



POLICY ROUNDTABLE: The Trump Administration’s Nuclear Posture Review

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Summary

We gathered together an excellent group of experts to guide us through the Trump administration's Nuclear Posture Review.

1. Must We Mean What We Say?

Making Sense of the Nuclear Posture Review¹

Francis J. Gavin

On May 5, 1962, Secretary of Defense Robert McNamara told his fellow NATO defense ministers that the Kennedy administration was dramatically transforming American nuclear strategy. The United States would move away from Eisenhower’s so-called massive retaliation and instead “engage in a controlled and flexible nuclear response in the event that deterrence should fail.” McNamara told his audience “that nuclear superiority has important meanings” and that “we doubt that the Soviet Union will be able to match this capability.” McNamara also dismissed the “relatively weak nuclear forces with enemy cities as their targets [as] not likely to be adequate to perform the function of deterrence,” a hardly hidden message against the British and French nuclear programs. The new strategy would not only be flexible and controlled, but focus on building up NATO’s conventional forces. “Surely an alliance with the wealth, talent, and experience that we possess can find a better way to meet this common threat.”²

In laying out the flexible response strategy, McNamara presented a bold, radically different plan for the role of nuclear weapons in United States grand strategy. However,

¹ With apologies to Stanley Cavell.

² Robert McNamara, “Statement Made on Saturday 5 May by Secretary McNamara at the NATO Ministerial Meeting in Athens,” accessed Feb. 9, 2018, <https://robertsmcnamaracom.files.wordpress.com/2017/04/1962-05-05-flexible-response-speech-to-nato.pdf>. Interestingly, it is called the “Flexible Response Speech” on the web site. A public version was delivered at the University of Michigan commencement on Jun. 16, 1962 and is often referred to as the “Counterforce, No Cities” speech, <https://robertsmcnamaracom.files.wordpress.com/2017/04/mcnamara-1967-22no-cities22-speech-p.pdf>

almost none of what McNamara said during his Athens speech came to pass under his watch. Fighting a flexible and controlled nuclear war was well beyond American capabilities and the nuclear war plan remained almost completely unchanged during the Kennedy and Johnson administrations. The Soviet Union soon closed the gap in strategic forces with the United States, achieving near parity by the end of the 1960s. The Kennedy administration accepted and even offered to help improve the French and British nuclear programs. In the end, the United States reduced, rather than enhanced, conventional forces assigned to defend Europe.³ A decade later, President Richard Nixon was recorded saying “Flexible response is baloney.” And in an age of strategic parity, the president declared the “nuclear umbrella in NATO a lot of crap.”⁴

There is always a debate over how much written strategy documents reflect the actual policies and plans of government. The Carnegie International Policy Scholars Consortium and Network,⁵ a project hosted by the Kissinger Center, runs an ongoing exercise to assess the purpose and influence of various national security strategies completed in recent years. The program includes several of the authors of these documents, and surprisingly, they rarely agree amongst themselves on the rationale, import, and consequences of the national security strategy. This puzzling disconnect between document and policy is amplified in the Trump administration, where the gap between rhetoric and reality is even wider than in the past. As my colleague Hal Brands has

³ Francis J. Gavin, “The Myth of Flexible Response: American Strategy in Europe during the 1960s,” *The International History Review* 23, no. 4 (Dec. 2001): 847-875.

⁴ For Nixon’s blunt, unfiltered views of nuclear strategy, nonproliferation, and arms control, see Francis J. Gavin, *Nuclear Statecraft: History and Strategy in America’s Atomic Age* (Ithaca: Cornell University Press, 2012), 104-119. Nixon also said, “I don’t give a damn about SALT; I just couldn’t care less about it.”

⁵ “About Page,” Carnegie International Policy Scholars Consortium and Network, Henry A. Kissinger Center for Global Affairs, accessed Feb. 12, 2018, <https://kissinger.sais-jhu.edu/ipscon.html>.

pointed out in assessing the Trump administration's 2017 *National Security Strategy*, the document "was not that far removed from what most Republican administrations might have written — only for Trump to give a rabble-rousing, 'America first'-themed speech that bashed U.S. allies, touted cooperation with adversaries, and raised questions as to whether the president had actually read or even been fully briefed on his own strategy statement."⁶ This trend continues in the release of the Trump administration's *Nuclear Posture Review*, which, as James Steinberg observes below, possesses "an Alice in Wonderland" quality.

The typical rhetoric-reality gap in national security is further heightened by the historical strangeness of American nuclear policy. Shortly after the atomic bombing of Hiroshima and Nagasaki, the great strategist Bernard Brodie famously explained: "Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them."⁷ While there has been and remains great controversy and disagreement over *how* to achieve this aim, few doubt that the primary goal of nuclear strategy is to make sure nuclear weapons are never delivered and detonated. At the same time, however, the United States has had great ambitions in the world since 1945, and has often assigned nuclear weapons an oversized role in achieving those aims. It seeks not only to deter adversaries from attacking the American homeland (a relatively easy task), but also from attacking its many far-flung friends and allies around the world. It also expects these friends to remain non-nuclear, while hoping its adversaries remain deterred without fear of an American first strike or the launch of a costly arms race.⁸ The

⁶ Hal Brands, "Trump Doesn't Believe in His Own Foreign Policy. Does That Matter?" *Foreign Policy*, Jan. 16, 2018, <https://foreignpolicy.com/2018/01/16/trump-doesnt-believe-in-his-own-foreign-policy-does-that-matter/>.

⁷ Bernard Brodie, "The Development of Nuclear Strategy," *International Security*, 2, no. 4 (Spring 1978): 65.

⁸ Francis J. Gavin, "Beyond Deterrence: U.S. Nuclear Statecraft since 1945," in *Meeting the Challenges of the*

goals the United States is attempting to achieve with its nuclear weapons — deterrence, assurance, inhibition, and reassurance, and the qualities upon which they depend, namely, credibility and resolve — are almost impossible to observe or measure. The *Nuclear Posture Review* and critiques of the document, as well as most statements about the nature of nuclear weapons and their influence on international politics, are often based on little more than guesswork. As Janne Nolan and Brian Radzinsky trenchantly observe in this roundtable, “Nuclear planning is made difficult because of the lack of strong evidence about how the character and composition of American nuclear forces affect the behavior of others. In the absence of such clarity, decision makers and experts tend to fall back on their worldviews and beliefs about the nature of international politics.”

Despite — or perhaps because of — the elusive nature of nuclear strategy, we must combine rigor and humility in our analysis. The reason for rigor is obvious: Nuclear war would be catastrophic. Short of nuclear war, many of the aims of American grand strategy rely upon effective nuclear policies. The modernization of nuclear systems called for in the review — which builds upon plans laid out by the Obama administration — would be expensive (over a trillion dollars over thirty years), resources that could be allocated to other military programs. Many of these upgrades focus on capabilities — stealth, speed, miniaturization, lower-yields, dual-use — that some see as destabilizing. America’s nuclear policy will also be watched by other countries, nuclear and non-nuclear, and will help shape those countries’ own decisions in an unfolding, uncertain world order. The stakes surrounding American nuclear policy are, therefore, enormous.

New Nuclear Age: U.S. and Russian Nuclear Concepts, Past and Present, ed. Linton Brooks, Francis J. Gavin and Alexei Arbatov (Cambridge, MA: American Academy of Arts and Sciences, 2018), 6-20.

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Except when they are not. What role has American nuclear strategy played in the most consequential issues in U.S. national security policy in recent decades, such as the wars in the Balkans, Iraq and Afghanistan, counter-terrorism, globalization, and even the re-balance to Asia? And if nuclear strategy did matter, how would we know? Imagine a radical counterfactual where the United States suddenly possessed no nuclear weapons — what would happen to the United States tomorrow? In five years? In fifty? We can all speculate, and we should, as long as we recognize that the answers we offer are speculations and not scientifically proven rules. This is where humility must come into play. We spend extraordinary resources on weapons we hope will never be used, and we can never be certain we are going about it in the right way. Nolan and Radzinsky’s excellent description of nuclear posture reviews could be applied to many arguments about nuclear weapons and their consequences: They are like “party platforms,” containing well intentioned aspirations as well as many inherent contradictions. The cleavages that exist in the nuclear debate reflect differences in the inherent worldviews and strategic beliefs rather than any fundamental “differences in core values or priorities.” We are stumbling through the dark.⁹

All six of these excellent reviews combine rigor with humility while disagreeing in productive ways. Each has its own take on the *Nuclear Posture Review* and focuses on different aspects of the document. Five issues in particular are worth highlighting:

1. *Continuity versus change*: Students of the history of American foreign relations recognize that there tends to be more continuity across different administrations and political parties, as well as over time, that we often recognize in real-time. The

⁹ The Jayhawks. “Stumbling Through the Dark (Live on KEXP).” Filmed Jul. 19, 2016 at KEXP studio, Seattle, WA. Video, 2:31. <https://www.youtube.com/watch?v=hoJd1m48MTY>.

Trump administration, with its pointed rhetoric and the president’s rhetorical attack on sacred tenets of the bipartisan foreign policy consensus, appears to represent a dramatic break from past policies and practices. But is it? Analysts are divided. Austin Long sees the Trump *Nuclear Posture Review* as “fundamentally undermining many of the assumptions underlying the 2010 *Nuclear Posture Review*,” while Steinberg sees it as, “in many respects,” a “radical departure.” Others are less sure. As Al Mauroni points out, the 2010 and 2018 reviews “have more in common than not.” Rebecca Hersman captured this nicely when she pointed out that Trump’s review “had something in it for everyone” which meant that “almost no one is happy.”¹⁰

2. *Usability, Discrimination, and Low Yields*: One of the ironies of nuclear deterrence is that its effectiveness depends upon willingness to actually use nuclear weapons. There is a real reason to doubt the United States would respond to anything short of a nuclear attack on the American homeland with its strategic nuclear forces. To improve the credibility of extended deterrence and assurance promises to allies in this situation, some suggest that developing weapons and strategies that lower the threshold for nuclear use is in America’s interest. This generates its own challenges. Given the United States’ extraordinary non-nuclear capabilities, why would it want to lower the nuclear threshold and emphasize nuclear weapons? What’s more, blurring the lines between strategic, sub-strategic, and conventional (dual-use) capabilities could lead to dangerous miscalculations in a crisis. Vipin Narang suggests that, “In trying to deter more — and lower — forms of aggression

¹⁰ Rebecca Hersman, “Nuclear Posture Review: The More Things Change, the More They Stay the Same,” *Defense360*, Center for Strategic and International Studies, Feb. 6, 2018, <https://defense360.csis.org/nuclear-posture-review-things-change-stay/>.

with nuclear weapons and broaden the deterrence spectrum, the *Nuclear Posture Review* generates real risks of spirals of nuclear escalation in a crisis or war.”

3. *What are the Russians up to?* As Long points out, “the *Nuclear Posture Review* is concerned about Russia,” both its menacing geopolitical behavior and its own nuclear modernization and altered nuclear strategy. In particular, there is a concern about its so-called “escalate to de-escalate” strategy, in which Russia would use a nuclear weapon at the sub-strategic level, based on the calculation that the United States could not credibly respond with strategic level nuclear weapons. Does the review get Russia — its intentions, strategies, and capabilities — right? According to Kristin Ven Bruusgaard, “The new Nuclear Posture Review will neither slow down nor change Russian military developments or its behavior in future conflicts.” A larger question is whether the United States should craft its nuclear policies to respond to a vexing but declining state whose remaining power rests in no small part on its nuclear weapons.

4. *Using Nuclear threats to deter non-nuclear actions.* The United States has always reserved the right to use nuclear weapons to deter or respond to a devastating non-nuclear attack, such as a Warsaw Pact blitzkrieg through the Fulda Gap during the Cold War or a biological or chemical weapons attack in more recent years. The *Nuclear Posture Review* appears to expand the scenarios in which nuclear weapons can be employed to a debilitating cyber-attack. As Steinberg points out, this expansion of deterrence generates further questions concerning the credibility of deterrence, as well as encouraging others like Russia or China to embrace the same policy, to the potential detriment of American interests. The United States already asks more of its nuclear policies than any other country; is it wise to expand their writ?

5. *Extended Deterrence and Assurance*: Nuclear weapons are often described as insurance against invasion and conquest. The United States, however, has not been threatened with invasion and conquest since the end of the Civil War, if then. Nor would it be vulnerable to such a threat even if it were to get rid of all its nuclear weapons tomorrow (just as the risk of invasion would not have been any higher in 1975 or 1955 if the United States had been without the bomb at that time). What makes United States nuclear policy so challenging is that, unlike other nuclear states, it tries to do far more with these weapons than simply prevent an invasion and conquest of its homeland. Namely, it seeks to protect a wide array of states around the world from attack while discouraging these same clients (and others) from acquiring their own invasion insurance.

It would not take much — far less than is called for in this or previous American nuclear postures — to deter a nuclear attack on the United States. This *Nuclear Posture Review*, like the reviews and strategies that have come before it, is driven and shaped by the costs and dilemmas associated with achieving extended deterrence, assurance, and inhibition.¹¹ It is easy to forget, from a historical perspective, how ambitious America’s nuclear strategies have been for decades. We can debate whether these policies have been wise or not. On the one hand, America’s nuclear postures have been extraordinarily expensive and arguably exposed the United States (and the world) to much danger. On the other hand, the United States prevailed in the Cold War, far fewer states have independent nuclear weapons than anyone could have imagined seventy, fifty, or even twenty-five years ago, interstate conflict has declined and great power war has all but disappeared.

¹¹ Francis J. Gavin, “Strategies of Inhibition: U.S. Grand Strategy, the Nuclear Revolution, and Nonproliferation,” *International Security* 40, no. 1 (Summer 2015): 9-46.

What is the connection between these fortuitous outcomes and America's robust and forward leaning nuclear postures? The truth is, the question is both extraordinarily important and almost impossible to answer with any certainty.

It is no surprise that there is much disagreement over the import of the Trump administration's *Nuclear Posture Review*. In the end, however, it is important to recognize that documents like this one have often had less connection and consequence to what actually matters in the making of policy — especially nuclear policy — than we often believe. At the end of the day, the nature of our political system provides the president of the United States with enormous independent authority to use nuclear weapons if and when he chooses. What little we know of how past presidents thought about this extraordinary responsibility indicates that that responsibility left them awe-struck, shaken and committed to making sure they were never faced with the horrific decision to use these weapons; even Richard Nixon was “appalled” after his first briefing on the Single Integrated Operational Plan.¹² Literally nothing matters more than how a president thinks about and acts on this sacred responsibility, and literally nothing should worry us more in our current circumstances.

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¹² William Burr, “The Nixon Administration, the ‘Horror Strategy,’ and the Search for Limited Nuclear Options, 1969–1972: Prelude to the Schlesinger Doctrine,” *Journal of Cold War Studies* 7, no. 3 (Summer 2005): 34.

Relations, 1958-1971 (*University of North Carolina Press, 2004*) and *Nuclear Statecraft: History and Strategy in America's Atomic Age* (*Cornell University Press, 2012*).



2. Command and Control in the *Nuclear Posture Review*: Right Problem, Wrong Solution

James Acton

If the U.S. nuclear command-and-control system were a fictional character, it might be 11-year-old Harry Potter living under the Dursleys' staircase on Privet Drive — desperately underappreciated and chronically underfunded, yet absolutely critical to avoiding the worst outcome imaginable. The result of its neglect, according to the *Nuclear Posture Review* published Friday,¹³ is that the system for detecting nuclear strikes on the United States and relaying orders to U.S. nuclear forces is “subject to challenges from both aging system components and new, growing 21st Century threats.”

The framers of the review are, quite rightly, concerned about how the command-and-control system would perform if the United States ever faced the nuclear equivalent of a duel with Lord Voldemort. And, sensibly, the review announces a comprehensive modernization plan. However, the document goes further than that. In an attempt to enhance deterrence, it includes a seemingly innocuous — and distinctly wonkish — threat to consider using nuclear weapons if an adversary launches nonnuclear attacks against U.S. nuclear “command and control, or warning and attack assessment capabilities.”

This threat marks a significant — and unwelcome — departure for U.S. declaratory policy. To the best of this author's knowledge, the United States has never before explicitly threatened a nuclear response to nonnuclear attacks on command, control, and warning

¹³ U.S. Department of Defense, *Nuclear Posture Review*, 2018, https://www.defense.gov/News/Special-Reports/0218_npr/.

capabilities — and with good reason. Such a response would be utterly disproportionate. The *Nuclear Posture Review*'s threat to carry it out, therefore, lacks credibility and could prove both ineffective and damaging to U.S. interests. Instead, the United States should focus on building a much more redundant command, control, and warning architecture — something that current plans appear unlikely to achieve.

Nonnuclear attacks against nuclear command and control are a relatively new danger. During the Cold War, the only way to target an adversary's command, control, and warning capabilities was generally with nuclear weapons. Today, however, nonnuclear threats to these assets are all too real given recent advances in cyber, high-precision conventional, and anti-satellite weapons. To make matters worse, U.S. command, control, and warning capabilities are surprisingly fragile. Once legacy systems are phased out, the United States will rely on just six satellites for detecting an incoming nuclear attack,¹⁴ and four satellites for communicating with nuclear forces.¹⁵ A handful of ground-based assets (and, in the case of communications, aircraft)¹⁶ provide backup.

¹⁴ U.S. General Accounting Office, "Report to the Subcommittee on Strategic Forces," Committee on Armed Services, U.S. Senate, Oct. 2003, <https://www.gao.gov/assets/250/240492.pdf>.

¹⁵ U.S. Department of Defense, "Selected Acquisition Report: Advanced Extremely High Frequency Satellite," Dec. 2005, http://www.esd.whs.mil/Portals/54/Documents/FOID/ReadingRoom/Selected_Acquisition_Reports/16-F-0402_DOC_01_AEHF_DEC_2015_SAR.pdf

¹⁶ "E-4B Fact Sheet," U.S. Air Force, Sep 23, 2015, <http://www.af.mil/About-Us/Fact-Sheets/Display/Article/104503/e-4b/>.

