



PROCEEDINGS

ASSESSING THE 2022 NUCLEAR POSTURE REVIEW

The remarks below were delivered at a symposium on “Assessing the 2022 Nuclear Posture Review” hosted by the National Institute for Public Policy on December 19, 2022. The symposium highlighted the Biden Administration’s approach to U.S. nuclear posture and considered the adequacy of U.S. nuclear programs in light of the changed international security environment.

David J. Trachtenberg

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In October, the Biden Administration finally released the unclassified version of its *Nuclear Posture Review* (NPR), which was embedded in the *National Defense Strategy* (NDS) along with the *Missile Defense Review* (MDR).

I think it’s fair to say that the 2022 NPR contained a few surprises, not the least of which were some significant elements of continuity with the Trump Administration’s NPR and other prior Nuclear Posture Reviews. This includes support for the nuclear Triad and a commitment to modernize all three “legs”; revitalizing our nuclear infrastructure; support for extended deterrence; the need for “tailored nuclear deterrence strategies;” rejecting calls to de-alert ICBMs; and even a rejection of “sole purpose and “no first use” policies that the president himself openly favored. It also adopts almost verbatim the same declaratory policy on nuclear weapons employment contained in the 2018 NPR.

The NPR also acknowledges that “due to the actions of our strategic competitors, the international security environment has deteriorated in recent years.”¹ It recognizes China’s and Russia’s military expansion and greater reliance on nuclear weapons for coercive purposes, stating, “The current and growing salience of nuclear weapons in the strategies and forces of our competitors heightens the risks associated with strategic competition and the stakes of crisis and military confrontation.”² It further states that “as the security environment evolves, it may be necessary to consider nuclear strategy and force adjustments to assure our ability to achieve deterrence....”³ Indeed, the NPR explicitly declares that the United States will “maintain nuclear forces that are responsive to the threats we face.”⁴

However, the document appears to suffer from a case of schizophrenia. While recognizing that Russia and China have increased the role of nuclear weapons in their own postures, it

¹ Ibid. p. 4.

² Department of Defense, *2022 Nuclear Posture Review*, p. 5, available at <https://s3.amazonaws.com/uploads.fas.org/2022/10/27113658/2022-Nuclear-Posture-Review.pdf>.

³ Ibid. p. 5.

⁴ Ibid., p. 1.



says “The United States is committed to taking steps to reduce the role of nuclear weapons in our strategy....”⁵

While acknowledging that China has embarked on what it calls “an ambitious expansion, modernization, and diversification of its nuclear forces” and that Russia is “steadily expanding and diversifying [its] nuclear systems,”⁶ the NPR proposes no new or “diversified” U.S. nuclear programs, cancels the SLCM-N program, and proposes to retire the B83-1 gravity bomb.

Interestingly, the NPR’s emphasis on “integrated deterrence” includes, in its words, “better synchronizing nuclear and non-nuclear planning, exercises, and operations.”⁷ It notes that this integrated deterrence approach “incorporates suitable non-nuclear capabilities tailored to specific threat scenarios....”⁸ “Non-nuclear capabilities may be able to complement nuclear forces in strategic deterrence plans and operations,” it states.⁹

This integration of nuclear and non-nuclear capabilities for deterrence was also a key tenet of the Trump Administration’s NPR, which noted that “U.S. forces will ensure their ability to integrate nuclear and non-nuclear military planning and operations.”¹⁰

As I recall, better integration of nuclear and non-nuclear capabilities was also one of the key pillars of the “New Triad” concept proposed in the Bush Administration’s NPR. Indeed, both the Bush and Trump Administrations were roundly criticized by those who saw such integration as blurring the line between the use of nuclear and non-nuclear weapons, thus lowering the threshold for nuclear use and making nuclear war more likely.

While those arguments were specious at the time, there seems to be no such criticism of the concept now that the Biden Administration has adopted it. I suppose imitation truly is the sincerest form of flattery. Indeed, the arguments for integrating nuclear, non-nuclear, and defensive capabilities to improve deterrence are not new, they made sense then, and continue to make sense now.

Another inconsistency with regard to “integrated” deterrence seems to be the lack of integration between the NPR and the *Missile Defense Review*. For example, the NPR eliminates “hedging against an uncertain future” as an explicit role for nuclear weapons¹¹ while the MDR calls investing in the “full spectrum of missile defeat capabilities” while hedging against uncertainty “a strategic imperative for the United States.”¹² Of course,

⁵ Ibid., p. 7.

