adversaries.* The Biden administration has continued the Trump administration’s insistence that complete, verifiable, irreversible dismantlement of North Korea’s nuclear program is the aim. Sanctions should remain in place in the interim and should not be relaxed to persuade North Korea to weaken only reversible parts of its program. The United States should also fully resume ally military exercises in the region both for the purpose of readiness and to bolster deterrence and assurance. And, as for Iran, the United States should go back to zero uranium enrichment as the standard for that regime.

5. *We should pursue robust missile defense development for both the regional context as well as defense of the U.S. homeland.* Even if the United States maintains that its homeland defense is only meant to defend against rogue threats, as those threats become more sophisticated and as we improve and increase the scale of our defenses, it will become untenable to walk the Cold War tightrope of remaining both satisfactorily vulnerable to peers in the name of “stability” and satisfactorily defended against rogue state threats. Maintaining mutual vulnerability between not just one but two peer competitors in the name of “stability” while both of those nations invest heavily in significant offensive and

defensive systems is already a dubious ambition. But failing to stay ahead of a growing North Korean threat in the name of mutual vulnerability would be indefensible. Missile defense contributes to deterrence by denial and, thereby, makes deterrence by punishment more credible. And if deterrence does break down, missile defense will contribute to damage limitation with the goal of fighting to win on terms most favorable to the United States. Missile defense is quite simply a necessary component of strategic deterrence, and we must take advantage of cutting-edge technologies in all military domains to more clearly demonstrate our resolve to deter the range of adversaries threatening the United States and to protect the American people.