Nonnuclear threats to satellites are particularly concerning. Russia is developing ground-based lasers to target U.S. early-warning satellites.¹⁷ Chinese strategists go a step further and specifically advocate attacking such satellites in a conventional conflict.¹⁸ Even limited attacks could have severe consequences. In 2014, for example, Gen. William Shelton, then Commander of U.S. Space Command, publicly acknowledged that the loss of a single U.S. early-warning satellite could deprive the United States of the ability to continuously monitor all potential launches of adversaries' nuclear-armed missiles.¹⁹

If U.S. command, control, and warning capabilities had no other functions, there would be some logic to responding to attacks on them with nuclear weapons. In that case, the only reason an adversary — most likely Russia or China — would have to attack these capabilities would be to prepare to use nuclear weapons on the United States.

Specifically, Russian and Chinese strikes — probably conducted with nonnuclear weapons — could make a follow-up nuclear attack more effective and perhaps delay a U.S. nuclear response. In such a scenario, it might make sense for the United States to respond with nuclear weapons.

¹⁷ James R. Clapper, "Worldwide Threat Assessment of the US Intelligence Community," Senate Armed Services Committee, Feb. 9, 2016, https://www.armed-services.senate.gov/imo/media/doc/Clapper_02-09-16.pdf.

¹⁸ Alexey Arbatov, Vladimir Dvorkin, Petr Topychkanov, Tong Zhao, and Li Bin, *Entanglement: Russian and Chinese Perspectives on Non-Nuclear Weapons and Nuclear Risks*, (Washington DC, Carnegie Endowment for International Peace, 2017), http://carnegieendowment.org/files/Entanglement_interior_FNL.pdf.

¹⁹ Gen. William L. Shelton, "Space and Cyberspace — Foundational Capabilities for the Joint Warfighter and the Nation," (speech, Air Force Association Warfare Symposium, Orlando, FL, Feb. 21, 2014), <http://web.archive.org/web/20141225171206/http://www.afspc.af.mil/library/speeches/speech.asp?id=747>.

In fact, however, many American command, control, and warning capabilities are dual-use; they serve both conventional and nuclear missions. U.S. early-warning satellites, for example, are tasked with detecting an incoming nuclear attack *and* with triggering defenses designed to intercept nonnuclear ballistic missiles.²⁰ This duality could give Russia or China a reason to attack them in a conventional war. For instance, if U.S. missile defenses in Europe or Asia were proving effective in knocking the enemy's nonnuclear ballistic missiles out of the sky, Moscow or Beijing might try to stave off defeat by attacking U.S. early-warning satellites with nonnuclear weapons. Then, according to the new U.S. nuclear doctrine, the United States could launch a nuclear response.

Using nuclear weapons in this scenario would, however, violate any notion of proportionality. Russian or Chinese nonnuclear strikes on U.S. satellites would almost certainly cause no human casualties. Yet U.S. nuclear use — even if highly limited and carefully targeted — could spark a nuclear war that might plausibly kill tens or even hundreds of millions, including many in the United States.

So, would the U.S. president really risk a devastating nuclear conflict in response to bloodless Russian or Chinese attacks on U.S. satellites? Only Donald Trump can know the answer to this question, but it is not difficult to see why Moscow and Beijing might assume it is “no” and, in the event of a conflict, attack U.S. command, control, and warning capabilities anyway. In this case, the president would be left with a profoundly

²⁰ U.S. Department of Defense, “Report to the Defense and Intelligence Committees of the Congress of the United States on the Status of the Space Based Infrared System Program,” March 2005,

<https://nsarchive2.gwu.edu//NSAEBB/NSAEBB235/42.pdf>.

awful choice: refrain and raise doubts about the credibility of other U.S. nuclear threats, or act on the threat to use nuclear weapons and risk mass slaughter?

Fortunately, there are better ways to deal with the very real problem of the vulnerability of command and control to nonnuclear attack.

The most obvious approach would be for the United States to separate nuclear command, control, and warning capabilities from nonnuclear ones. While superficially attractive, this idea would encounter severe difficulties in practice. The cost of building two separate command-and-control systems — one for nuclear and one for nonnuclear operations — would be a real barrier. More subtly, the advent of dual-capable missiles — those that can accommodate a nuclear or nonnuclear warhead — could make it impossible to determine how an incoming weapon is armed, effectively preventing so-called disaggregation.²¹

A better way would be for the United States to start building a much more resilient command, control, and warning architecture. Unfortunately, current modernization plans are unlikely to achieve that goal. Much to the chagrin of Gen. John Hyten, another former commander of U.S. Space Command and the current commander of U.S. Strategic Command, plans to modernize the U.S. space-based early-warning system essentially call

²¹ Andrew S. Erickson, “Academy of Military Science Researchers: ‘Why We Had to Develop the Dongfeng-26 Ballistic Missile’ — Bilingual Text, Analysis & Related Links,” *Andrew S. Erickson* (blog), Dec. 5, 2015, <http://www.andrewerickson.com/2015/12/academy-of-military-science-researchers-why-we-had-to-develop-the-dongfeng-26-ballistic-missile-bilingual-text-analysis-links/>

for replicating the current architecture with newer satellites.²² These plans will likely do very little to reduce the vulnerability of early-warning satellites to nonnuclear attack.

An effective way to enhance resilience would be to place a large number — perhaps 20 or 30 — of small early-warning sensors in space. These sensors would not be placed on satellites dedicated to early warning, but rather “hosted” on satellites used for other purposes — potentially both military and civilian. This concept is not theoretical; during the Cold War, the United States built a similar system, known as AFSATCOM, for communications.²³

To be sure, there could be a real trade-off here. A “dispersed” early-warning system — consisting of many small sensors piggybacking on convenient satellites — would be less capable than the status quo of a small number of highly sophisticated satellites dedicated to early warning. But it could absorb many more nonnuclear blows before becoming ineffective.

Maybe the United States can have its space cake and eat it too: It’s possible that, because a dispersed system would obviate the need to construct additional satellites, it could be built cheaply enough that the United States could afford a few dedicated early-warning satellites as well. Yet, if a choice must be made — and in the real world it often must — there is a strong case for ditching dedicated early-warning satellites and building a

²² Sandra Erwin, “Air Force launches new project to update missile-warning ground software,” *Space News*, Jan. 15, 2018, <http://spacenews.com/air-force-launches-new-project-to-update-missile-warning-ground-software/>

²³ Curtis Peebles, “High Frontier: The US Air Force and the Military Space Program,” Air Force History and Museums Program, 1997.

dispersed system instead. If the only way to defend a dedicated system is with nuclear threats, its cost is simply too high.

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3. Nuclear Strategy in an Era of Great Power Competition

Austin Long

The 2018 *Nuclear Posture Review* confirms and extends the Trump administration's contention in both the *National Security Strategy* and *National Defense Strategy* that great power competition has returned. The *Nuclear Posture Review* argues that this competition extends to the nuclear realm, fundamentally undermining many of the assumptions underlying the 2010 *Nuclear Posture Review*.²⁴ According to the 2018 review, this world of nuclear great power competition (essentially with Russia and China), combined with the challenges presented by regional actors (principally North Korea and Iran), requires the United States to pursue a very different, if only modestly more ambitious, nuclear agenda than that envisioned in the 2010 review.

Reviewing the 2018 *Nuclear Posture Review* offers an opportunity to reflect on both its characterization of the international environment as well as its proposed responses. Here I focus on three elements of the document: the characterization of Russian nuclear strategy, extended nuclear deterrence and assurance of allies, and the role of non-strategic (or theater) nuclear forces. Before proceeding, truth in reviewing requires me to note I was part of a RAND Corporation team providing analytic support to the U.S. Air Force for the 2018 *Nuclear Posture Review*. My comments are based solely on the publicly available unclassified version of the review. The opinions expressed here are solely my own and do not represent the views of RAND, the U.S. Air Force, or any other entity.

²⁴ U.S. Department of Defense, *Nuclear Posture Review* (April 2010).

From Russia with Kilotons: Characterizing Russian Nuclear Strategy

The *Nuclear Posture Review* is deeply concerned about Russia, listing it first in its discussion of the nuclear programs of other states. It bluntly declares:

Russian strategy and doctrine emphasize the potential coercive and military uses of nuclear weapons. It mistakenly assesses that the threat of nuclear escalation or actual first use of nuclear weapons would serve to “de-escalate” a conflict on terms favorable to Russia. These mistaken perceptions increase the prospect for dangerous miscalculation and escalation.²⁵

The review then details the extensive Russian modernization of both strategic and non-strategic nuclear weapons and the Russian violation of the Intermediate-range Nuclear Forces (INF) Treaty. It subsequently expands claims about Russian nuclear strategy:

Most concerning are Russia’s national security policies, strategy, and doctrine that include an emphasis on the threat of limited nuclear escalation ... Moscow threatens and exercises limited nuclear first use, suggesting a mistaken expectation that coercive nuclear threats or limited first use could paralyze the United States and NATO and thereby end a conflict on terms favorable to Russia.²⁶

²⁵ U.S. Department of Defense, *Nuclear Posture Review* (Jan. 2018), 8.

²⁶ *Nuclear Posture Review*, 2018, 30.

In assessing these claims about the role of nuclear weapons in Russian strategy and doctrine it is important to distinguish facts from interpretations. In terms of facts, the *Nuclear Posture Review* is very helpful in summarizing much of what is known at the unclassified level about Russian nuclear modernization, which is indeed extensive, and includes the INF Treaty-violating SSC-8 cruise missile. The posture review also confirms previously rumored Russian development of the so-called Status-6 system, “a new intercontinental, nuclear-armed, nuclear-powered, undersea autonomous torpedo.”²⁷

These facts alone support the document’s contention that efforts to reduce the role of nuclear weapons in U.S. strategy have not successfully encouraged a symmetrical response from Russia. Russian violation of the INF Treaty is especially worrying in this context. All of this underscores the need to continue the U.S. nuclear modernization program developed under the Obama administration with bipartisan support. Put bluntly, Russia remains deadly serious about its nuclear arsenal and the United States must remain equally serious to ensure the credibility of our nuclear deterrent.

Beyond facts, the review also presents interpretations of Russian conduct. It charges that Russian statements and behavior “appear to lower the threshold for Moscow’s first-use of nuclear weapons.”²⁸ Combined with the earlier contentions about Russian doctrine and exercises, the *Nuclear Posture Review* paints a picture of a Russia that is willing, perhaps even eager, to seek coercive advantage from the threat of or actual first use of its vast and modernizing nuclear arsenal — a dire picture indeed.

²⁷ *Nuclear Posture Review*, 2018, 9.

²⁸ *Nuclear Posture Review*, 2018, 53-54.

Fortunately, the review's interpretations, unlike its presentation of facts, mischaracterizes Russian nuclear strategy. First, even if one grants that Russian military doctrine emphasizes the potential utility of nuclear coercion or use to "de-escalate" or terminate conflicts on favorable terms (a debatable point), this says very little about the views of Russian political leadership on nuclear use, an important point given that it is the political leadership that will actually decide to make threats to or even use nuclear weapons.

Vladimir Putin, unlike many other widely cited Russian politicians, has always been circumspect in his public statements about nuclear weapons. There is no question he believes they are of central importance to Russian security. And yet, he has shown little appetite for invoking the use of nuclear weapons over anything less than grave threats to vital Russian interests. Indeed, in an interview in late 2015, Putin had this to say: "We proceed from the assumption that nuclear weapons and other weapons are the means to protect our sovereignty and legitimate interests, not the means to behave aggressively or to fulfil some non-existent imperial ambitions."²⁹

Some observers point to Putin's statements on Russian nuclear forces after the annexation of Crimea in 2014 as evidence of his acceptance of the utility of nuclear threats for opportunistic revisionism.³⁰ Yet Crimea and the broader Ukraine crisis were critical national security interests for Russia. Elsewhere, in less vital but still important policy arenas, Putin has remained largely quiet on the topic of nuclear weapons. For example, he did not try to coerce Turkey with nuclear weapons after Turkish fighters

²⁹ Interview with Charlie Rose, *CBS Sixty Minutes*, Sept. 27, 2015, <https://www.cbsnews.com/news/vladimir-putin-russian-president-60-minutes-charlie-rose/>.

³⁰ See discussion in Jacek Durkalec, "Nuclear Backed Little Green Men: Nuclear Messaging in the Ukraine Crisis" (Warsaw: Polish Institute of International Affairs, 2015).

downed a Russian aircraft on the Syrian border in November 2015.³¹ Indeed, Russia's response to the incident involved primarily economic and political retaliation against Turkey — hardly the behavior one would expect of a country eager to gamble with nuclear weapons.

Second, for a country alleged to have lowered its nuclear threshold, Russia has spent enormous sums developing its non-nuclear doctrine, capabilities, and options.³² Over the past fifteen years, Russia has developed a system that enables effective conventional precision strikes (on full display in Syria), significantly increasing the number of targets Russia can threaten with conventional weapons.³³ Furthermore, as the *Nuclear Posture Review* itself notes, Russia has developed the ability to attack U.S. satellites in a variety of ways and to launch cyber attacks on U.S. forces.³⁴ According to press reports, Russia has also revitalized its ability to target undersea infrastructure, including transatlantic communication cables.³⁵ These capabilities have required a substantial investment of defense resources and hardly suggest a Russia that is itching to use nuclear weapons rather than non-nuclear alternatives.

³¹ Neil MacFarquhar, "Navigator of Downed Russian Plane Says There Was No Warning," *New York Times*, Nov. 25, 2015, <https://www.nytimes.com/2015/11/26/world/europe/turkey-russia-jet.html>.

³² For a more detailed argument along these lines see Kristin Ven Bruusgaard, "Russian Strategic Deterrence," *Survival* 58, no. 4 (2016).

³³ See overview in Scott Boston and Dara Massicot, "The Russian Way of Warfare: A Primer" (Santa Monica, CA: RAND, 2017).

³⁴ *Nuclear Posture Review*, 2018, 7.

³⁵ Michael Birnbaum, "Russian Submarines Are Prowling Around Vital Undersea Cables. It's Making NATO Nervous," *Washington Post*, Dec. 22, 2017, https://www.washingtonpost.com/world/europe/russian-submarines-are-prowling-around-vital-undersea-cables-its-making-nato-nervous/2017/12/22/d4c1f3da-e5do-11e7-927a-e72eac1e73b6_story.html?utm_term=.96bbe9d4e4e5.

Russia's military developments, both nuclear and non-nuclear, point to an effort that should be familiar to any former senior U.S. policymaker: the search for military options short of a massive nuclear exchange. As the *Nuclear Posture Review* rightly describes, "every U.S. administration over the past six decades has called for flexible and limited U.S. nuclear response options..."³⁶ This is not because past U.S. administrations have been eager to lower the nuclear threshold (despite what some critics have charged). Instead it has been part of an effort to avoid the stark and binary choice between suicide and surrender.

It seems likely that Russian leadership is just as motivated to avoid this stark choice and has invested accordingly in a very broad portfolio of non-nuclear and nuclear capabilities to provide as many options as possible. Overall, this could even indicate a Russian effort to raise rather than lower the nuclear threshold or perhaps, more accurately, to forestall the need for nuclear use. Indeed, the *Nuclear Posture Review* articulates a similar logic for the United States, declaring "...expanding U.S. tailored response options will raise the nuclear threshold and help ensure that potential adversaries perceive no possible advantage in limited nuclear escalation, making nuclear weapons employment less likely."³⁷

Finally, the *Nuclear Posture Review* does not seem to take Russian fears about U.S. capabilities particularly seriously. Russian analysts have been concerned since the late Cold War that U.S. offensive capabilities (both nuclear and non-nuclear) could destroy the vast bulk of the Russian strategic nuclear arsenal along with its command and

³⁶ *Nuclear Posture Review*, 2018, 23.

³⁷ *Nuclear Posture Review*, 2018, 54

control.³⁸ These offensive capabilities, combined with growing missile defense capabilities, have led some Russians to fear the United States could effectively neutralize Russia's strategic deterrent. Yet, with regards to Russian fears, the review merely notes in passing that, despite its concerns about U.S. missile defenses, Russia continues to work on its own missile defenses. This is understandable up to a point, as some of Russia's expressed fears about existing U.S. missile defense capabilities are no doubt mere propaganda.

However, it is unlikely that all such Russian fears can be boiled down to propaganda. Genuine concern could readily account for at least some of Russia's behavior. Most notably, the development of the Status-6 system, which provides an assured nuclear retaliatory capability against U.S. population centers, is entirely consistent with a real Russian fear of U.S. missile defense capabilities. Given the likely cost of this program, and the fact that it has been kept secret by the Russians apart from an oblique release of a single diagram, it seems doubtful that it is just another Russian propaganda campaign.

Appropriate characterization of Moscow's nuclear strategy is crucial. Getting it wrong could exacerbate the already serious risk of a security dilemma driven spiral of misperception and overreaction by both sides.³⁹ There is precedent for this kind of escalation in the U.S.-Soviet experience of the late Cold War. U.S. views of Soviet nuclear strategy in the 1970s and 1980s helped drive U.S. responses that in turn made the Soviets extremely concerned about a U.S. nuclear first strike, culminating in the "war scare" of

³⁸ Brendan R. Green and Austin Long, "The MAD Who Wasn't There: Soviet Reactions to the Late Cold War Nuclear Balance," *Security Studies* 26, no. 4 (2017).

³⁹ See Robert Jervis, "Cooperation Under the Security Dilemma", *World Politics* 30, no. 2 (1978).

1983.⁴⁰ Post-Cold War interviews with both U.S. and Soviet leaders have since revealed the full depth of misperception on both sides.⁴¹ Avoiding a 21st century version of this near-catastrophe while modernizing the U.S. nuclear enterprise should be an important goal of U.S. nuclear posture.