⁶ Ibid., p. 4.

⁷ Ibid., p. 10.

⁸ Ibid., p. 9.

⁹ Ibid., p. 10.

¹⁰ Department of Defense, *Nuclear Posture Review 2018*, February 2018, p. 21, available at <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>.

¹¹ 2022 Nuclear Posture Review, op. cit., p. 7.

¹² Department of Defense, *2022 Missile Defense Review*, p. 12, available at <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF>.

neither strategy document proposes investing in defensive capabilities that could hedge against the prospect of either a Russian or Chinese strategic attack on the U.S. homeland.

I will conclude here and look forward to hearing the perspectives of our panelists.

Keith B. Payne

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As usual, I will start by noting that my comments reflect only my personal views. That said, it is a pleasure to participate on this panel with such outstanding colleagues. Our time is short, so I will summarize my general view of the 2022 NPR, and then focus on only a handful of issues that deserve to be called out.

First, this NPR, even with flaws, is a welcome relief. This is because, while President Biden's past positions regarding nuclear policy seemed to be a captive of minimum deterrence thinking and the nuclear disarmament community, the 2022 NPR is not. It includes multiple useful points that do not move U.S. policy in the problematic ways apparently expected by the nuclear disarmament community—to that community's obvious disappointment.

By doing so, we see a familiar dynamic. President Jimmy Carter came into office asking why the U.S. strategic nuclear deterrent could not reside in a single ballistic missile carrying submarine. He departed office having signed the "Countervailing Strategy," which was the basis for the subsequent Reagan Administration's nuclear modernization program of the 1980s.

Two decades later, President Obama came into office vocally promoting global nuclear disarmament. Indeed, he was awarded the Nobel Prize for doing so. Nevertheless, he subsequently put into motion most of the current nuclear modernization program that now so alarms the nuclear disarmament community.

The Biden Administration's NPR carries on this tradition of a new administration arriving with an apparent nuclear disarmament agenda, but, in time, moves toward general consistency with established bipartisan policy. For example, despite apparent pressure from the disarmament community, this NPR does not:

- eliminate a leg of the Triad;
- adopt a "no first use" or a "sole purpose" declaratory policy;
- retreat from U.S. extended nuclear deterrence coverage for the assurance of allies, i.e., the "nuclear umbrella";
- depart from most of the nuclear rebuilding program initiated by the Obama Administration and advanced by the Trump Administration; or,

- regress to the badly-aging policy agenda of minimum deterrence that continues to be pushed by some.¹³

In short, despite the expectations of some and the fears of others, this NPR generally is consistent with all previous NPRs and decades of established bipartisan policy. As a former Biden Administration DoD official rightly observed, “...the new Nuclear Posture Review (NPR) makes relatively few changes from the 2018 NPR, continuing decades-long policies and strategies.”¹⁴ It does not adopt the policy agenda advocated by the disarmament community for decades. For not descending to those places despite the apparent pressure to do so, the 2022 NPR deserves a good measure of praise.

I would like to build on this point by emphasizing the two most important background positions this NPR advances. These are the positions that justify its rejection of minimum deterrence and all that goes along with a disarmament agenda that is so detached from the contemporary threats facing the West.

First, for the most part, this NPR acknowledges the increasing dangers of the international threat environment and the implications of those dangers for U.S. nuclear policy. There is no need to go into detail here about those dangers; they involve the question of how to deter in an unprecedented, uncertain threat environment.¹⁵ The general principles of deterrence are timeless, but we must adapt the application of deterrence to changing circumstances and dangers. This NPR seems to recognize both the danger and the need to adapt now. That recognition is a relief.

This point is directly related to a second background NPR position that deserves praise. That is, its clear acceptance of the need to “tailor” deterrence to the unique circumstances of opponent, time and place. The need to tailor deterrence may seem like a no-brainer to those unfamiliar with much of U.S. Cold War policy—which essentially presumed that opponents shared U.S. perspectives on factors key to the functioning of deterrence, i.e., a uniformity of perceptions, values and modes of calculation. But I assure you, getting to the point where tailoring deterrence to account for the significant differences in these factors is a basic policy principle was decades in the making and is enormously consequential.