Umbrellas and Allies: The Challenge of Extended Deterrence and the Reality of Assurance

The *Nuclear Posture Review* is also very clear on a major driver of U.S. nuclear posture:

Effective deterrence is the foundation for effective assurance. Allies under the U.S. nuclear umbrella, and potential adversaries, should not doubt our extended deterrence commitments or our ability and willingness to fulfill them. In support of U.S. extended deterrence commitments, the United States will maintain the capabilities necessary to deter effectively and, if necessary, to respond effectively and decisively across the spectrum of potential nuclear and non-nuclear scenarios.⁴²

⁴⁰ There is a burgeoning literature on this period. For an overview see Green and Long, “The MAD Who Wasn’t There,” 2017; Marc Ambinder, *The Brink: President Reagan and the Nuclear War Scare of 1983* (New York: Simon and Schuster, forthcoming 2018); and Benjamin Fischer, “Scolding Intelligence: The PFIAB Report on the Soviet War Scare,” *International Journal of Intelligence and Counterintelligence* 31 no. 1 (2018).

⁴¹ See overview of interviews in John Hines, Ellis M. Mishulovich, and John F. Shulle, *Soviet Intentions 1965-1985, Volume I: An Analytical Comparison of U.S.-Soviet Assessments During the Cold War* (McLean, VA: BDM Federal, 1995).

⁴² *Nuclear Posture Review*, 2018, 35

This statement may seem obvious, even anodyne, to many readers, as it reaffirms longstanding U.S. commitments. Yet it is worth unpacking and reflecting on two elements of this crucial formulation: extended deterrence and assurance.

Extended nuclear deterrence, which, as the review notes, the United States extends to over thirty countries, hinges on credibility. The fundamental question is whether the United States will come to the aid of an ally that is attacked by a nuclear adversary. If the adversary cannot effectively strike the United States directly with nuclear weapons — as was the case with the Soviet Union in the early 1950s — the credibility of the United States coming to the defense of an ally is usually viewed as quite high. On the other hand, if the nuclear armed adversary is able to strike the United States, U.S. credibility may be called into question.⁴³

The potential for nuclear threats to the U.S. homeland to undermine U.S. commitment to extended deterrence has much to do with recent U.S. concern about a North Korean intercontinental ballistic missile (ICBM). National Security Adviser H.R. McMaster summed up this challenge in September 2017: “The North Koreans have shown, through their words and actions, their intention to blackmail the United States into abandoning our South Korean ally, potentially clearing the path for a second Korean War.”⁴⁴ Thus, a major driver of U.S. nuclear posture is the need to ensure the credibility of extended deterrence.

⁴³ See longer summary of the challenge of extended deterrence in Austin Long, *Deterrence From Cold War to Long War: Lessons from Six Decades of RAND Research* (Santa Monica, CA: RAND, 2008).

⁴⁴ Quoted in Evan Osnos, “The Risk of Nuclear War With North Korea,” *The New Yorker*, Sept. 18, 2017, <https://www.newyorker.com/magazine/2017/09/18/the-risk-of-nuclear-war-with-north-korea>.

This is not a new challenge: It was a major element in the Cold War, summarized in the rhetorical question, “Would the United States trade Washington for Moscow over Berlin?” One could readily substitute “Pyongyang” and “Seoul” in the formulation to bring it into the 21st century. In the early Cold War, the U.S. advantage in intercontinental nuclear forces made extended deterrence credible because Soviet forces that were capable of reaching the United States were limited. In extremis, the United States could probably have destroyed the vast bulk of Soviet intercontinental nuclear forces.⁴⁵ The credibility of U.S. extended deterrence was therefore quite high. This in turn provided substantial assurance to U.S. allies.

Yet, once an adversary can reliably strike the United States, U.S. extended nuclear deterrence credibility becomes more questionable. The responses to this challenge have generally fallen into two categories, which are not entirely mutually exclusive. The first is a limited nuclear response if deterrence fails. As noted earlier, the *Nuclear Posture Review* articulates this logic, which has been a constant in U.S. nuclear strategy for decades. Yet the review also notes the uncertainty about whether limited nuclear responses can successfully reestablish deterrence.⁴⁶ Writing just before the Cuban Missile Crisis, future Secretary of Defense James Schlesinger captured the concern about relying on limited nuclear responses for extended deterrence:

In a war of nerves, with limited encounters, which side will prove the stronger—especially when we have reached the city-swapping stage? How

⁴⁵ Former Deputy National Security Adviser Carl Kaysen has claimed “Can we make sure that the Soviets can’t launch a really serious heavy attack on the United States?” And the answer was that in 1961 we could have made sure, with rather a high level of confidence.” See interview with Carl Kaysen at MIT, 1988, published by UCLA, <http://www.sscnet.ucla.edu/polisci/faculty/trachtenberg/cv/Kaysen.pdf>.

⁴⁶ *Nuclear Posture Review*, 2018, 23.

long will the American public accept a game played by these rules? Thus the final question appears: what does the decline of nuclear dominance do to the protection offered to Europe by a sophisticated deterrent [that] remains under American control?⁴⁷

The other response has been to improve the ability to limit damage to the United States (and its allies) through offensive and defensive capabilities. If an adversary loses faith in its ability to successfully strike the U.S. homeland, the credibility of extended nuclear deterrence is enhanced. Moreover, if deterrence does fail, damage limitation is an important means to limit the consequences and restore deterrence.⁴⁸ The *Nuclear Posture Review* also articulates this response:

The goal of limiting damage if deterrence fails in a regional contingency calls for robust adaptive planning to defeat and defend against attacks, including missile defense and capabilities to locate, track, and target mobile systems of regional adversaries... In the case of missile threats from regional actors in particular, U.S. missile defense and offensive options provide the basis for significant damage limitation in the event deterrence fails.⁴⁹

However, the acquisition of such damage limiting capabilities is likely to exacerbate the security dilemma, potentially making crises less stable and arms races more intense.

⁴⁷ James Schlesinger, *Some Notes on Deterrence in Western Europe* (Santa Monica, CA: RAND, 1962), 10.

⁴⁸ For a recent and more in-depth discussion of the feasibility and utility of damage limitation see Brendan Rittenhouse Green, et al., "Correspondence: The Limits of Damage Limitation," *International Security* 42, no. 2 (Summer 2017).

⁴⁹ *Nuclear Posture Review*, 2018, 23.

Indeed, this was part of what drove the security dilemma in the late Cold War, as noted earlier. The best one can hope for in the pursuit of damage limitation is what Glenn Kent and David Thaler have termed “optimum instability” — enough damage limitation to deter adversaries from provoking a crisis, but not so much that any one crisis spirals out of control.⁵⁰

Although extended deterrence is intimately linked with assuring allies, as the *Nuclear Posture Review* describes, allied appetites for such assurances can be virtually unlimited. As former British Secretary of State for Defence Denis Healey remarked, “[i]t takes only 5% credibility of American retaliation to deter the Russians, but 95% to reassure the Europeans.”⁵¹ And yet, the *Nuclear Posture Review* does not fully articulate why assuring allies is important for U.S. national security. The value is not in simply making allies feel better — a nice goal, but not particularly useful for national security. Instead, assurance is about shaping allied calculus to convince allies to either take a desired action or refrain from an undesired one. Assurance is thus the kinder, gentler, friendlier cousin of deterrence — persuasion rather than coercion.

Historically, the United States has used such assurance to convince allies to do more in terms of providing for allied conventional defense and to forego acquiring their own nuclear capabilities. West Germany during the Cold War is a prime example of this strategy. The country’s conventional rearmament was crucial to the defense of Western Europe, but its potential acquisition of independent nuclear weapons capability was

⁵⁰ Glenn A. Kent and David E. Thaler, *First-Strike Stability: A Methodology for Evaluating Strategic Forces* (Santa Monica, CA: RAND, 1989), 5.

⁵¹ Denis Healey, *The Time of My Life* (London: Michael Joseph, 1989), 243.

deeply troubling to both the Soviets and much of the rest of NATO.⁵² U.S. assurance to West Germany, which involved keeping large numbers of troops stationed at the inter-German border as well as beginning what would evolve into contemporary NATO nuclear sharing, was thus not simply about making the Germans feel comforted. Its aim was to convince the Germans to bear the cost of conventional rearmament while rejecting independent West German nuclear forces, two vital national security objectives of the United States.

Shaping allied behavior should remain the appropriate lens through which to view potential U.S. assurance activities rather than simply assuring for the sake of maintaining good relations or comity. United States assurances during the Cold War were central to limiting proliferation among allies such as South Korea. This is an even more important objective today as, amid North Korea's nuclear build up, some in South Korea have begun to muse about the need for South Korea to have its own nuclear arms.⁵³ Determining what assurances will actually succeed in shaping allied calculus on key issues like proliferation (as opposed to simply claiming actions provide assurance) should be a major component of U.S. nuclear posture.

⁵² On the German case see Marc Trachtenberg, *A Constructed Peace: The Making of the European Settlement 1945-1963* (Princeton, NJ: Princeton University Press, 1999); and Gene Gerzhoy, "Alliance Coercion and Nuclear Restraint: How the United States Thwarted West Germany's Nuclear Ambitions," *International Security* 39, no. 4 (Spring 2015).

⁵³ See for example Doug Bandow, "Why Not A South Korean Nuke?" *National Interest*, Feb. 18, 2016, <http://nationalinterest.org/blog/the-skeptics/why-not-south-korean-nuke-15245>.

What Must Be Done? The Logic of Nuclear Responses

The *Nuclear Posture Review*'s concern about Russia and the demands of extended deterrence and assurance leads, in the document, to a renewed emphasis on non-strategic or theater-range nuclear forces. It promises that the United States will “maintain, and enhance as necessary, the capability to forward deploy nuclear bombers and DCA [dual capable aircraft] around the world.”⁵⁴ It also declares the United States will pursue a nuclear sea launched cruise missile (SLCM) and a low yield submarine launched ballistic missile (SLBM) warhead.

These forces are all intended to provide flexibility in potential military response to bolster deterrence. However, it is worth exploring the reasoning for why such flexible options would be useful. The low yield SLBM, though still a strategic rather than non-strategic system, provides a fast-moving low-yield option to complement the slower, low-yield options (e.g., air launched cruise missiles and gravity bombs) that already make up part of the U.S. nuclear force. It is worth noting that the United Kingdom has had a low yield SLBM option for at least a decade, so this hardly constitutes a new capability.⁵⁵ Adding it to the U.S. arsenal modestly expands U.S. options at what is likely to be relatively low cost, as it entails only a modification to an existing nuclear warhead.

In contrast, the nuclear SLCM does not add a capability the United States does not already have in some form. Air launched cruise missiles are functionally the same as those launched from the sea. The ability to launch from attack submarines does add some

⁵⁴ *Nuclear Posture Review*, 2018, 54.

⁵⁵ See for example discussion in Michael Bilton, “Dive Bombers,” *Sunday Times*, Jan. 20, 2008,

<https://www.thetimes.co.uk/article/dive-bombers-s7l1t2vjckq>.

capability as these submarines can approach their targets undetected, but those submarines will also be heavily committed to other missions, including launching conventional strikes and defending against Soviet submarines. A new nuclear SLCM therefore will likely add less to U.S. flexibility than a low yield SLBM, and will cost substantially more.

Forward deployed bombers and DCA allow the United States to have nuclear options that originate from non-U.S. soil. Yet the deterrent benefits of this are unclear. Options from forward bases are often believed to be less escalatory than options that originate from the United States, but it is not clear why this would be the case. Why is a bomb dropped from a bomber flying from the United States more escalatory than the exact same bomb dropped by a bomber flying from a European or Asian ally's territory? In some cases, it may be unclear to the target where the attack originated from anyway.

Alternately, it may be the specific target rather than the geographic origin of a nuclear attack that matters most. During the Cold War, there was an entire set of targets for NATO theater forces that was considered less escalatory than an attack on the Soviet Union itself. These targets were all within the territories of Soviet allies of the Warsaw Pact. Yet today such alternative targets are not available. Russia has no allies apart from Belarus, while China and North Korea have no real allies of any kind. Forward deployed forces thus lack obvious targets for limited escalation in the 21st century.

Forward deployed forces might provide better assurance, if only because they seem more tangible to allies. However, as argued above, this assurance should be used to shape allied calculus. Note that forward basing of U.S. aircraft armed with nuclear weapons is not synonymous with NATO's nuclear sharing arrangement. The deterrence and assurance value of NATO nuclear sharing is derived from shared responsibility for nuclear release

and execution among allies. Put more directly, the value of NATO nuclear arrangements lay in having U.S. weapons on allied planes in Europe, rather than U.S. weapons on U.S. planes. So, what exactly is forward deployment intended to convince allies to do or not do? Here, questions about proliferation may be salient if uncomfortable. Is demonstrating the forward deployment of U.S. nuclear forces required to sufficiently assure allies like South Korea that it is safe for them to forego their own weapons? Answering questions such as these should be a crucial component of U.S. nuclear posture.

Conclusion

The 2018 *Nuclear Posture Review* is an important milestone but it is not the last word on the Trump administration's nuclear policy. The review must be implemented through the issuance of additional classified guidance, which gives an opportunity to readdress or clarify some of these issues. In particular, it is crucial the United States be sure its characterization of Russian nuclear strategy is accurate in order to modernize its nuclear arsenal without provoking unintended Russian responses.

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4. Maintaining the Course — for the Most Part

Al Mauroni

Vipin Narang defines “nuclear posture” as the operational capabilities of a nuclear force, with a defined employment doctrine, and an understanding of how a state authorizes the command and control of said nuclear weapons.⁵⁶ To be specific, a nuclear posture is different than a declared statement of nuclear doctrine and tactics in that it offers a rationale for the peacetime procedures of developing and maintaining nuclear weapons and insight into how they might be used in times of crisis. Congress requires that the Secretary of Defense conduct a *Nuclear Posture Review* to answer some specific questions⁵⁷ because nuclear weapons are unique in their destructive capabilities. And, as a very technical subject-area, Congress wants details before they fund the development of these special weapons.

Inevitably, people will want to compare the 2018 *Nuclear Posture Review*,⁵⁸ released last week, to the 2010 review,⁵⁹ in an effort to contrast the Trump and Obama administrations’ approaches to the operational use of nuclear weapons. As Jeffrey Lewis notes, no one

⁵⁶ Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton, NJ: Princeton Univ. Press, 2014), 3-4.

⁵⁷ 2008 National Defense Authorization Act, Section 1070, “Revised Nuclear Posture Review,” https://www.defense.gov/Portals/1/features/defenseReviews/NPR/Authorizing_Legislation.pdf.

⁵⁸ U.S. Department of Defense, *Nuclear Posture Review*, 2018, <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>.

⁵⁹ U.S. Department of Defense, *Nuclear Posture Review*, 2010, https://www.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

should be surprised that the 2018 document reflects the hawkish views of a Republican administration.⁶⁰ As a member of the National Security Council (NSC) working on the 2018 review, Christopher Ford commented last year that he and the other members of the NSC were encouraged to rethink things across the board, to look at what policy alternatives might be available without being constrained by conventional wisdoms or untested assumptions. This is not to say, however, that a fresh set of eyes would necessarily result in different positions as an outcome of the review.⁶¹

There are obvious differences in strategic overviews of the two documents, but, in the end, they have more in common than not. It should not be a shock that long-time professionals within the U.S. government's nuclear enterprise built this document with a desire for continuity with existing strategy and budgets, while receiving new guidance from political leadership. Continuity can be a good thing to a global audience, denoting stability between administrations based on accepted practices. While many people may focus on the temperament and statements of political leaders who have the authority to launch nuclear weapons, the important feature of the *Nuclear Posture Review* is the discussion on how the U.S. nuclear enterprise maintains a modern, safe, secure, and credible nuclear deterrent capability over time.

The commonalities between the 2010 and 2018 reviews begins with a commitment to the strategic triad of intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and nuclear-capable bombers carrying either nuclear gravity bombs or

⁶⁰ Jeffrey Lewis, "Reviewing the Nuclear Posture Review," *Arms Control Wonk*, Jan. 16, 2018, <https://www.armscontrolwonk.com/archive/1204661/reviewing-the-nuclear-posture-review/>.

⁶¹ Carnegie Endowment for International Peace, "Morning Keynote with NSC Senior Director Christopher Ford," Mar. 21, 2017, <http://carnegieendowment.org/2017/03/21/morning-keynote-with-nsc-senior-director-christopher-ford-pub-68162>.

air-launched cruise missiles (ALCMs). Both call for working with Russia and China on maintaining strategic stability, not so much as adversaries than as peer competitors. Both documents support a continued NATO nuclear capability and address the threat of nuclear terrorism as an aspect of a global environment featuring stockpiles of nuclear weapons. These elements were also present in the 1994 and 2001 *Nuclear Posture Reviews*.⁶² Both reports commit to arms control efforts such as the Nuclear Nonproliferation Treaty (NPT) and the Comprehensive Nuclear Test Ban Treaty (or at least the spirit of those measures). And they both call for modernizing the nuclear arsenal and nuclear weapons labs. Finally, neither administration committed to a “no-first use” policy in either document.

Fred Kaplan views this continuity as troubling, as it reflects the ingrained practices of a U.S. nuclear enterprise that pre-dates the Trump administration, a military machine that has a particular view that was only partially accepted by political leaders — up to now.⁶³ Certainly this friction between military operators and their political masters has been well-documented (by Kaplan, among others) and has existed since the beginning of the Atomic Age. However, there is in fact a defined process by which all military capabilities are developed, including nuclear weapons, which involves the identification of technical requirements that will guide the procurement and operation of weapon systems, allowing military agencies to meet defined policy objectives. The military — including those within the U.S. nuclear enterprise — understands that its operations are subordinate to political

⁶² Brad Roberts, *The Case for U.S. Nuclear Weapons in the 21st Century* (Stanford, CA: Stanford Univ. Press, 2016), 40-41.

⁶³ Fred Kaplan, “Nuclear Posturing,” *Slate*, Jan. 22, 2018, <https://slate.com/news-and-politics/2018/01/trumps-official-nuclear-policy-reaffirms-the-terrifying-status-quo.html>.

direction. At the same time, it is better to avoid sudden changes in defense acquisition efforts because of broader fiscal or policy implications.

There are also some obvious differences between the 2010 and 2018 reports that require more detailed discussion. Perhaps the greatest concern is what some see as the Trump administration's reduction of the nuclear use threshold. While the 2018 *Nuclear Posture Review* maintains the "negative security assurance" toward countries that are part of the NPT and in compliance with non-proliferation obligations,⁶⁴ there is an exception for adversaries using "non-nuclear strategic attack technologies" that the United States has difficulties countering. The document includes chemical, biological, cyber, and large-scale conventional aggression as examples of strategic threats that may require a nuclear response. The Obama administration similarly claimed there was a "narrow range of contingencies in which U.S. nuclear weapons may still play a role in deterring a conventional or [chemical-biological weapon] attack against the United States."⁶⁵ A policy of strategic ambiguity on the use of nuclear weapons makes this issue more difficult to argue as right or wrong, but both administrations use "catastrophic destruction" as a measure for when a nuclear response to a non-nuclear strategic attack is warranted.⁶⁶ Short of a total war scenario, it is very unlikely that we will see an adversary use massive amounts of chemical, biological, cyber, or conventional weapons to the extent that the United States would use nuclear weapons in response. It's a poorly-thought out hypothetical scenario that policy makers have unwisely put into practice.

⁶⁴ Arms Control Association fact sheet, "U.S. Negative Security Assurances at a Glance," updated Apr. 2017, <https://www.armscontrol.org/factsheets/negsec>.

⁶⁵ *Nuclear Posture Review*, 2010, viii.

⁶⁶ Defense Science Board, *Task Force on Cyber Deterrence* (Washington, DC: DoD, 2017), 11-12.

Some critics view the 2018 *Nuclear Posture Review* as a call for using nuclear weapons in more situations. However, one could argue that this is merely a continuation of the integration of nuclear and non-nuclear plans that began at the start of the 21st century.⁶⁷ The Obama administration stressed the need to reduce the role of nuclear weapons in deterring non-nuclear attacks without ruling out the possibility that nuclear weapons might be required “to defend the vital interests of the United States.”⁶⁸ This inherently requires integration of nuclear and non-nuclear plans. The Trump administration has been more direct in its language, but its view is not significantly different. Non-proliferation advocates see nuclear weapons as Cold War artifacts, things that should only be thought of in terms of a strategic nuclear exchange between two superpowers. Others recognize that, in the second nuclear age, limited nuclear weapons use during a regional conflict is a very real scenario that needs to be considered. Integrating nuclear and non-nuclear weapons use is a rational path toward developing tailored regional deterrence strategies. Contrary to that forward-looking view, the 2018 review’s remarks about utilizing nuclear and non-nuclear options for “damage limitation”⁶⁹ seems to echo language once found in Cold War strategies.

Critics point to the 2018 review’s talk of low-yield nuclear weapons as evidence of an increased desire to make nuclear weapons more “usable.”⁷⁰ There is a lot to unpack here,

⁶⁷ Vincent Manzo and Aaron Miles, “The Logic of Integrating Conventional and Nuclear Planning,” *Arms Control Today*, Nov. 2016, https://www.armscontrol.org/ACT/2016_11/Features/The-Logic-of-Integrating-Conventional-and-Nuclear-Planning.

⁶⁸ *Nuclear Posture Review*, 2010, viii–ix.

⁶⁹ *Nuclear Posture Review*, 2018, 23.

⁷⁰ Julian Borger, “US to loosen nuclear weapons constraints and develop more ‘usable’ warheads,” *The Guardian*, Jan. 9, 2018, <https://www.theguardian.com/us-news/2018/jan/09/us-to-loosen-nuclear-weapons-policy-and-develop-more-usable-warheads>.

but first let's talk about the idea of usable nuclear weapons. That's a feature, not a bug. It's popular to say (if not paradoxical) that nuclear weapons are needed so that they are never used. Successful deterrence is measured by the absence of nuclear strikes during a foreign policy crisis. At the same time, nuclear weapons are in fact designed to be used. That's a fundamental point of deterrence. If they could not be used, either due to technological constraints or lack of political will, adversaries would not be deterred from using their own nuclear weapons. Nuclear weapons, even low-yield nuclear weapons, cannot be made "more usable." If mounted on a delivery system, they're as usable as they're going to get.

The argument that U.S. presidents may be more easily swayed by military advisors to employ a low-yield nuclear weapon in limited strikes against an adversary is not credible. For one thing, the United States had thousands of low-yield nuclear weapons in its stockpile up until 1991. Despite significant security crises and plenty of operational concepts for using them, U.S. presidents have resisted their employment because they understood the consequences of using such weapons.⁷¹ The debate as to whether the United States can control escalation in a future conflict that features limited nuclear weapons use is not new.⁷² Some believe that the United States can control escalation in a conflict that ranges across conventional, cyber, space, and nuclear domains. Many others caution against assuming that adversaries will be rational decision-makers and that communications between them and the U.S. government will not be misinterpreted. We

⁷¹ Matthew Costlow, "Big Fears of Small Nukes Overblown," *Breaking Defense*, Jan. 23, 2018, <https://breakingdefense.com/2018/01/big-fears-of-small-nukes-overblown/>.

⁷² For instance, William Jones, "A Framework for Exploring Escalation Control," RAND, 1974, <https://www.rand.org/content/dam/rand/pubs/reports/2006/R1536.pdf>; and Forrest Morgan, et al., "Confronting Emergent Nuclear-Armed Regional Adversaries," RAND, 2015, https://www.rand.org/pubs/research_reports/RR974.html.

will continue to have those debates. Nuclear-weapon states other than Russia and China could threaten U.S. national security interests, requiring the United States to consider limited nuclear weapons use. Identifying current and future roles for nuclear weapons use in post-Cold War scenarios is not making nuclear weapons “more usable.” It has been a feature of U.S. security planning for decades.

There are some good questions about the exact modernization plans to develop these low-yield weapons. Obviously, one of the biggest differences between the 2010 and 2018 *Nuclear Posture Reviews* is that the Obama administration proposed not to develop new nuclear warheads and to retire the B83 gravity bomb, a weapon certainly designed for the Cold War, while the Trump administration appears to be reversing direction on both issues. It is hard to rationalize retaining the B83 bomb “until there is sufficient confidence in the B61-12 gravity bomb,” if only because the B61-12 bomb appears to be a solid acquisition program with minimal technological risk.⁷³ If the B61-12 bombs become available in 2020, as the National Nuclear Security Administration projects, it is unclear why the Air Force would need to maintain the B83 bomb as an active weapon for two more years.

Similarly, the idea of modifying a Trident D5 warhead to provide a low-yield option in lieu of a future submarine-launched cruise missile (SLCM), as proposed in the new review,⁷⁴ is puzzling at first glance. For one, it is probably a misnomer to call a modified Trident warhead a “low-yield option,” as one understands it in the general context of non-strategic nuclear weapons. Perhaps it would be better to call it a “lower-yield” option.

⁷³ NNSA fact sheet, “B61-12 Life Extension Program,” undated, https://nnsa.energy.gov/sites/default/files/nnsa/factsheet/b61-12_lep.pdf.

⁷⁴ *Nuclear Posture Review*, 2018, 54-55.

Certainly the U.S. Navy used to have a nuclear variant of the Tomahawk cruise missile as a non-strategic nuclear weapon. Adm. James “Sandy” Winnefeld has called for bringing this system back to counter Russian violations of the Intermediate-Range Nuclear Forces treaty.⁷⁵ The 2018 review specifically identifies this option as a counter to the Russian treaty violation without causing a violation of U.S. treaty compliance.⁷⁶ There are concerns about the inability of national leaders to discern conventional from nuclear cruise missile attacks, which could lead to uncontrolled escalation. Others will point to the past decades in which both Russian and U.S. militaries have used conventional cruise missiles while deploying nuclear cruise missiles, without any apparent miscommunications. It may take years to execute the “analysis of alternatives” and operationalize this concept, calling into question how or whether the Russians will react to this action.

In regards to either proposed development — the air-launched gravity bombs or the sea-launched weapons — the Trump administration would not be creating new nuclear weapons as much as it would be returning old warheads back into operation. The 2018 review assures us that there would be no violation of the New Strategic Arms Reduction Treaty (New START). So why all the anxious talk about low-yield nuclear weapons and their “usability”? The Defense Science Board foreshadowed this issue in 2016 in its report “Seven Defense Priorities for the New Administration.” It called for consideration of “lower yield, primary only options” to offer capabilities as “a convincing hedge to future

⁷⁵ Sandy Winnefeld and James Miller, “Bring Back Nuclear Tomahawks,” *Proceedings*, May 2017, <https://www.usni.org/magazines/proceedings/2017-05/bring-back-nuclear-tomahawks>.

⁷⁶ *Nuclear Posture Review*, 2018, 55.

uncertainties,” to include possible adversarial actions by Russia, China, and North Korea.⁷⁷ Again, this is not a new debate.

Non-strategic nuclear weapons, sometimes called tactical nuclear weapons because of their intended use within a theater of conflict against discrete military targets, are not addressed by any bilateral treaty between the United States and Russia. New START only addresses strategic nuclear delivery systems and numbers of associated warheads that are operationally deployed.⁷⁸ It may be that the 2018 *Nuclear Posture Review* is intended to signal to Russian political and military leaders that they ought to consider limits on tactical nuclear weapons in the next arms control talks. There is historical precedent for this. In the mid- to -late-1980s, the Reagan administration was moving to produce binary chemical weapons at Pine Bluff Arsenal. When Congress authorized the funding for that action, Soviet leader Mikhail Gorbachev called for talks between the two nations to eliminate chemical weapons.⁷⁹ There are other examples of the U.S. government increasing strategic force capabilities as a lever for arms control talks, such as the deployment of Pershing II missiles to Europe to cause the Soviets to negotiate a Treaty on Intermediate-Range Nuclear Forces.⁸⁰

⁷⁷ Defense Science Board, *Seven Defense Priorities for the New Administration* (Washington DC: Dept. of Defense, 2016), 23-24, <https://www.acq.osd.mil/dsb/priorities.htm>.

⁷⁸ U.S. State Department, “New START fact sheet,” accessed Feb. 8, 2018, <https://www.state.gov/t/avc/newstart/index.htm>.

⁷⁹ UPI, “Gorbachev: Chemical Arms Cut,” *Chicago Tribune*, June 24, 1987, http://articles.chicagotribune.com/1987-06-24/news/8702160451_1_chemical-weapons-binary-weapons-soviet-proposals.

⁸⁰ Federation of American Scientists, “Pershing 2,” accessed Feb. 8, 2018, <https://fas.org/nuke/guide/usa/theater/pershing2.htm>.

If the decision to return SLCMs into operation is not solely based on convincing Russia to change its direction on its treaty violations, it may be to reassure allies such as Japan and South Korea, as well as NATO allies, that the United States has a flexible and effective option to deter regional adversaries from threatening them with limited nuclear weapons attacks. It's difficult to assess whether our allies will in fact be assured by this "new" capability. The U.S. nuclear arsenal does already have low-yield nuclear options, including the B61 gravity bomb and the current (but aging) ALCM. However, adding a sea-based variant of a lower-yield weapon increases the challenges to an adversary's war plans by providing a proportional response to any threatened use of tactical nuclear weapons.⁸¹ Modern air defense systems may thwart U.S. air-launched options, and using SCLMs will not require bilateral agreements with allies in regards to basing rights (necessary for tactical airplanes loaded with nuclear gravity bombs). But the weapons do have to be "useable."

Perhaps one of the greatest differences between the two reports is their respective tones — the 2010 *Nuclear Posture Review* provided a clear strategic policy discussion on how the United States would reduce the role of nuclear weapons, address nuclear terrorism concerns, and maintain the nuclear Triad until future arms control talks progress toward future nuclear reductions. The 2018 review bluntly cuts off all talks of nuclear reductions, suggesting that the global threat environment had become such that this is not an option. Instead, modernization of the entire U.S. nuclear stockpile — including the nuclear command, control, and communications (NC3) system — is deemed vital. This includes discussion of a limited role for U.S. nuclear weapons in countering nuclear terrorism, which is certainly a more strident tone than past security discussions on this issue.

⁸¹ Vincent Manzo, "Give the Low-Yield SLBM its Day in Court," *DefenseOne*, Jan. 22, 2018,

<http://www.defenseone.com/ideas/2018/01/give-low-yield-slbm-its-day-court/145397/?oref=d-river>.

Make no mistake, this *Nuclear Posture Review* is a marketing proposal directed to the Congress. This is not meant in a pejorative sense: Congress asked for the review in order to authorize and appropriate funds for nuclear forces. The Obama administration called for budgeting nuclear weapons modernization, including the revitalization of the Department of Energy’s national laboratories that work on nuclear weapons. Arms control advocates, such as the Ploughshares Foundation, rail against what they see as an excessive investment into Cold War artifacts.⁸² The cost of modernizing all three legs of the nuclear triad are indeed significant, with estimates from the Congressional Budget Office of \$1.2 trillion between 2017 and 2046.⁸³ However, no other government program is measured in terms of thirty-year cost projections, and overall defense spending during that period will certainly exceed \$20 trillion, putting these costs within the five to seven percent range of defense spending. The 2018 *Nuclear Posture Review* explicitly makes the case that, given the uncertain security environment, the investment is necessary and justifiable. As Adm. Cecil Haney, former USSTRATCOM commander under President Obama, told Congress, “the question really is, can we afford not to” proceed with modernization of the U.S. nuclear arsenal.⁸⁴

Some critics have mocked the four graphics within the 2018 review as simplistic and misleading, and yes, these figures, in and of themselves, could be easily challenged in a rigorous academic debate about the U.S. nuclear posture. However, these criticisms miss

⁸² Will Lowry, “Russia, US and Nuclear ‘Modernization’: A New Arms Race?” Ploughshares Foundation, Dec. 9, 2015, <https://www.ploughshares.org/issues-analysis/article/russia-us-and-nuclear-modernization>.

⁸³ Congressional Budget Office, “Approaches for Managing the Costs of U.S. Nuclear Forces, 2017-2046,” Oct. 31, 2017, <https://www.cbo.gov/publication/53211>.

⁸⁴ U.S. Congress, House Committee on Armed Services, Subcommittee on Strategic Forces, *President Obama’s Fiscal 2016 Budget Request on Strategic Forces*, Hearing, 114th Cong., 1st sess., Feb. 26, 2015.

the point — the graphics aren't meant to convince the academics or win over critics. These charts have been used by nuclear weapons advocates over the past five to seven years in public discussions supporting the modernization of the U.S. nuclear arsenal. They are a consistent message to Congress that preceded the Trump administration and that will continue after it. While the 2010 *Nuclear Posture Review* was meant for an external, global community, the 2018 review was written for an internal, political audience. It's a message designed to communicate with a Congress whose members are increasingly not conversant on nuclear weapons policy and are consumed with debating many other national topics.

Lewis suggested in his earlier review that developing the *Nuclear Posture Review* is a waste of time and that no one was waiting for the approval of this report to make policy or budget decisions.⁸⁵ It's a study with recommendations; it's aspirational in nature. The President's Budget for Fiscal Year 2019 was completed before this report was released. Congress could refuse to appropriate the necessary funds to allow these recommendations to move forward. Operational planners within the military are focused on current nuclear capabilities, not promises of future ones. But having an open debate on the role of nuclear weapons in contemporary strategy and policy is a good thing, something that the U.S. national security enterprise had let slip between 1992 and 2010. This discussion on what nuclear weapons capability the United States maintains should not be limited to the nuclear weapons advocates and the nonproliferation community. We need to better understand the vital role that these weapons play in contemporary security issues. This *Nuclear Posture Review* moves us another step forward in that dialogue.

⁸⁵ Jeffrey Lewis, "Reviewing the Nuclear Posture Review," Arms Control Wonk, Jan. 16, 2018,

<https://www.armscontrolwonk.com/archive/1204661/reviewing-the-nuclear-posture-review/>.

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5. The Discrimination Problem: Why Putting Low-Yield Nuclear Weapons on Submarines Is So Dangerous

Vipin Narang

The United States has the most diverse and potent nuclear force on the planet, capable of deterring and, if necessary, defeating and destroying any military and any nation on earth. The Trump administration's recently released *Nuclear Posture Review* doesn't think that's enough.⁸⁶ Going beyond the modernization program that upgrades and maintains the existing force, the document calls for a variety of capabilities and missions for American nuclear forces that have long been on Republicans' wish list. Specifically, the document places a renewed emphasis on expanding the role and size of the low-yield nuclear weapon force (with low yields not being all that low since they include 20 kiloton nuclear weapons, the same as those dropped on Hiroshima and Nagasaki).⁸⁷

The most notable low-yield capabilities on the wish list include submarine-launched ballistic missiles (SLBMs) and sea-launched cruise missiles (SLCMs), which could be based on surface ships or submarines.⁸⁸ The administration seeks to deploy low-yield nuclear weapons on both missiles to achieve the ultimate mission of the *Nuclear Posture Review*: to generate more flexible and tailored nuclear responses to a wide spectrum of nuclear and

⁸⁶ U.S. Department of Defense, *Nuclear Posture Review*, 2018, https://www.defense.gov/News/Special-Reports/0218_npr/.

⁸⁷ Stephanie Pappas, "Hydrogen Bomb vs. Atomic Bomb: What's the Difference?" *Live Science*, Sept. 22, 2017, <https://www.livescience.com/53280-hydrogen-bomb-vs-atomic-bomb.html>.