Why consequential? Because once the requirement to tailor deterrence to the unique circumstances of opponent, time and place is recognized, so too is the flexibility in deterrence capabilities, planning and strategy needed to be able to tailor deterrence. In short, a spectrum of capabilities, nuclear and conventional, may be required to deter a diversity of opponents at different times and in different contexts. There is no easy, all-purpose standard

¹³ John Isaacs, “‘Old Think’ Is Driving U.S. Nuclear Weapons Policy: Cutting drastically the number of U.S. nuclear weapons should not depend on Russian or Chinese assent and could and should be considered now,” *National Interest Online*, December 17, 2022, available at <https://nationalinterest.org/feature/%E2%80%98old-think%E2%80%99-driving-us-nuclear-weapons-policy-206024>.

¹⁴ Leonor Tomero, “NPR 2022 Recognizes Importance of Risk Reduction, Falls Short on Reducing Role of Nukes,” *RussiaMatters.org*, December 26, 2022, available at <https://www.russiamatters.org/analysis/npr-2022-recognizes-importance-risk-reduction-falls-short-reducing-role-nukes>.

¹⁵ See Keith B. Payne and David J. Trachtenberg, *Deterrence in the Emerging Threat Environment: What is Different and Why it Matters, Occasional Paper* (Fairfax, VA: National Institute Press, August 2022).

of adequacy for deterrence; believing otherwise is the basic dangerous presumption of minimum deterrence policy thinking. This NPR helps to put a nail in that coffin, at least for now. That is no trivial point.

Let me quickly move from this deserved commendation of the 2022 NPR to 4 points of concern.

First, despite its recognition of the dangers in the emerging threat context, it seems to take an overly relaxed, business-as-usual approach to those threats. Perhaps this is because, reportedly, this NPR was not updated prior to its October 2022 release to take into account both Russian and Chinese actions throughout 2022.¹⁶

For example, the timeline it adopts with regard to the threat from China seems overly optimistic. To be specific, it says that China likely intends to possess “at least” 1,000 deliverable warheads by the end of decade, and that “by the 2030s” the United States will face two major nuclear powers as strategic competitors and potential adversaries.¹⁷

Saying that China will possess “at least” 1,000 strategic warheads by the end of the decade suggests that the number given is the lowest end of a plausible range of force numbers—the lowest common denominator. Using the qualifier “at least” for prospective Chinese nuclear force numbers is artful but does not give insight as to the likely range of plausible numbers. It is akin to saying there is “at least” one person in each automobile on the road, i.e., the driver. That observation is true, of course, but likely misleading as to the actual number of persons on the road.

Indeed, one month after the NPR’s October 2022 public release, the Pentagon issued its annual report on China and concludes that China plans to “basically complete modernization” of its armed forces by 2035, and, “If China continues the pace of its nuclear expansion, it will likely field a stockpile of about 1500 warheads by its 2035 timeline.”¹⁸ Here, mercifully, the NPR’s artful qualifier “at least” is discarded for the more telling descriptor “about” with reference to the number of Chinese nuclear forces, with a 50 percent increase in the NPR’s given number. Even that number, which is 50 percent higher than the figure given in the 2022 NPR, may be low. A former senior DOD official who follows the Chinese force numbers very closely observed: “The 2022 Pentagon report is clearly minimizing the numerical implications of Chinese deployment of MIRVed strategic missiles.... Today, the low estimates of Chinese nuclear weapons numbers and projected

¹⁶ *The Washington Post* pointed out, “Perhaps most strikingly, the authors acknowledge that the [NPR] documents were not updated since March...despite a war in Ukraine that was in its infancy when they penned their assessments.” See, Karoun Demirjian, “6 key takeaways from the Pentagon’s new defense, nuclear policies,” *The Washington Post*, October 27, 2022, available at <https://www.washingtonpost.com/national-security/2022/10/27/6-highlights-pentagon-nuclear-china/>.

¹⁷ Department of Defense, *2022 Nuclear Posture Review*, October 2022, p. 4, available at <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF>.