⁸⁸ Aaron Mehta, "The US could be getting 2 new nuclear capabilities. Here are the details." *Defense News*, Feb. 2, 2017, <https://www.defensenews.com/space/2018/02/02/the-us-could-be-getting-2-new-nuclear-capabilities-here-are-the-details/>

non-nuclear attacks against the United States and its allies. Proponents argue that incorporating more low-yield nuclear weapons into the force posture gives the United States the ability to respond to various forms of aggression with more calibrated responses on the so-called escalation ladder (and in theory, deter or defeat that aggression without escalation to the strategic nuclear level). In other words, the Trump administration hopes to generate options beyond “suicide or surrender.”⁸⁹

Although the aim of the low-yield SLBM and SLCM is to close this perceived “deterrence gap,” proponents of these capabilities have elided one key problem: how the adversary may perceive and react to their use. I call this the “discrimination problem.” Right now, all the SLBMs in the American inventory carry multiple — up to eight! — thermonuclear warheads. Mixing these missiles with one or several of the proposed low-yield warheads creates a very real problem: How will the adversary know which of the two is coming its way? It cannot. If the adversary sees a single SLBM headed toward it — even if that missile turns out to only be carrying a low-yield warhead — it must react as if it is facing the full brunt of American strategic nuclear use. It would be catastrophic — potentially nation-ending — to hope otherwise and be wrong.

The new low-yield, or nonstrategic, nuclear weapons envisioned in the *Nuclear Posture Review* would not be the first in the American inventory. There are already four types of aircraft-delivered tactical nuclear weapons in the force posture (three variants of the B-61 gravity bomb and an air launched cruise missile).⁹⁰

⁸⁹ Rebecca Kheel, “Mattis defends plans for new nuclear capabilities,” *The Hill*, Feb. 6, 2018, <http://thehill.com/policy/defense/372531-mattis-defends-plans-for-new-nuclear-capabilities>.

⁹⁰ Hans M. Kristensen and Robert S. Norris, “United State nuclear forces, 2017,” *Bulletin of the Atomic Scientists* 73, no. 1 (Dec. 2017): 48–57.

So why does the review call for additional low-yield options? In a word: Russia.⁹¹ The administration's basic concern is that Russia may try to use a low-yield nuclear weapon on American or allied forces without the United States being able to successfully respond in kind. This forces America into the "suicide or surrender" dilemma of either not responding at all or escalating directly to the strategic thermonuclear level by retaliating against the adversary's cities (or against all its nuclear forces directly). The perceived gap in American capabilities is because U.S. aircraft-delivered B61s are vulnerable to Russian air defenses, limited by the range of the aircraft on which they are deployed, and cannot deliver a retaliatory blow as swiftly as ballistic missiles can. Therefore, the *Nuclear Posture Review* argues, the United States needs a new capability that can penetrate Russian defenses and deliver a low-yield nuclear weapon from anywhere within minutes. The basing mode that achieves this, without requiring a host nation, is at sea.⁹² In the near term this would involve modifying existing SLBMs to carry a low-yield variant of an existing warhead (for a variety of reasons, I assume the W76), while working in the long term to deploy a nuclear SLCM.

The theory is that fielding this capability will deter Russia from its so-called "escalate to deescalate" nuclear strategy (insofar as that even exists),⁹³ which is premised on the notion that using nuclear weapons early in a conflict, but in a limited way, will lead the United States to back down. If deterrence fails, low-yield nuclear options deliverable from

⁹¹ Mark B. Schneider, "Escalate to De-escalate," *U.S. Naval Institute Proceedings Magazine* 143/2/1,368, (Feb. 2017), <https://www.usni.org/magazines/proceedings/2017-02/escalate-de-escalate>.

⁹² William R. van Cleave, "The Trouble Isn't the Basing Mode..." *Washington Post*, Dec. 17, 1982, https://www.washingtonpost.com/archive/politics/1982/12/17/the-trouble-isnt-the-basing-mode/f58b1507-c21f-49bo-9bc2-e870ce4c5e3b/?utm_term=.9e3fc79356d4.

⁹³ Kristin Ven Bruusgaard, "The Myth of Russia's Lowered Nuclear Threshold," *War on the Rocks*, Sept. 22, 2017, <https://warontherocks.com/2017/09/the-myth-of-russias-lowered-nuclear-threshold/>.

American submarines provide a flexible and tailored response option to defeat Russian aggression.

Here's why it would be so dangerous to deploy the low-yield SLBM in particular. America presently fields one type of ballistic missile on its 14 nuclear weapons-designated Ohio-class submarines: the Trident II D5 missile. Each Trident missile can carry up to 8 independently targetable warheads, some combination of the W76 thermonuclear warhead (100 kilotons) or the W88 thermonuclear warhead (455 kilotons). Currently, if an adversary were to detect a launch of a Trident missile from an American ballistic missile submarine, there would be no uncertainty about what is coming its way: a strategic nuclear launch of at least about a megaton of yield, perhaps 3.6 megatons. This is, without question, a strategic nuclear launch by the United States aimed at destroying the adversary's high-value cities, or perhaps its strategic nuclear force itself (also known as a counterforce strike). By reserving the SLBM for strategic nuclear use — and only strategic nuclear use — there is no ambiguity about what a Trident launch means for both the United States and the adversary: all-out nuclear war.

But if the United States starts deploying some Tridents with a single low-yield warhead and others with eight thermonuclear warheads, all on the same submarine, how will the adversary know what is coming its way? There is literally no way to tell which warhead yield is atop the missile — no early warning system can discriminate between the low-yield warhead and the strategic nuclear warheads at launch or in flight. Early warning systems can detect the point of launch and perhaps the type of missile fired. But not even the most sophisticated system can discriminate between a W76 or W88 warhead that is set to deliver hundreds of kilotons and a warhead that looks exactly the same but is set to deliver just 20 kilotons. The only thing an adversary sees is a Trident missile launch, which could now be anywhere from 20 kilotons of damage (designed to destroy a military base, for example) all

the way up to 3.6 megatons (enough to destroy multiple cities and kill millions of civilians). Even if the early warning system could see that there was only a single warhead instead of eight, how confident are we that the adversary will believe their radars instead of fearing the worst?

What does this mean? If the adversary detects even a single missile launch, it has no choice but to react as if the United States has decided to escalate to the strategic nuclear level. Even if the other side may hope or believe that the incoming warhead might just be a low-yield weapon, it must assume the worst, because the risks of guessing wrong include losing millions of people or potentially its entire nuclear force. It is unrealistic to assume and hope — in the thick fog of a nuclear war — that the adversary will wait until the warhead has landed, do a detailed yield assessment (even if 20 kilotons hits, how are they to know it wasn't just because the second stage of a thermonuclear weapon fizzled?), and then choose not to respond because it was “only” 20 kilotons instead of 3.6 megatons.

Think about it this way: if the United States detected that Russia had launched a missile off a submarine, that carried either a low-yield nuclear weapon or 8 strategic nuclear weapons, how would it react? Would it assume it is the low yield option and wait for it to hit the continental United States before reacting and retaliating? Of course not. Yet this is what America is hoping its adversaries will do.

When it comes to waging a nuclear war, it is simply unrealistic to base a whole strategy on hoping that an adversary assumes the best-case scenario. The adversary's most logical move is to respond as though full-scale nuclear war has started — which means that even if they were wrong, the end result and the consequences are the same. The use of a low-yield SLBM, supposedly built for a “small” nuclear conflict and to calibrate escalation, has now leapt to strategic nuclear war because of how the adversary is forced to react.

Furthermore, mixing low- and high-yield nuclear weapons on Trident missiles, one of the key systems the United States would use in a counterforce mission targeting an adversary's nuclear forces, poses a particular problem if an adversary is worried about the survivability of its arsenal (even Russia may worry about this given America's persistent emphasis on counterforce and damage limitation capabilities). Such an adversary may experience "use-them-or-lose them" pressures at the sight of a single Trident launch (doubts about their early warning system could lead them to believe many more are headed their way).⁹⁴ An adversary which fears that the United States is about to wipe out its arsenal may have no choice but to launch everything it has before even knowing what is actually incoming. This is certainly the case if the adversary is North Korea, it might be the case for China, and could plausibly be the case for Russia.

The argument that an adversary might be nonchalant about "only one or two" Trident missiles headed its way makes delusional assumptions about how a state facing the most potent nuclear force on the planet might react.⁹⁵ For many nations, "one or two" Trident missiles with eight to 16 strategic nuclear warheads would be life-ending. They cannot afford to be complacent or assume best-case scenarios.⁹⁶ This is why it is so important to load only strategic nuclear warheads on SLBMs, so there is no ambiguity about American intentions and about what is being launched at the adversary. The virtue of keeping SLBMs (and intercontinental ballistic missiles) single-assigned strictly with strategic nuclear

⁹⁴ Vipin Narang, "Why Kim Jong Un wouldn't be irrational to use a nuclear bomb first," *Washington Post*, Sept. 8, 2017, https://www.washingtonpost.com/outlook/why-kim-jong-un-wouldnt-be-irrational-to-use-a-nuclear-bomb-first/2017/09/08/a9d36ca4-934f-11e7-aace-04b862b2b3f3_story.html?utm_term=.6721bd64ecaa.

⁹⁵ Mehta, "2 new nuclear capabilities."

⁹⁶ Vincent Manzo, "Give the Low-Yield SLBM its Day in Court," *Defense One*, Jan 22, 2018, <http://www.defenseone.com/ideas/2018/01/give-low-yield-slbm-its-day-court/145397/>.

warheads is that these missiles are *the* signal that the United States has escalated to the strategic nuclear level.

The discrimination problem outlined here applies very specifically to *mixing* low-yield and strategic nuclear weapons on the same missile and same system, deployed on the same platform (in this case submarines). The same concern would apply equally to a proposal to load low-yield nuclear weapons onto intercontinental ballistic missiles.

The low-yield cruise missile may be a less bad option in this regard, since cruise missiles have different flight profiles and only carry a single nuclear warhead. An adversary is less likely to mistake a single cruise missile launch for full strategic retaliation. However, proponents still need to explain why it is necessary — other than to try to develop a bargaining chip to force Russia back into compliance with the Intermediate-Range Nuclear Forces Treaty.⁹⁷ It's unclear what deterrence gap the new SLCM capability will fill after the long-range standoff cruise missile with a low-yield option is developed to replace the current air-launched cruise missiles.⁹⁸

In trying to deter more — and lower — forms of aggression with nuclear weapons and broaden the deterrence spectrum, the *Nuclear Posture Review* generates real risks of spirals of nuclear escalation in a crisis or war. It tries to reintroduce the idea of a calibrated “escalation ladder” — the notion that in a conflict the United States and the adversary can

⁹⁷ Aaron Mehta, “Will the US trade its new sub-launched cruise missile for Russian arms treaty compliance?” *Defense News*, Feb. 7, 2018, <https://www.defensenews.com/space/2018/02/06/will-the-us-trade-its-new-sub-launched-cruise-missile-for-russian-arms-treaty-compliance/>

⁹⁸ Kyle Mizokami, “America Is Building a New, Stealthy Nuclear Cruise Missile,” *Popular Mechanics*, Aug. 24, 2017, <https://www.popularmechanics.com/military/weapons/news/a27925/america-stealthy-nuclear-cruise-missile/>.

have various “rungs” of very precise and controlled nuclear exchanges of varying intensities without unintentional escalation.⁹⁹ The heroic assumptions made by the idea of such a “ladder” are too numerous to address here. But a primary one is that it erroneously assumes the United States can alone control the climbing of that ladder without the enemy getting a vote. The concept fails to consider how the very existence of ambiguous nuclear systems — is it low-yield or thermonuclear? — can blow up the ladder. While the idea of a low-yield SLBM may be attractive in a sterile game theory seminar, in a real conflict with real decision makers, it is a recipe for uncontrollable nuclear escalation.

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⁹⁹ Michael Krepon, “Herman Kahn,” *Arms Control Wonk*, Sept. 10, 2009,

<https://www.armscontrolwonk.com/archive/402459/herman-kahn/>.

6. Policy or Party Platform?

Making Sense of the Trump Nuclear Posture Review

Janne E. Nolan and Brian Radzinsky

In a matter of days, the Trump administration's *Nuclear Posture Review* has joined the ranks of Colin Kaepernick and global warming as a shibboleth for one's political tribe. Critics argue that the 100-page document is dangerously regressive,¹⁰⁰ calls for unnecessary nuclear capabilities,¹⁰¹ and makes nuclear war more likely.¹⁰² Others praise the *Nuclear Posture Review's* emphasis on deterring a rising China and recalcitrant Russia.¹⁰³ A few observe that the document largely reaffirms longstanding precepts, intentions, and motivations underlying the U.S. nuclear posture, particularly because it endorses the last administration's ambitious program for nuclear force modernization. These voices of moderation, however, are in the minority.

Polemics aside, it is misleading to read the *Nuclear Posture Review* as a straightforward statement of U.S. nuclear doctrine. It is more helpful to think of the review like a political

¹⁰⁰ Tom Z. Collina, "Give Trump more nuclear weapons and more ways to use them? Not a good idea," *CNN*, Feb. 2, 2018, <https://www.cnn.com/2018/02/02/opinions/trump-nuclear-weapons-collina-opinion/index.html>.

¹⁰¹ Editorial Board, "Trump's request for even more nuclear weapons is flawed overkill," *Washington Post*, February 3, 2018, https://www.washingtonpost.com/opinions/trumps-request-for-even-more-nuclear-weapons-is-flawed-overkill/2018/02/03/f962bob4-083d-11e8-8777-2a059f168dd2_story.html.

¹⁰² Lisbeth Gronlund, "Nuclear Posture Review Increases Risk of Nuclear War," *Union of Concerned Scientists*, Feb. 2, 2018, <https://www.ucsusa.org/press/2018/nuclear-posture-review-policies-increase-risk-nuclear-war-.WnoesZM-eCM>.

¹⁰³ Mac Thornberry, "Nuclear Posture Review: Recognizing the return to great power competition," *Defense News*, Feb. 5, 2018, <https://www.defensenews.com/opinion/commentary/2018/02/05/nuclear-posture-review-recognizing-the-return-to-great-power-competition/>.

party platform: a formal statement of values and goals crafted by strongly principled individuals who do not always agree but nonetheless must arrive at a rough consensus. This *Nuclear Posture Review*, like those before it, is not a comprehensive set of prescriptions binding nuclear planners and operators and the vast enterprise that supports them. It is not an internally consistent account of the priorities and values of high-ranking individuals, including the president of the United States or, necessarily, the secretary of defense. Like a platform, the review contains some well-intentioned aspirations as well as many inherent contradictions. Most importantly, as with most party platforms, the document's primary purpose is to communicate the views of political leaders rather than establish operational requirements.

The ways in which nuclear plans and posture decisions are made in the United States make it inherently difficult to put the *Nuclear Posture Review's* most ambitious goals into practice. Declaratory policy — what is said publicly about U.S. nuclear weapons and strategy — is the province of political leaders who face strong political and personal incentives to align rhetoric about nuclear weapons with their preferred approach to foreign policy. Meanwhile, the actual procedures for the employment of nuclear weapons are the responsibility of military planners within U.S. Strategic Command. Unlike political leaders, who focus on nuclear issues intermittently, military planners are challenged to translate abstract political goals into operationally effective real-world plans. The *Nuclear Posture Review* sits astride these communities, with their divergent priorities and capacities for attention. As a result, presidents and their advisers may find themselves disappointed that these documents do not directly translate into changes in the operational posture.

The history of these reviews suggests that differences in emphasis and content are not a product of deep differences in core values or priorities that have long guided assumptions

about the relative utility of nuclear weapons in American security. Nuclear posture reviews have always inhabited the mainstream of the nuclear enterprise — the community of expertise and practice that endures beyond the tenures of presidents and parties. Where these documents do differ is in how their drafters respond to two fundamental questions about U.S. nuclear policy:

- To what extent does deterrence depend on demonstrating how the United States would use nuclear weapons to prevail against any adversary at all levels of conflict?
- To what extent does what the United States says about the value and utility of its nuclear weapons affect the behavior of others?

All nuclear posture reviews represent an incoming presidential administration's answers to these questions and the relative priority accorded to different approaches. In the course of defending their preferred approach to nuclear strategy, however, both supporters and detractors of this and past reviews tend to overlook a number of shared assumptions and common conceptual blind spots. Proponents on all sides are especially likely to overstate America's ability to influence the behavior of allies, adversaries, and future proliferators through its operational or declaratory policies.

The disjuncture between what nuclear posture reviews set out to accomplish and what they actually achieve should lead observers to consider the documents in the context of broader decisions about the posture and nuclear force planning. Outside observers tend to scrutinize these reviews while failing to familiarize themselves with the content of operational plans and policies. The content of these plans, the assumptions behind them, and the weapons capabilities they support constitute America's actual nuclear posture.

Same Goals, Different Strategies

Nuclear planning is made difficult because of the lack of strong evidence about how the character and composition of American nuclear forces affect the behavior of others. In the absence of such clarity, decision-makers and experts tend to fall back on their broader worldviews and beliefs about the nature of international politics. Debates about the nuclear tj tend to feature two roughly coherent camps. On one side are those who advocate for a greater role for nuclear capabilities in achieving deterrence and nonproliferation. On the other are skeptics who doubt whether nuclear weapons can deter aggression short of a major nuclear attack. Those in the first camp tend to argue that nuclear weapons backstop American efforts to assure allies, deter adversaries, and prevent proliferation. The second school of thought holds that nuclear weapons can be a liability in these endeavors.

The drafters of the latest *Nuclear Posture Review* believe that aggression and proliferation can be deterred by making the threat of American nuclear use more realistic, and therefore advocate an expansive role for nuclear weapons in promoting deterrence and nonproliferation. In practice, this means fielding nuclear capabilities that are sufficiently discriminate and low-yield that an American president might conceive of actually using them in extreme circumstances. The imperative of creating a sufficiently believable risk of American nuclear escalation also drives many advocates to favor extensive counterforce capabilities—precise nuclear weapons capable of attacking an adversary’s nuclear weapons and the supporting command and control networks. For advocates, limited options, such as the low-yield submarine-launched ballistic missile called for in the 2018 *Nuclear Posture Review*, and counterforce capabilities help support U.S. commitments to

extend nuclear deterrence to allies. Limited options and damage limitation are the price to pay for extending deterrence to allies.¹⁰⁴

Importantly, such advocates come from both parties. Democratic and Republican presidents alike have pursued and endorsed low-yield, “flexible” options and damage limitation capabilities.¹⁰⁵ The question of how to make the threat of nuclear use credible not just in cases involving the survival of the U.S. homeland, but also in the defense of allies is arguably *the* fundamental question in nuclear strategy, animating most of the debate through the Cold War.¹⁰⁶

Advocates of a more expansive role for nuclear weapons also emphasize the role of these weapons in dissuading other countries, allies and adversaries, from pursuing their own nuclear capabilities. Like advocates of a U.S. grand strategy of primacy, these analysts tend to argue that usable nuclear capabilities project resolve and dissuade competition, including from future proliferators attempting to blunt or match U.S. nuclear capabilities.¹⁰⁷ Like advocates of primacy, proponents of a more credible and militarily effective nuclear posture tend to downplay the risk that American behavior will be misperceived by outside observers.

¹⁰⁴ Earl C. Ravenal, “Counterforce and Alliance: The Ultimate Connection,” *International Security* 6, no. 4 (Spring, 1982): 26–43.

¹⁰⁵ Austin Long and Brendan Rittenhouse Green, “The Geopolitical Origins of US Hard-Target-Kill Counterforce Capabilities and MIRVs,” in *The Lure and Pitfalls of MIRVs*, https://www.stimson.org/sites/default/files/file-attachments/Lure_and_Pitfalls_of_MIRVs.pdf.

¹⁰⁶ Austin Long, *Deterrence: From Cold War to Long War*, RAND, 13.

¹⁰⁷ Barry R. Posen and Andrew L. Ross, “Competing Visions for U.S. Grand Strategy,” *International Security* 21, no. 3 (Winter 1996/97): 5–53, <http://www.comw.org/pda/14dec/fulltext/97posen.pdf>.

In contrast, skeptics of the need to procure a spectrum of flexible and modernized nuclear capabilities argue that adversaries are likely to be antagonized and even emboldened rather than cowed by nuclear capabilities that seem more usable. These analysts also maintain that nuclear weapons are inherently dangerous, and no amount of safing, security, or command and control refinements can eliminate the latent risk of escalation or accidental nuclear war.¹⁰⁸ For skeptics, deterrence depends on restraint,¹⁰⁹ nuclear weapons are only fit to deter nuclear attacks on the homeland,¹¹⁰ and conventional capabilities can make up for nuclear capabilities at an affordable cost.¹¹¹ While some who hold these views also tilt in favor of global nuclear disarmament, few would quarrel with the need to invest in the existing nuclear infrastructure to keep it safe and secure.¹¹²

Indeed, often lost in the many debates over the nuclear posture in Washington is the significant common ground that advocates and skeptics occupy. Both largely seek to advance the twin goals of deterrence and nonproliferation, albeit disagreeing on the relative priority afforded to each. Advocates and skeptics also disagree on the best means and ways through which to achieve these goals. In other words, the principal divide in

¹⁰⁸ Scott D. Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons*, (Princeton: Princeton University Press, 1993); Eric Schlosser, *Command and Control*, (New York: Penguin Press, 2013).

¹⁰⁹ Adam Mount, "The Strategic Logic of Nuclear Restraint," *Survival: Global Politics and Strategy* 57, no. 4 (Aug.-Sept. 2015): 53-76.

¹¹⁰ Emily Tamkin, "Lawmakers Introduce Bill Restricting First Use of Nuclear Weapons", *Foreign Policy*, Jan. 24, 2017, <http://foreignpolicy.com/2017/01/24/senator-and-congressman-introduce-restricting-first-use-of-nuclear-weapons-act-trump/>

¹¹¹ Michael S. Gerson, "No First Use: The Next Step for U.S. Nuclear Policy", *International Security* 35, no. 2 (Fall 2010): 7-47, https://www.mitpressjournals.org/doi/pdf/10.1162/ISEC_a_00018.

¹¹² Catherine Kelleher and Judith Reppy, *Getting to Zero: The Path to Nuclear Disarmament* (Stanford: Stanford University Press, 2011): 271.

American nuclear policy debates is over tactics and strategies rather than ends. This kernel of consensus is often missing from the prevailing discourse.

Advocates and skeptics also tend to leave unexamined a number of shared assumptions about the relationship between what the United States says and does, and what allies and adversaries say and do. Both sides assume that allies and adversaries are closely scrutinizing and reacting to shifts in U.S. declaratory and operational policy. On the contrary, scholars have struggled to establish a general relationship between the character of security guarantees and whether or not an ally still chooses to acquire its own nuclear forces.¹¹³ The United States often has had to rely on coercion and denial as well as persuasion to restrain the nuclear ambitions of its allies.¹¹⁴ Similarly, nuclear skeptics who argue for a greater role for conventional forces in deterrence and assurance tend to downplay strong evidence that adversaries might explore the pursuit of nuclear weapons *because* the United States has been willing and able to rely on overwhelming conventional power.¹¹⁵ Similarly, these skeptics argue forcefully for continued U.S.

¹¹³ Mark Bell, “Examining Explanations for Nuclear Proliferation”, *International Studies Quarterly* 60, no. 3 (September 2016): 520-529, <https://academic.oup.com/isq/article/60/3/520/2469858>.

¹¹⁴ Gene Gerzhoy, “Alliance Coercion and Nuclear Restraint: How the United States Thwarted West Germany’s Nuclear Ambitions”, *International Security* 39, no. 4 (Spring 2015): 91-129, https://www.mitpressjournals.org/doi/abs/10.1162/ISEC_a_00198.

¹¹⁵ Vipin Narang and Ankit Panda, “Nuclear Stability, Conventional Instability: North Korea and the Lessons from Pakistan”, *War on the Rocks*, Nov. 20, 2017, <https://warontherocks.com/2017/11/nuclear-stability-conventional-instability-north-korea-lessons-pakistan/>. See also William J. Perry, “Military Action: When to Use It and How to Ensure Its Effectiveness,” In *Global Engagement: Cooperation and Security in the 21st Century*, ed. Janne E. Nolan, (Washington, DC: Brookings Institution Press, 1994), 236.

engagement and leadership in the world, while underestimating the extent to which the liberal international order continues to be underwritten by nuclear deterrence.¹¹⁶

Analysts on both sides at times make bold and sometimes unsubstantiated assertions about the consequences and implications of their preferred approach to nuclear policy. For instance, advocates of a low-yield submarine-launched ballistic missile do not provide evidence, even from simulations and operations research, showing that Russian early warning systems could discriminate between a single SLBM and a massive counterforce attack.¹¹⁷ This leaves advocates open to attack from skeptics who cite Cold War-era findings of the difficulties and fraught tradeoffs involved in a variety of nuclear employment scenarios. For instance, multiple studies and war games have concluded that battlefield nuclear uses posed extensive hazards to American and allied servicemen and women while creating severe command and control challenges.¹¹⁸ Similarly, the history of planning for limited nuclear uses is one of contending with potentially unsolvable tradeoffs. “[Such] attacks must be *effective* yet at the same time recognizably *limited*...the command and control system must ‘endure’ so that the withheld forces can be kept under control...”¹¹⁹

¹¹⁶ Aaron L. Friedberg, *In the Shadow of the Garrison State: America's Anti-Statism and Its Cold War Grand Strategy* (Princeton: Princeton University Press, 2000).

¹¹⁷ Aaron Mehta, “The US could be getting 2 new nuclear capabilities. Here are the details”, *Defense News*, Feb. 2, 2018, <https://www.defensenews.com/space/2018/02/02/the-us-could-be-getting-2-new-nuclear-capabilities-here-are-the-details/>.

¹¹⁸ Jeffrey D. McCausland, “Pakistan’s Tactical Nuclear Weapons: Operational Myths and Realities.” March 2007, unpublished manuscript, <https://www.stimson.org/content/pakistans-tactical-nuclear-weapons-operational-myths-and-realities>

¹¹⁹ Walt Slocombe, “Preplanned Operations,” In *Managing Nuclear Operations*, eds. Ashton B. Carter, John D. Steinbruner and Charles A. Zraket,. (Washington, DC: Brookings, 1987), 123.

In turn, critics assert that no new nuclear capabilities are needed because current ones will suffice. But skeptics of the need for a new nuclear-tipped air-launched cruise missile, for example, often fail to address how Russian and Chinese anti-access/area-denial capabilities affect the ability of U.S. or allied fighters and bombers to deliver their nuclear payloads.¹²⁰

We do not mean to suggest that either side is wholly correct or incorrect, but rather that both are interpreting the same narrow body of evidence in a way that downplays the significant ambiguity inherent in nuclear decision-making. Perhaps one explanation for the remarkable continuity in U.S. nuclear policy is the need to hedge against the limits and risks of an uncertain world. The common response to ambiguity at the operational level has been to build in redundancies in forces and planning assumptions, embracing the notion that if a little deterrence is good, more is probably better.

The long-standing debate between advocates and skeptics has played out in the post-Cold War era's four *Nuclear Posture Reviews*. Yet in rehearsing this debate over multiple presidential administrations, both advocates and skeptics have failed to engage with the substance of nuclear plans and policies. As a result, none of the most ambitious prescriptions in past reviews have translated into lasting changes in operational capabilities and employment plans.

¹²⁰ Hans M. Kristensen, "Flawed Pentagon Nuclear Cruise Missile Advocacy", *Federation of American Scientists*, June 10, 2016, <https://fas.org/blogs/security/2016/06/dod-lrso-letter/>.

Past Nuclear Posture Reviews: Dyads, Hedges, and New Triads

The nuclear posture review process is a post-Cold War phenomenon, born out of the Clinton administration's desire to conduct a "bottom-up review" of force structure in light of the new international environment and congressional pressure on defense budgets.¹²¹ Subsequent reviews were undertaken in 2001, at the start of the George W. Bush administration, and in 2009, at the start of the Obama administration.¹²² What is most striking is how little these documents ended up transforming the American nuclear posture. Every review failed to bring about major changes in the U.S. operational nuclear posture despite repeatedly averring that nuclear weapons were contributing less and less to U.S. national security goals.

Undertaken in the context of a remarkably benign international security environment, the 1994 review found that "nuclear weapons are playing a smaller role in U.S. security than at any other time in the nuclear age."¹²³ Consequently, Clinton's bottom-up review of the

¹²¹ Mark Gunzinger, "Beyond the Bottom-Up Review," in *Essays on Strategy XIV* (Washington, D.C.: Institute for National Security Studies, National Defense University, 1996), <http://www.dtic.mil/dtic/tr/fulltext/u2/a430015.pdf>.

¹²² The key findings of the 1994 *Nuclear Posture Review* were summarized in the following: Department of Defense, *Annual Report to the President and Congress*, (Washington, D.C., U.S. Government Printing Office, 1995), http://history.defense.gov/Portals/70/Documents/annual_reports/1995_DoD_AR.pdf?ver=2014-06-24-152712-813. The 2001 *Nuclear Posture Review*'s key findings were released in an unclassified summary signed by Secretary of Defense Rumsfeld. See Donald H. Rumsfeld, *Nuclear Posture Review Report*, Jan. 2002, <http://archive.defense.gov/news/Jan2002/d20020109npr.pdf>. Longer excerpts and briefing slides were subsequently leaked to the public. The 2010 *Nuclear Posture Review* was the first to be publicly released in its entirety. Department of Defense, *Nuclear Posture Review Report*, April 2010, https://www.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

¹²³ 1995 *Annual Defense Report*, 83.

Nation's defense posture, of which the *Nuclear Posture Review* was a component, set forth the goal of enhancing and sustaining U.S. conventional superiority. Meanwhile, the *Nuclear Posture Review* called for "a much smaller nuclear arsenal," to be achieved through "dramatic reductions."¹²⁴ But the document also concluded that the United States had to "hedge" against a return to nuclear competition with Russia, and called for retaining sufficient nuclear weapons to reconstitute past force levels if needed.¹²⁵ Consequently, while the Clinton administration reduced deployments of both strategic and non-strategic nuclear weapons, the actual number of nuclear warheads in the stockpile remained more or less the same well into the 2000s.¹²⁶ The Clinton review, moreover, retained the possibility of using nuclear weapons first in response to a chemical or biological attack against the United States or its allies.¹²⁷

The George W. Bush administration also set itself a goal of dramatically recasting American nuclear strategy through the nuclear posture review process. It too failed to bring about dramatic change. The Bush *Nuclear Posture Review*, begun in 2001, boldly declared that the United States was replacing the Cold War nuclear triad of bombers, land-based intercontinental ballistic missiles, and sea-launched ballistic missiles with a "New Triad" comprising a mix of nuclear and non-nuclear global strike capabilities, a variety of strategic defenses including missile defense, and a defense infrastructure geared for constant and rapid innovation. Although the Bush administration's abrogation of the Anti-Ballistic Missile treaty opened the door for new missile defense endeavors, the

¹²⁴ 1995 *Annual Defense Report*.

¹²⁵ 1995 *Annual Defense Report*, 86.

¹²⁶ State Department, "Transparency in the U.S. Nuclear Weapons Stockpile," <https://2009-2017.state.gov/t/isn/npt/statements/241165.htm>.

¹²⁷ Amy F. Woolf, *U.S. Nuclear Weapons: Changes in Policy and Force Structure*, Congressional Research Service, Jan. 23, 2008, 7, <https://fas.org/sgp/crs/nuke/RL31623.pdf>.

New Triad was never institutionalized in operational planning. Indeed, the principal drafter of the 2001 review, then Deputy Assistant Secretary of Defense for Forces Policy Keith Payne, has not reprised the framework in his subsequent work. Like the Reagan administration before it, the Bush *Nuclear Posture Review* failed to make strategic defenses a central component of U.S. deterrence policy.

President Barack Obama's *Nuclear Posture Review* departed from its predecessors in giving significant consideration to nuclear nonproliferation, arms control, and disarmament. Yet that document also failed to realize many of its ambitions. Some of the same analysts who criticize the Trump *Nuclear Posture Review* today chided the Obama administration for failing to “clearly and significantly reduce the role of and numbers of nuclear weapons” in U.S. posture and policy, and for entirely preserving the configuration and operational assumptions embedded in the nuclear triad.¹²⁸ Most notably, while calling for reducing the role of nuclear weapons and discouraging proliferation through force reductions, the Obama review also endorsed the most ambitious program of nuclear modernization in three decades.

Same As It Ever Was?

Still, it is possible that the past is not a prologue for the 2018 *Nuclear Posture Review*. The 2016 election demonstrated that American politics and policy are at times less predictable than many analysts presume. Like President Donald Trump's ambitious campaign pledges, however, the review must contend with the strong tendencies toward continuity

¹²⁸ Hans Kristensen, “The Nuclear Posture Review”, *Federation of American Scientists*, April 8, 2010,

<https://fas.org/blogs/security/2010/04/npr2010/>.

which inhere in American government. There are reasons to suspect that these will militate against dramatic changes in the nuclear posture.

There remains a large and persistent disconnect between debates in Washington and the day-to-day requirements and challenges facing nuclear operators. While political leaders and outside experts have focused on debating the role of nuclear weapons, military planners have been forced to adapt nuclear plans to meet the requirements of military effectiveness and operational reliability if deterrence fails. Bridging this gap is the responsibility of political leaders, who bear the responsibility of harmonizing nuclear plans with national priorities and directives. However, the complexity of and need for secrecy surrounding nuclear planning, and the strong incentives for presidents and their staffs to direct their efforts elsewhere, mean that few have succeeded in doing so.¹²⁹

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¹²⁹ Franklin C. Miller and Lee Butler, "Masters of the Nuclear Enterprise," In *Uncommon Cause: A Life at Odds with Convention*, Volume II, 1-21.

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7. Expanding the Options and Lowering the Threshold for Nuclear Weapons

James B. Steinberg

There was an Alice in Wonderland dimension to the launch of the Trump administration's *Nuclear Posture Review*. For months, candidate Trump, then President Trump, had insisted that the United States need a more robust nuclear capability.¹³⁰ Yet on February 2, six senior administration officials took the stage at the Pentagon to release the new *Nuclear Posture Review*, assuring the world that nothing was new.

Deputy Secretary of Defense Patrick Shanahan: "This review is consistent with U.S. nuclear policies since the end of the Cold War." "[No] recommendation requires developing new nuclear warheads [or] increase[ing] the size of our nuclear stockpile." "The NPR clarifies longstanding policy that extreme circumstances would include significant non-nuclear strategic attack."

Under Secretary of State Thomas Shannon: "The review also affirms that the U.S. will not resume nuclear explosive testing." "The 2018 NPR highlights the Trump administration's commitment to... the long-term goal of eliminating nuclear weapons."

¹³⁰ See for example the quotes in Andrew Rafferty, "Trump Has A History of Contradictory Statements on Nuclear Weapons," NBC, Oct. 11, 2017, <https://www.nbcnews.com/news/all/donald-trump-has-history-contradictory-statements-nuclear-weapons-n808466>. "[W]e have nuclear arsenals which are in very terrible shape" (quoted in *The New York Times*, July 21, 2016); "The United States must greatly strengthen and expand its nuclear capability" (Tweet, December 22, 2016); "My first order as President was to renovate and modernize our nuclear arsenal" (Tweet August 9, 2017).