¹⁸ Department of Defense, *Military and Security Developments Involving the People’s Republic of China, 2022*, p. IX, available at, <https://media.defense.gov/2022/Nov/29/2003122279/-1/-1/1/2022-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>.

growth are so far below the delivery capability of the missiles that China is *known* to be building that they lack any credibility.”¹⁹

The NPR’s seemingly relaxed view of the threat to U.S. deterrence goals posed by China is out of place given Beijing’s apparent intentions, military buildup, and expanding nuclear capabilities. The NPR seems to say we have ample time, while then-Commander of U.S. Strategic Command, ADM Charles Richard, recently said the U.S. deterrence ship is sinking now and “it isn’t going to matter how good our [operating plan] is or how good our commanders are, or how good our forces are—we’re not going to have enough of them. And that is a very near-term problem.”²⁰

As ADM Richard has rightly observed, China’s threat to U.S. deterrence goals is looming now. Perhaps China’s rapid expansion of nuclear forces will not fully mature until the 2030s. But its threat to U.S. deterrence goals is *not* dependent on the time it takes China to reach some measure of “parity” (or more) with the United States in strategic nuclear force numbers. China’s threat to deterrence flows from the contemporary combination of Beijing’s expansionist, revisionist goals and corresponding rapid buildup of conventional and nuclear capabilities.

The number of China’s strategic nuclear forces in comparison to the number of comparable U.S. nuclear force is not irrelevant to U.S. deterrence considerations, but it is *not* the only, or the most important component of the threat China poses to U.S. deterrence goals. Believing that some ebbing U.S. numeric advantage or “parity” in strategic forces equals a safe relationship with China reflects the type of thinking that has unhelpfully skewed U.S. deterrence policy for decades, e.g., that a “parity” or balance in strategic nuclear forces (according to a chosen numeric measure) ensures that deterrence stability will endure. That essentially is an inadequate engineering approach to the understanding deterrence. If such an engineering approach to deterrence were reasonable, understanding how to deter and identifying a force adequate to the task would be much simpler. But it is not. It misses the most important political-military factors of the involved parties, i.e., their respective values, intentions, focus, political goals, determination, perceived strengths, weaknesses and vulnerabilities, and communications.

Accordingly, the most important ingredients in the threat to deterrence now posed by China are the apparent decade-long developments in its thinking about the role of nuclear weapons in support of its corresponding expansionist, revisionist foreign policy goals.²¹ This

¹⁹ Mark B. Schneider, “Will the Pentagon Ever Get Serious About the Size of China’s Nuclear Force?,” *RealClear Defense*, December 15, 2022, available at https://www.realcleardefense.com/articles/2022/12/15/will_the_pentagon_ever_get_serious_about_the_size_of_chinas_nuclear_force_870335.html (emphasis in original).

²⁰ Quoted in, Caleb Larson, “Sinking Slowly’: Admiral Warns Deterrence Weakening Against China,” *The National Interest*, November 7, 2022, available at <https://nationalinterest.org/blog/buzz/sinking-slowly-admiral-warns-deterrence-weakening-against-china-205759>.

²¹ For a lengthy analysis of China’s goals and envisioned role for nuclear weapons see, Keith Payne, Matthew Costlow, Christopher Ford, David Trachtenberg, and Alexander Vaughn, *Deterring China in the Taiwan Strait, Special Issue: Journal of Policy and Strategy*, Vol. 2, No. 2, 2022, especially chapters 1 and 2, available at <https://nipp.org/wp-content/uploads/2022/05/Special-Issue-final.pdf>.

includes the use of nuclear threats for the purpose of nuclear coercion to support these goals. This unprecedented political-military challenge to U.S. deterrence goals is *not* dependent on China attaining some U.S. notion of “parity” or better in strategic nuclear forces in the 2030s. This challenge is here and now, and the United States needs to recognize its immediacy and identify a path forward to deter war. The 2022 NPR does not appear to do so.

Second, this NPR curiously eliminates the SLCM-N program, reportedly against the expressed advice of senior U.S. military leaders,²² and contrary to the overall thrust of the report itself because SLCM-N would have unique capabilities likely valuable for tailoring deterrence in the emerging threat environment. This NPR seems to recognize emerging threats to deterrence and the need to tailor deterrence, but then seeks to kill a capability uniquely suited to tailoring and preserving deterrence in the emerging threat context. It is difficult to explain this decision other than SLCM-N—having been initiated by the Trump Administration—was the chosen, low-hanging fruit to eliminate something nuclear and to differentiate itself from the 2018 NPR.

Third, the 2022 NPR identifies arms control as “the most effective, durable and responsible path to reduce the role of nuclear weapons in our strategy and *prevent their use.*”²³ To claim that arms control rather than deterrence is the “most effective, durable and responsible path” to preventing the employment of nuclear weapons is manifestly problematic and suggests a distorted prioritization. In Europe today, did past agreements regarding the elimination of nuclear weapons on Ukrainian soil prevent Russian invasion of Ukraine or Moscow’s subsequent stream of extreme nuclear threats? These threats have created greater concern about the probability of nuclear war than at any time in decades. Do the pertinent past agreements or *any others* now provide the much-appreciated measure of confidence that Moscow will *not* actually employ nuclear weapons, or do NATO’s deterrence capabilities provide that comfort? To ask the question is to identify the proper prioritization of deterrence and arms control as paths to prevent nuclear use. Both may be helpful, but when arms control and deterrence initiatives are in competition and trade-offs must be made, the priority must be in favor of deterrence because sustaining deterrence is paramount to preventing nuclear employment in a harsh threat environment.

Finally, and potentially most importantly, this NPR eliminates “hedge against an uncertain future” as a formal role of nuclear weapons.²⁴ This position contradicts the NPR’s recognition of the need to adapt deterrence in an increasingly dangerous and uncertain threat environment. It also contradicts the decades-long bipartisan recognition of the critical

²² See for example, Valerie Insinna, “Grady ‘Aligned’ With Milley on Embattled Low-Yield Nuke Program,” *Breaking Defense*, May 5, 2022, available at <https://breakingdefense.com/2022/05/grady-aligned-with-milley-on-embattled-low-yield-nuke-program>.

²³ Department of Defense, *2022 Nuclear Posture Review*, op. cit., p. 16 (emphasis added).

²⁴ Department of Defense, *2022 Nuclear Posture Review*, op. cit., p. 7, available at <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF>.

need for hedging, and the increasing uncertainties and corresponding need for hedging in the emerging threat environment,²⁵ which this NPR acknowledges.

One can only wonder at the logic that says nuclear deterrence is a top priority in an increasingly uncertain threat environment, but that hedging is no longer a formal role for nuclear weapons. Some have suggested this is innocuous language to be ignored.²⁶ Perhaps, but there was ample time to clean up any unintended language, and policy words can have consequences, now and in the future.

Recall that over 50 years ago an NSC analyst explained to Henry Kissinger that the nuclear disarmament language in Article VI of the Non-Proliferation Treaty “is an essentially hortatory statement and presents no problems,”²⁷ so Kissinger did not need to think twice about it. Yet, that Article has since become the focal point of claims that the NPT *requires* movement to nuclear disarmament.

Policy words can have meaning, and this NPR’s language rejecting hedging holds potentially significant consequences. Perhaps this NPR’s language against hedging, rather than being an innocuous throw-away line, was included as a hook for future efforts to eliminate U.S. capabilities needed to upload nuclear weapons beyond New START limits, i.e., capabilities to hedge. If so, it is both serious and far removed from the harsh realities of the contemporary and foreseeable threat environment.

Conclusion

In summary, the 2022 NPR deserves considerable praise for rejecting the minimum deterrence and nuclear disarmament policy agendas. Indeed, one dissatisfied commentator with a disarmament agenda concluded that the United States should just stop issuing NPRs because “the Pentagon controls the pen,” i.e., they are written by DoD professionals who, on a fully bipartisan basis, tend to be guided by an alternative national security agenda.²⁸ They may hold nuclear disarmament up as an ultimate destination, but generally recognize, as the bipartisan Strategic Posture Commission (Perry-Schlesinger Commission) observed, “The conditions that might make possible the global elimination of nuclear weapons are not present today and their creation would require a fundamental transformation of the world political order.”²⁹

²⁵ See Payne and Trachtenberg, *Deterrence in the Emerging Threat Environment: What is Different and Why it Matters*, *Occasional Paper*, op. cit., pp. 20-49.

²⁶ See this reported comment by Hans Kristensen in, Bill Gertz, “Biden strategy shift limits role of nuclear arms as China, Russia expand arsenals,” *The Washington Times*, November 2, 2022, available at <https://www.washingtontimes.com/news/2022/nov/2/biden-strategy-shift-limits-role-of-nuclear-arms-a/>.