Under Secretary of Defense for Policy John Rood: “You’ll see mostly, in the Nuclear Posture Review, a lot of continuity with past policy with respect to the role of nuclear weapons to provide deterrence overall.” “With respect to US nuclear declaratory policy of the United States, as articulated in the nuclear posture review, is constant with that of the past”.

So despite Trump’s hype, are we to conclude that Curtis LeMay has not been resurrected after all, and the worst fears of anti-nuclear advocates not realized? Is Trump’s nuclear policy just another example (like the Iran nuclear agreement or NAFTA) of strong rhetoric not matched by reality?

Not exactly. In a few moments of candor, some key features of the document came through during the otherwise soothing briefing. Dan Brouillette, Deputy Secretary of Energy: “This year’s NPR reflects a *clear-eyed* approach to modernizing our aged Cold War nuclear arsenal ... The review supports change in the specific area of nuclear weapons reduction” (emphasis added). Rood: “So that our deterrent can be credible, we have, as mentioned in the report, said that we would pursue some *supplementary* capabilities” (emphasis added).

So, what is new here — and is there cause for alarm? The initial commentary has focused on two features of the *Nuclear Posture Review*. The first is the deployment of two new capabilities: a low-yield nuclear warhead for the submarine-launched ballistic missile (SLBM), and the reintroduction of the nuclear-tipped sea-launched cruise missile (SLCM), which was withdrawn from deployment by President George H.W. Bush and

canceled by President Barack Obama.¹³¹ The second feature is a new declaratory statement that the United States would consider using nuclear weapons in response to “non-nuclear strategic attacks.” These are defined to include “attacks on the U.S., allied, or partner civilian population or infrastructure, and attacks on US or allied nuclear forces, their command and control, or warning and attack assessment capabilities.”¹³²

In these two ways, Trump’s *Nuclear Posture Review* represents a significant departure from the last one, issued in 2010 under Obama, which emphasized reducing the number and role of nuclear weapons in U.S. strategy and working to establish “a universal policy that deterring nuclear attack is the sole purpose of nuclear weapons.”¹³³ Indeed, the two developments in the Trump administration document could presage a significant expansion of the role of nuclear weapons in U.S. strategy:

...the US will maintain the range of nuclear flexible nuclear capabilities needed to ensure that *nuclear or non-nuclear aggression* against the United States, allies and partners will fail to achieve its objectives and carry with it the credible risk of intolerable consequences for potential adversaries now and in the future (emphasis added).¹³⁴

¹³¹See “U.S Navy Instruction Confirms Retirement of Sea Launched Cruise Missiles (March 18, 2013) <https://fas.org/blogs/security/2013/03/tomahawk/>

¹³² Department of Defense, *Nuclear Posture Review*, 2018, 21, https://www.defense.gov/News/Special-Reports/0218_npr/. Unless otherwise specified, all page references in the text are to this document

¹³³ Department of Defense, *Nuclear Posture Review*, 2010, VIII, https://www.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

¹³⁴ *Nuclear Posture Review*, 2018, VIII.

The heart of the case for the new capabilities and new doctrine is what the administration asserts is “the rapid deterioration of the threat environment since the 2010 NPR.”¹³⁵ The administration points to Russia and China, “which have added new types of nuclear capabilities to their arsenals, increased the salience of nuclear forces in their strategies and plans, and engaged in increasingly aggressive behavior, including in outer space and cyber space;” North Korea, which “continues its pursuit of nuclear weapons and missile capabilities;” and Iran, “which retains the technological capability and the capacity to develop a nuclear weapon within one year of a decision to do so.”¹³⁶ The report also cites “an unprecedented range and mix of threats, including major conventional, chemical, biological, nuclear, space and cyber threats, and violent non-state actors.”

In evaluating the new *Nuclear Posture Review*, the question is twofold: Does the threat environment require a change; and if so, does the proposed solution fit the bill? We need to examine each of these asserted threat profiles and whether they individually or collectively justify the new capabilities and declaratory policies. In doing so, it’s important to note one thing that has not changed in the new review: the administration’s commitment to the negative nuclear assurances, or vows not to use nuclear weapons, under the Nuclear Non-Proliferation Treaty (NPT). The document reiterates past policy: “The United States will not use or threaten to use nuclear weapons against non-nuclear states that are party to the NPT and in compliance with their nuclear non-proliferation obligations.”¹³⁷ Thus, there is a relatively finite number of cases not covered by this

¹³⁵ *Nuclear Posture Review*, 2018, V.

¹³⁶ *Nuclear Posture Review*, 2018, V.

¹³⁷ *Nuclear Posture Review*, 2018, 21.

negative assurance that could justify the proposed changes, both of which move the United States toward a lowered threshold for nuclear use.¹³⁸

This case-by-case assessment is particularly important because a major theme of the report is “tailored deterrence,” or the idea that “there is no ‘one size fits all’ for deterrence.”¹³⁹ The report argues (correctly in my view) that what makes for effective deterrence cannot be determined in the abstract against a generic opponent, but must take into account the particular interests, capabilities and goals of each potential adversary. The problem with the document is not with the idea of tailored deterrence, but rather the failure to make the case for new capabilities and the new doctrine it calls for. On the contrary, the net result of the proposed changes is to make the United States and its partners less secure by lowering the nuclear threshold and raising the risk of uncontrolled escalation in a crisis.

Russia

Russia plays a central role in the administration’s narrative. Specifically, the document asserts that Russia “may also rely on threats of limited nuclear first use, or actual first

¹³⁸ Theoretically, the nuclear option is thus available against Israel, India and Pakistan, but I don’t address those scenarios. In addition, the language “in compliance with their nuclear non-proliferation obligations” could represent a gaping loophole, if the administration should assert the right to determine unilaterally who is complying and who is not. This is particularly significant in the terrorist attribution scenario. The administration also leaves open the ultimate “out” — “the United States reserves the right to make any adjustment in the assurance that may be warranted by the evolution and proliferation of non-nuclear strategic attack technologies and the U.S. capability to counter that threat.” Given that out, the reiteration of the assurance rings somewhat hollow. *Nuclear Posture Review*, 2018, 21.

¹³⁹ *Nuclear Posture Review*, 2018, 26.

use, to coerce us, our allies, and our partners into terminating a conflict on terms favorable to Russia.”¹⁴⁰ This is sometimes referred to as the “escalate to de-escalate doctrine.”¹⁴¹ (30) In addition, the report states, “Moscow apparently believes that the United States is unwilling to respond to Russian employment of tactical nuclear weapons with strategic nuclear weapons.”¹⁴² Elsewhere, the report also cites Russia’s violation of the Intermediate-Range Nuclear Forces Treaty (INF) as a further justification for the new systems and doctrine.¹⁴³

These statements suggest three possible justifications for fielding nonstrategic nuclear systems¹⁴⁴: 1) enhancing the credibility of U.S. nuclear deterrence; 2) the need for nuclear warfighting capabilities if deterrence fails, and 3) as an arms control bargaining chip.

Credibility of deterrence

The heart of the administration’s argument is that adding new nuclear options to the escalation ladder is necessary to sustain the credibility of the U.S. threat to respond to

¹⁴⁰ *Nuclear Posture Review*, 2018, 7.

¹⁴¹ *Nuclear Posture Review*, 2018, 30.

¹⁴² *Nuclear Posture Review*, 2018, 7.

¹⁴³ *Nuclear Posture Review*, 2018, 10.

¹⁴⁴ In general, “non-strategic” or “theater” nuclear weapons are designed to be used against “tactical” targets: “against opposing forces, supporting installations or facilities, in support of operations that contribute to the accomplishment of a military mission of limited scope, or in support of the military commander’s scheme of maneuver, usually limited to the area of military operations.” Amy Woolf, *Non-Strategic Nuclear Weapons*, Congressional Research Service, February 21, 2017, quoting the U.S. Department of Defense Dictionary Military Terms, <https://fas.org/sgp/crs/nuke/RL32572.pdf>. By contrast, strategic nuclear weapons are designed to target the adversary’s leadership, central command and control capabilities and its nuclear forces capable of retaliating against the attacker’s homeland.

Russian theater nuclear use. The proposal harks back to the longstanding debate over whether the United States would be self-deterred against attacking the Russian homeland in response to theater nuclear use by Russia (fearing that such a response would escalate into a central nuclear exchange). The administration answers this question in the affirmative, suggesting that new theater weapons offer a more feasible way to attack Russia. Implicit in this logic is a belief that the threat of using a theater weapon is more credible because the United States could be confident Russia would not further escalate if the United States limited its response to nonstrategic weapons, thus mirror imaging Russia's emerging doctrine of "escalate to de-escalate."

The problem with this line of thinking is that it suggests both sides accept that nuclear war could be limited to the theater without either having to fear an escalation to the strategic level. Far from enhancing deterrence, this rationale quickly morphs into a rationale for nuclear war-fighting (despite the report's insistence that the United States does not believe in it).¹⁴⁵ Indeed, rather than deterring Russia's theater nuclear use, the new approach could lead Russia to believe it could use nuclear weapons first without risking the homeland. In this way, the new doctrine arguably lowers the nuclear threshold.¹⁴⁶

¹⁴⁵ "To be clear, this is not intended to enable, nor does it enable, 'nuclear warfighting'. Nor will it lower the nuclear threshold." *Nuclear Posture Review*, 2018, 54.

¹⁴⁶ It is particularly puzzling how these low-yield theater capabilities fit with the report's insistence on "holding at risk, under all conditions, what Russia's leadership most values." *Nuclear Posture Review*, 2018, 30. One might have thought that this is what strategic systems, not theater systems, do (unless perhaps the report is implicitly making a not very compelling case that the case that what the Russians most value is the lives of their front-line forces, or the health and well being of civilians who happen to be in the blast/radiation range of the low yield non-strategic systems). The report notes only that the United States needs to be able to "hold diverse types of Russian targets at risk." *Nuclear Posture Review*, 31.

Even if one were to buy the report's logic, the question remains why America's existing theater capabilities — dual-capable aircraft — are insufficient to do the job of deterring Russia. According to the administration, the principal advantage of the two new systems is that there is no need to base them on allied territory¹⁴⁷ — suggesting that the administration officials think European governments might not support them. Thus the administration is, in effect, arguing that to strengthen the regional security assurance against Russian low-yield nuclear threats in Europe, the United States needs to deploy systems that European publics themselves wouldn't support being deployed on their territory. For an administration preoccupied with “burden-sharing,” this seems a rather curious turnabout.

Warfighting

Despite the disclaimers, at least part of the logic for the non-strategic deployments is nuclear warfighting. The report in several places acknowledges that its concept of low-yield use is not simply to strengthen the credibility of deterrence or re-establish deterrence if it fails initially, but for damage limitation if deterrence fails. The language is clear: “non-nuclear capabilities can complement but not replace nuclear forces” for the purpose of damage limitation.¹⁴⁸ This commitment to nuclear warfighting is most evident in the report's repeated promises to deepen the integration of nuclear and non-nuclear forces at the regional command level.¹⁴⁹

¹⁴⁷ “[U]nlike DCA [dual-capable aircraft], a low yield SLBM warhead and SLCM will not require or rely on host nation support to provide deterrent effect.” *Nuclear Posture Review*, 2018, 54-55.

¹⁴⁸ *Nuclear Posture Review*, 2018, 23.

¹⁴⁹ “Combatant commands and service components ... will plan, train and exercise to integrate US nuclear and non-nuclear forces.” *Nuclear Posture Review*, 2018, 21.

Bargaining chip

A final justification for the new nonstrategic nuclear weapons (especially the submarine-launched cruise missile) is as a bargaining chip. The document argues, “U.S. pursuit of a SLCM may provide the necessary incentive for Russia to negotiate seriously a reduction of its non-strategic nuclear weapons,” going on to reference the example of the intermediate-range deployments of the Reagan years.¹⁵⁰ There is a lot to be said for restoring the vitality of the INF Treaty and the effectiveness of the INF deployments in achieving arms control. But the parallels with the 1980s are doubtful, both because the administration would lack strong European support for the deployments, and because Russia today worries about its conventional force inferiority vis-a-vis NATO and the United States. Moreover, the price the administration seeks to exact in exchange for canceling the new cruise missile goes far beyond the narrow arms control goals of the INF deployments: “if Russia returns to compliance with its arms control obligations, reduces its non-strategic nuclear arsenal and corrects its other destabilizing behaviors, the United States may reconsider the pursuit of a SLCM.”¹⁵¹

China

The NPT’s relationship to the “China threat” is perhaps the most puzzling. The report acknowledges that China’s “declaratory policy and doctrine has not changed” yet insists that “its lack of transparency regarding the scope and scale of its nuclear modernization raises questions regarding its future intent.”¹⁵² The document describes China’s

¹⁵⁰ *Nuclear Posture Review*, 2018, 55.

¹⁵¹ *Nuclear Posture Review*, 2018, 55.

¹⁵² *Nuclear Posture Review*, 2018, 11.

“increasingly assertive posture in disputes with its neighbors” and its possession of nuclear-tipped missiles capable of targeting both the United States and regional allies and theater forces. But it goes on to contend that America’s new tailored approach is designed in part to “prevent Beijing from mistakenly concluding that it could secure an advantage through the limited use of its theater nuclear capabilities.”¹⁵³ It’s somewhat difficult to imagine the scenario the report has in mind; surely the Pentagon is not worried about China using nuclear weapons to wrest control of the Senkaku Islands. A somewhat more plausible scenario might involve a decision by China to respond forcefully to a move by Taiwan toward independence, coupled with threatening a nuclear attack on U.S. forward forces if the United States were to come to Taiwan’s aid.

But here, as with Russia, the question is whether the threat of a theater response would deter China more successfully than strategic forces, particularly in light of the report’s insistence on the need “to credibly threaten intolerable damage as China’s leaders calculate costs and benefits.”¹⁵⁴ As with Russia, rather than strengthening deterrence, this approach arguably incentivizes nuclear warfighting by suggesting to China’s leaders that they are not at risk. In what was surely not intended as irony, the report goes insists that one of the rationales for the “tailored approach” is “to prevent Beijing from mistakenly concluding ... *that any use of nuclear weapons, however limited, is acceptable*” (emphasis added). If the administration truly believed that “any use of nuclear weapons” was unacceptable, it would raise alarms in Tokyo and Seoul — who believe the United States is willing to use nuclear weapons to defend them. Indeed, the report’s whole approach to deterrence is predicated on making the use of nuclear weapons more acceptable through the deployment of additional low-yield systems.

¹⁵³ *Nuclear Posture Review*, 2018, 32.

¹⁵⁴ *Nuclear Posture Review*, 2018, 32.

North Korea

North Korea figures prominently in the administration's description of the worsening threat environment, and rightly so given the evolution of the country's capability and its war-like rhetoric. The question, however, is whether this enhanced threat provides a justification for the new weapons or new doctrine. The report does not explicitly link these to the Korean threat, but it is nonetheless important to consider whether this might provide a justification. There are three relevant scenarios: 1) a North Korean nuclear attack against U.S. allies or the United States itself; 2) a North Korean conventional attack; or 3) a preventive American strike against North Korea's nuclear and missile capabilities.¹⁵⁵

In the first case, the report is clear — “any North Korean nuclear attack against the United States or its allies and partners is unacceptable and will result in the end of the regime.” Given this threat of absolute destruction, it is hard to see the relevance of new low-yield weapons. On the contrary, there is a risk that a move in this direction would undercut the threat that nuclear use would be met with fire and fury. Such a move could suggest the United States might limit its response to a low-yield attack which the regime could “ride out” and still survive.

The second scenario at first blush seems more relevant. Certainly, the credibility of the U.S. nuclear guarantee to its allies in the face of a conventional attack by North Korea is critical to dissuading South Korea and Japan from believing they need their own nuclear weapons. That credibility is endangered by North Korea's emerging ability to threaten the

¹⁵⁵ A fourth scenario might be North Korean “non-nuclear strategic attack” against the U.S. The utility of the new approach against this type of threat is discussed below.

United States with a nuclear strike – raising the classic “decoupling” fear that the U.S. would not risk San Francisco to defend Seoul. Some in both countries have argued that returning forward-deployed nuclear forces to the region (beyond the bombers in Guam) would enhance coupling.¹⁵⁶ But even if the North believed that a low yield U.S. nuclear response was more credible than the existing weapons in the U.S. arsenal, that doesn’t necessarily enhance deterrence. If North Korea were convinced that the U.S. response would be short of all-out destruction, the regime might be tempted to “try its luck” with a conventional attack.

In addition, the reintroduction of “dual-capable” SLCMs poses a further danger of nuclear escalation. If North Korea detects incoming American SLCMs in response to a North Korean conventional attack, it may believe it has no choice other than to treat them as a nuclear attack and launch its nuclear weapons, even though the United States had not in fact crossed the nuclear threshold.

This danger is even greater in the third scenario — a preventive military strike. In this scenario, it would be especially important to convince North Korea that the attack was one of damage limitation or coercion to push North Korea to the bargaining table, rather than the onset of a regime decapitation using low-yield nuclear weapons.

It also could be argued that new low-yield options enhance the credibility of US assurances by reducing the radiation and environmental risks to North Korea’ neighbors.

¹⁵⁶ See Anna Fifield, “South Korea’s Defense Minister Suggest Bringing Back Tactical US Nuclear Weapons,” *Washington Post*, Sept. 14, 2017. https://www.washingtonpost.com/world/south-koreas-defense-minister-raises-the-idea-of-bringing-back-tactical-us-nuclear-weapons/2017/09/04/7a468314-9155-11e7-b9bc-b2f7903babod_story.html?utm_term=.60b722356fob.

Yet given President Trump's loose talk of preemptive strikes because the United States would prefer to fight "over there" (in East Asia) rather than "over here,"¹⁵⁷ there is greater danger of "uncoupling" (the United States putting South Korea at risk through a preventive strike against North Korea designed to protect the United States) than "decoupling" (a refusal to honor the security guarantee to South Korea out of fear that North Korea would attack the United States).