²⁷ Spurgeon Keeny, *Memorandum For Dr. Kissinger, Provisions of the NPT and Associated Problems*, The White House, January 24, 1969, Declassified August 6, 2007, p. 5, available at <https://2001-2009.state.gov/documents/organization/90727.pdf>.

²⁸ Joe Cirincione, “A failure to review America’s nuclear posture,” *Bulletin of the Atomic Scientists*, Oct. 28, 2022, available at <https://thebulletin.org/2022/10/a-failure-to-review-americas-nuclear-posture/>.

²⁹ Congressional Commission on the Strategic Posture of the United States, *America’s Strategic Posture* (Washington, D.C.: U.S. Institute of Peace, 2009), p. xvi.

Those who now are so critical of the 2022 NPR for *not* adopting their preferred nuclear disarmament agenda simply cannot understand the continuing bipartisan rejection of their policy recommendations by those responsible for U.S. security and nuclear policy. A pertinent observation by the late and incomparable Oxford Professor, Sir Michael Howard is insightful: “Nobody who has been brought into contact with that inner group of civil and military specialists who are responsible for the security of this country can fail to notice the almost physical pressure exerted on them by that responsibility, affecting their processes of thought (and often their manner of speech) in much the same way as the movements of a man are affected when he tries to walk in water....they share a common skepticism as to the possibility of disarmament, or indeed of the creation of any effective international authority to whom they can turn over any portion of their responsibilities.” Sir Michael adds the critical point that, “the impatient onlookers, who have never themselves been plunged into that element, cannot understand why.”³⁰

I am pleased to commend the 2022 NPR for its clear rejection of the disarmament community’s agenda and minimum deterrence, and correspondingly, for recognizing the need to rebuild U.S. deterrence capabilities to meet the deterrence needs of an increasingly dangerous threat environment. That praise comes with a caveat, however, because it also contains some internally contradictory, troubling directions that are detached from, and inadequate for the rapidly advancing threats now confronting the West. Perhaps there is more to come.

John Harvey

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Thanks to David and the NIPP team for inviting me to participate. I am happy to join four “nuclear rock stars” on this panel—my colleagues Frank Miller, Keith Payne, Brad Roberts, and Rob Soofer. Many of you have seen our publication in *Real Clear Defense*—“Assessing the Biden 2022 NPR”—which calls attention to many Biden decisions on nuclear policy which we commend and identifies as well some shortfalls. Today, I will drill down on one NPR shortfall, i.e., the failure to develop solutions to the so-called “two nuclear peer” threat.

Over the next two decades the United States is carrying out a complex modernization program involving the near simultaneous replacement of every leg of the aging Triad, a major upgrade to nuclear command and control (NC2), and recapitalization of NNSA’s aging warhead production infrastructure. This program, however, is not creating more nuclear weapons with exquisite new military capabilities; it is simply replacing what we have today with modern variants. Is this sufficient to address threats that will evolve significantly over

³⁰ Michael Howard, *Studies in War and Peace* (New York: Viking Press, 1964), pp. 215-216.

the 50-70 years that these systems are to remain in the field? After all, much of the ongoing modernization program was established more than a decade ago, when the global security environment was much more benign. To answer this question, a central focus is evolution of the threat posed by Russia and China.

Russia and China

Mr. Putin's open contempt for, and single-handed attempt to, upend the post-Cold War international security order in seeking to recreate the Soviet Union all suggest the persistence of dangers for which the U.S. nuclear deterrent is relevant. The discovery of China's expanded ICBM program, as part of its sprint from a minimum deterrent force to nuclear peer status, and Beijing's increasingly strident threats to take Taiwan by force bolster that case. In summary, the global security environment is getting worse not better. The NPR clearly recognizes Russia's and China's coercive strategies of nuclear threats to advance expansionist goals, and the need for tailored, flexible U.S. deterrence capabilities to defeat those strategies. That said, the Biden NPR does not go far enough in addressing the worsened threat environment with concrete responses for continuing to deter Russia and China. It is important to establish the context for my critique. Major changes in the security environment—Russia's February 2022 invasion of Ukraine, discovery of China's expanded ICBM program—were evolving simultaneously with the 2022 NPR. As a result, I would cut the Biden team some slack for not yet having solutions to the challenges it correctly identifies.

The “Two Nuclear Peer” Threat

Regarding the two nuclear peer threat, in the past, U.S. nuclear forces were focused on Russia; in a sense, China was a lesser included threat. The emergence of China toward peer status, seen as a prospect for the mid-2030s, changes that calculation. Quoting from the NPR:

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. This will create new stresses on stability and new challenges for deterrence, assurance, arms control and risk reduction.³¹

The key question: Can the United States continue to deter China as a nuclear peer, an aggressive Russia, or possibly both simultaneously, with existing nuclear forces, or will it need to increase the force? This last point brings the so-called “hedge” into play.

Very simply put: We design a baseline nuclear force to address the threat that we anticipate; the hedge is intended to provide options to adjust that force in the event we guess

³¹ Department of Defense, *2022 Nuclear Posture Review*, October 27, 2022, p. 4, available at <https://s3.amazonaws.com/uploads.fas.org/2022/10/27113658/2022-Nuclear-Posture-Review.pdf>.

wrong on the threat or something else bad happens technically. China's aggressive effort to ramp up its ICBM force is precisely the unanticipated "surprise" for which a hedge was contemplated.

That said, deterring a hostile Russia and China, possibly at the same time, has been a feature of U.S. policy for decades. During the Cold War, even in light of a major nuclear exchange with Russia, the United States maintained sufficient survivable warheads in reserve to deter any incentive by China to "pile on." But this was during a time when both Russia and the United States maintained many thousands of strategic warheads, while China possessed just a few tens of ICBMs that could reach the United States. There was flexibility then in U.S. forces to deter both.

Today, with U.S. deployed strategic warheads capped at 1,550 under New START, China is ramping up to potentially several thousand ICBM warheads. Limiting options is the fact that the intensive, ongoing program to modernize each Triad leg leaves little, if any, excess capacity for DoD or NNSA to respond with new nuclear program starts in the near term. For now, I see three options for the Biden team in advancing a plan for how to respond to China's buildup:

- Do nothing for now forces-wise; focus on diplomacy and arms control to manage this competition. If it takes China until 2035, as estimates suggest, to complete its buildup, then there is some time for dialog.
- Revisit doctrine, targeting, and employment policy to see what changes might be needed to achieve multi-polar deterrence objectives with currently planned forces.
- Plan now, under existing nuclear doctrine, to augment current force size or composition and possibly bolster missile defenses as China's buildup is realized.

In the near term, U.S. forces could be augmented by uploading reserve warheads to existing delivery systems. In the longer term, the ongoing modernization program enables an option that "hot" production lines for the Sentinel ICBM, B-21 bomber, Columbia SSBN, LRSO, nuclear warheads and the like could be extended once their originally intended build is completed.

For a threat that may materialize by the mid-2030s, however, this option is not sufficiently responsive. If we field Columbia at a rate of one per year starting, say in 2030, then the 13th sub would not come off the production line until the early 2040s. Deploying 400 Sentinel ICBMs at an estimated rate of one per week, again starting in the 2030 timeframe, means that additional ICBMs, at their earliest, would not be fielded until the late 2030s. What could be done sooner by uploading reserve warheads to existing delivery systems?

Today, U.S. strategic nuclear forces consists of:

- 400 deployed Minuteman III ICBMs
- 12 deployed Ohio-class subs each with 20 Trident II SLBMs
- 41 B52 Bombers
- 19 B2 Bombers.

Under the 1,550 warhead limit, the United States allocates about 1,090 warheads to the SSBN force, 400 single-warhead ICBMs, and, according to the bomber counting rule, 60 warheads assigned to heavy bombers (although each can carry multiple ALCMs and bombs). MIRVing Minuteman III, and uploading SLBM warheads to currently unoccupied slots on the Trident II D-5 bus, could add close to one thousand additional warheads to the deployed force. Uploading additional ALCMs to B-52 bombers—they can carry up to twenty but are typically deployed with fewer—would add significantly to that total. To be sure, uploading does add some operational inefficiencies. Still, this is not an insignificant force augmentation capability.

Timing is an additional hedge consideration. Making reserve warheads available for upload, could take many months depending on whether limited-life components such as tritium bottles are available or need to be produced. Once activated, the timelines for weapons upload will vary depending on the delivery system—days to weeks for bombers, weeks to months for the subs, and months to years for ICBMs. If existing trends in China's nuclear expansion continue, the choice may become when, not whether, to implement such options.