Iran

The report's presentation of the "tailored strategy for Iran" is puzzling.¹⁵⁸ The document repeats familiar concerns about Iran's capability following the expiration of the nuclear agreement in 2031 (that is, in 13 years) as well as its destabilizing activities in the region and in the cyber realm. The NPR then asserts, "our deterrence strategy is designed to ensure that Iranian leadership understands that any non-nuclear strategic attack against the United States, allies and partners would be defeated, and the costs would outweigh the benefits."¹⁵⁹ But there is no specific argument about what role nuclear weapons in general, or the new capabilities the administration seeks in particular, would play in achieving that objective, beyond the cryptic assertion that "U.S. deterrence strategy includes the capabilities necessary to defeat Iranian non-nuclear, strategic capabilities, including the U.S. defensive and offensive systems capable of precluding or degrading

¹⁵⁷ "If there's going to be a war to stop [Kim Jong Un], it will be over there. If thousands die, they're going to die over there. They're not going to die here. And he [Trump] has told me that to my face,' [Senator Lindsay] Graham said." <https://www.nbcnews.com/news/north-korea/sen-lindsey-graham-trump-says-war-north-korea-option-n788396>.

¹⁵⁸ *Nuclear Posture Review*, 2018, 33.

¹⁵⁹ *Nuclear Posture Review*, 2018, 34.

Tehran’s missile threats.”¹⁶⁰ Whether the relevant “U.S. offensive systems” include nuclear weapons (new or old) is not spelled out, but given the declaratory policy allowing the use of nuclear weapons to deter “non-nuclear strategic aggression,” the possibility cannot be ruled out.

Nuclear Terrorism

The *Nuclear Posture Review* reiterates the Obama administration’s “attribution” policy, holding accountable states or other actors that transfer nuclear materials to terrorists.¹⁶¹ While acknowledging that “the role of US nuclear weapons in countering nuclear terrorism is limited,” the report goes beyond the Obama *Nuclear Posture Review* to state explicitly that “a terrorist nuclear attack against the United States or its allies and partners would qualify as an “extreme circumstance” under which the United States would consider the ultimate form of retaliation.” (67-68).

There is a compelling case for the attribution policy; the question here is rather whether nuclear retaliation is either necessary or appropriate to deter states from transferring nuclear capability to terrorists. Given the extreme danger posed by nuclear terrorism, any regime contemplating such an action needs to know that it would be signing its own death warrant. Yet curiously, while holding out threat of nuclear use, the review does not explicitly threaten regime change in response to such a transfer (in contrast to the explicit threat to end the North Korean regime if it used nuclear weapons. Is the Trump

¹⁶⁰ *Nuclear Posture Review*, 2018, 34.

¹⁶¹ See 2010 *Nuclear Posture Review*, “Renewing the U.S. commitment to hold fully accountable any state, terrorist group, or other non-state actor that supports or enables terrorist efforts to obtain or use weapons of mass destruction.” *Nuclear Posture Review*, 2010, 12.

administration suggesting it might allow a regime that transferred nuclear materials to survive? Moreover, the connection to specific nuclear capabilities is unclear — even if regime change were the object, how would nuclear employment fit into the strategy?

Cyber, Biological and Chemical Attacks

The feature of the *Nuclear Posture Review* that has captured the most attention is the emphasis on a possible U.S. nuclear response to non-nuclear strategic attacks.

The United States would only consider the employment of extreme circumstances [which] could include significant strategic non-nuclear attacks. Significant non-nuclear strategic attacks include, but are not limited to, attacks on the U.S., allied, or partner civilian population or infrastructure, and attacks on US or allied nuclear forces, their command and control, or warning and attack assessment capabilities.¹⁶²

Taken literally, this new Trump “codicil” to U.S. first use policy is stunning in its breadth. Consider, for example, the “Shamoon” cyber attack on Saudi Aramco’s infrastructure in 2012, which was attributed to Iran.¹⁶³ Responding with nuclear weapons to Shamoon seems clearly within the ambit of the new declaratory doctrine — this in the same report

¹⁶² *Nuclear Posture Review*, 2018, 21.

¹⁶³ See Christopher Bronk and Eneken Tikk-Ringas, “The Cyber Attack on Saudi Aramco,” *Survival*, (April-May 2013), 81-96

that asserts that the United States has not lowered the nuclear threshold. What could possibly justify such an expansion of potential nuclear use?¹⁶⁴

One supporting argument might suggest that the United States has always reserved the right to respond with nuclear use to the “equivalent” of nuclear attacks — recall James Baker’s warning Iraq’s Tariq Aziz before the Gulf War about the consequence of using chemical weapons against U.S. forces.¹⁶⁵ But recall also that the 2010 *Nuclear Posture Review* sought to move away from reliance on nuclear weapons to deter non-nuclear threats.¹⁶⁶ While the Trump document explains why it believes the threat has grown, it does not say why the capabilities that the Obama administration cited in support of overwhelming conventional response would be insufficient to deter cyber attacks.

One might view the growing cyber threat — which did not feature heavily in the Obama review — as an example of the threats that are the functional equivalent of a nuclear attack. Putting aside the question of just how devastating a nuclear response would be and the complex problems of attributing cyber attacks, including deliberate spoofing efforts by third parties to spur a conflict, the question remains whether nuclear first use

¹⁶⁴ General Paul J. Selva, Vice Chairman of the Joint Chiefs of Staff, stated (responding to the leaked *Nuclear Posture Review* draft) that a cyber attack would not justify a nuclear response. Oriana Pawlyk, “Cyber Attack Wouldn’t Merit Nuclear Strike: Joint Chiefs Vice Chairman,” *Military.com*, Jan. 30, 2018, <https://www.military.com/defensetech/2018/01/30/cyber-attack-wouldnt-merit-nuclear-strike-joint-chiefs-vice-chairman.html>. Such an interpretation is hard to square with the explicit language of the report itself.

¹⁶⁵ Benjamin Buch and Scott D. Sagan, “Our Red Lines and Theirs,” *Foreign Policy*, Dec. 13, 2013, <http://foreignpolicy.com/2013/12/13/our-red-lines-and-theirs/>.

¹⁶⁶ *Nuclear Posture Review*, 2010, VIII. However, the 2010 *Nuclear Posture Review* under President Obama also reserved the right to modify its policy if “warranted by the evolution and proliferation of the biological weapons threat and US capacities to counter that threat.”

— even at low yields — will help deterrence cyber attacks.¹⁶⁷ Certainly one could make the case that a cyber attack that was credibly seen as a precursor to a pre-emptive nuclear strike would warrant escalation, and a carefully tailored doctrine to cover such a contingency might be justified. But short of that, using nuclear weapons (even low-yield) in response to a cyber attack by a nuclear power (Russia, China, or North Korea) would risk leading to a wider nuclear exchange. And in the case of non-nuclear powers, a nuclear response would be inconsistent with the administration’s own negative assurances. It would be far better to focus on limiting the effectiveness of cyber attacks through “denial” — enhancing resiliency and redundancy. In the cyber realm, most effective form of deterrence is to reduce the benefits from the attack rather than rely on the threat of punishment.¹⁶⁸

One might argue that there is no harm in creating uncertainty in would-be adversaries’ minds about the nature of the potential response — Thomas Schelling’s threat “that leaves something to chance.”¹⁶⁹ But it is hard to see how the threat of nuclear response to a cyber attack is more credible than other forms of retaliation — especially given the extraordinary costs associated with breaking the “nuclear taboo.” Perhaps the greatest danger of this open-ended expansion of the range of circumstances under which the United States might use nuclear weapons first is that it undercuts the credibility of the

¹⁶⁷ See for example the National Academies of Engineering report questioning the scale of damage from a cyber attack. National Academies of Sciences, Engineering, Medicine, Consensus Study Report, 2017, <https://www.nap.edu/catalog/24836/enhancing-the-resilience-of-the-nations-electricity-system>.

¹⁶⁸ See Joseph S. Nye, Jr. “Deterrence and Dissuasion in Cyber Space,” *International Security* 41, no. 3 (Winter 2016/2017): 56-58. This was the approach of the Obama Administration. See William J. Lynn III, “Defending a New Domain: The Pentagon’s Cyberstrategy,” *Foreign Affairs* 89, no. 5 (September/October 2010): 99.

¹⁶⁹ See Thomas Schelling, *The Strategy of Conflict*, (Cambridge: Harvard University Press, 1960), Chapter 8.

threat where it matters most — in highly specific, highly consequential circumstances. There is always a risk that drawing a highly specific red line will lead the adversary to focus on what is excluded;¹⁷⁰ but even if the adversary concludes that a nuclear response is off the table, the United States has powerful non-nuclear options to inflict devastating punishment. And by expanding the scope of potential use, the United States risks validating the very practices it condemns, especially in the emerging Russian doctrine.

A case-by-case analysis of the administration’s perceived threats fails to demonstrate convincingly the need for either the new weapons or the new doctrine. But there is a further problem posed by the “tailored approach.” Although the United States may believe that each potential adversary warrants a unique approach, once the weapons systems are deployed — and the doctrine announced — they influence strategic stability everywhere. So, for example, even though the Trump administration may believe it needs new weapons primarily to because of Russia, China, North Korea, and Iran cannot rule out the possibility that the weapons will be used against them. The result could be to reduce deterrence and undermine crisis stability.

There are of course, other reasons to be concerned about the *Nuclear Posture Review* its enormous cost, its impact on foreign countries’ views of the United States, which have suffered grievously under the Trump administration. But all of these would be secondary if the document offered a compelling logic for the need to depart from the force structure and doctrine that have guided the United States over the past eight years. Not only has

¹⁷⁰ Perhaps the most cited example of this concern stems from Secretary of State Acheson’s failure to include Korea in defining the US defense perimeter in the Western Pacific in his Press Club speech on Jan. 12, 1950 which some argue led North Korea and the USSR to believe that the United States would not come to Korea’s defense. See <https://web.viu.ca/davies/H102/Acheson.speech1950.htm>.

the case not been made, but the dangers associated with what in many respects is a radical departure far outweigh any potential gains.

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8. The Russian Rogue in the New *Nuclear Posture Review*

Kristin Ven Bruusgaard

The new *Nuclear Posture Review*, released last week by the Pentagon, is aimed at deterring any potential adversaries from contemplating attack or aggression against the United States or its allies. Specifically, it presents Russia as one main reason why the United States needs to expand its nuclear arsenal. However, the document contains two critical flaws that reduce the likelihood that the new U.S. nuclear policy will change the Russian calculus. It misrepresents Russian strategy and it fails to craft a posture that will affect that strategy.

The *Nuclear Posture Review*, as a policy document, has to do with much more than just deterring potential adversaries. It is a description and legitimization of the necessary modernization of the U.S. nuclear arsenal. It is also a result of bureaucratic bickering and infighting.¹⁷¹ In practice, defense policymaking is evidently not an optimized process producing rational outcomes. Still, the review begs to be measured on its own merit: its ability to deter adversaries.

The Nuclear Hawks Have It

The new *Nuclear Posture Review* depicts Russia as America's main adversary — with particularly malign nuclear intentions. The document discusses nuclear coercion, depicts the “salience of nuclear weapons” in Russian strategy, and asserts that Russia's recent

¹⁷¹ Mark Perry, “Trump's Nuke Plan Raising Alarms Among Military Brass,” *The American Conservative*, Feb. 2, 2018, <https://www.theamericanconservative.com/articles/trumps-new-nuke-nuclear-plan-npr-raising-alarms-among-military-brass-war/>.

statements on its nuclear doctrine appear to lower the threshold for Moscow's first use of nuclear weapons.¹⁷² Yet the official Russian military doctrine does not include any such content.¹⁷³ Not a single Russian open source or official source has confirmed that the so-called "escalate to de-escalate" concept is Russian policy. Western analysts and subject matter experts continue to express doubts as to whether this is a correct representation of Russia's strategy.

Despite this fact, U.S. officialdom has clung to the idea that nuclear coercion is a critical component of what the posture review calls "Russia's evolving nuclear doctrine."¹⁷⁴ Particularly flawed is the review's claim that such a strategy hinges on the lack of a U.S. capability to retaliate in kind.¹⁷⁵ This bears no resemblance to the theoretical discussions that do exist on limited nuclear options in Russian military journals. Such articles do not portray an adversary who would cave because of a lack of retaliatory options,¹⁷⁶ but rather one that would cave because the willingness to continue the fight would break down. That adversary would cave because the balance of interest would be in Russia's favor in any conflict where the very existence of the Russian state was under threat. The idea that

¹⁷² Department of Defense, *Nuclear Posture Review*, 2018, XII, 53, https://www.defense.gov/News/Special-Reports/o218_npr/.

¹⁷³ Kremlin, *Voennaya doktrina Rossiiskoi Federatsii (v redaktsii at 2014 g.)*, available at <http://www.mid.ru/documents/10180/822714/41d527556bec8deb3530.pdf/d899528d-4fo7-4145-b565-1f9ac290906c>.

¹⁷⁴ *Nuclear Posture Review*, 2018, XII

¹⁷⁵ *Nuclear Posture Review*, 2018, 53.

¹⁷⁶ Sergei Brezkun, "Rossii nuzhna «letsnitsa» ne eskalatsii, a deeskalatsii," *Nezavisimoye Voennoye Obozreniye*, Nov. 27, 2015; S.V. Kreydin, A.A. Protasov, S. Y. Yegorov, "Sistemy upravleniya voiskamy (silamy) kak instrument strategicheskogo sderzhivaniya", *Voennaya Mysl'* 7, 2009; V.I. Levshin, A.V. Nedelin, M. E. Sosnovsky, "O primenenii yadernogo oruzhia dlya deeskalatsii voennykh dyestvyy", *Voennaya Mysl'* 3, May-June 1999.

Russia's strategy seeks to exploit a U.S. capability gap is one that has been conceived, developed, and promoted by U.S. strategists.

Nevertheless, several Russian strategists express doubts with regard to the efficacy of nuclear coercion against nuclear-armed adversaries.¹⁷⁷ Even Russian officials now emphasize the importance of non-nuclear deterrence to avoid an overreliance on nuclear weapons.¹⁷⁸ Rather than lowering the threshold of nuclear use, the Russians are actively seeking to *increase* it. The *Nuclear Posture Review's* description of Russia's nuclear strategy is completely at odds with this.

So why do influential U.S. strategists continue to perpetuate the “de-escalation” theory? One reason is based on the bureaucratic politics of renewing and expanding the U.S. nuclear arsenal. Describing an adversary who sees a capability gap as a major opportunity is one effective way of securing those capabilities. Another reason is that, given the uncertainty described above, even the remote possibility that Russia would contemplate nuclear coercion means that the United States must do something, anything, to remedy that situation — like developing new low-yield nuclear weapons. The only problem, however, is that the two new types of nuclear weapons proposed in the *Nuclear Posture Review* are not likely to tilt the balance when Russia contemplates using its own nuclear weapons.

¹⁷⁷ Vasily Burenok, “Voennaya bezopasnost Rossii – Problemy i resheniya”, *Vosdushno-Kosmicheskaya Oborona* 3, 2008.

¹⁷⁸ “Russian Navy to focus on strategic non-nuclear deterrence – Commander in Chief”, TASS, Jan. 1, 2018, <http://tass.com/defense/983872>; “Russia says it plans to pivot from nuclear deterrence, avoiding Trump's arms race”, *The Moscow Times*, Jan. 12, 2017, <https://themoscowtimes.com/news/russia-says-it-plans-to-pivot-from-nuclear-deterrence-avoiding-trumps-arms-race-56801>.

Will the *Nuclear Posture Review* Affect the Russian Military Calculus?

If the Russians were uncertain whether nuclear de-escalation would work in the first place, the *Nuclear Posture Review* does nothing to change the Russian calculus. If Russia were inclined to use nuclear weapons for de-escalation, it would be encouraged by the Western obsession with the concept. In that case, it would have been prudent to capitalize on all the hype. Yet Russian officials have been silent on the subject. They have been too busy emphasizing the apparently increased salience of their non-nuclear deterrence options. Even the Russians appear reluctant to make a reckless nuclear gamble based on uncertain calculations of NATO or U.S. intentions and strength. A war with the West is by far the worst-case scenario for Russian political and military planners, and they know it.

The *Nuclear Posture Review* is, nevertheless, causing concern in Russia. Whereas previous reviews may have increased Russia's concerns about U.S. conventional weapons,¹⁷⁹ the current review entails increased U.S. strength in the nuclear domain as well.¹⁸⁰ One could argue that while the United States was content with nuclear parity in the previous *Nuclear Posture Review* from 2010, seeking only conventional superiority, the current review signifies an arms race across the board. This will by no means stymie Russian efforts at enhancing and upgrading their toolkit, including conventional and nuclear weapons, weapons based on new physical principles (including hypersonic weapons), and non-conventional capabilities. The likelihood that the *Review's* threats to

¹⁷⁹ Department of Defense, *Nuclear Posture Review*, 2010,

https://www.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

¹⁸⁰ "Ekspert nazval novyoy yadernoy doktrinu SShA smenoy kursa", *RIA Novosti*, Feb. 3 2018,

<https://ria.ru/world/20180203/1513912695.html>.

develop and field a new submarine-launched cruise missile will convince Russia that it should fall back into compliance with the Intermediate Range Nuclear Forces (INF) Treaty seems remote in this context.

A key Russian grievance with regards to U.S. conventional superiority is the alleged effect of precision-guided munitions and missile defenses on Russian retaliatory capability. The Russians are concerned about any indications that the United States is no longer willing to accept mutual vulnerability. Russia is currently pursuing ways to overcome this perceived U.S. invulnerability — including by developing new, heavy intercontinental ballistic missiles that are better able to penetrate missile defenses.¹⁸¹

Russia is already hard at work figuring out how to overcome the challenges they have been facing for the past decades. New, low-yield nuclear weapons in the U.S. arsenal will constitute yet another hurdle in this quest. New arms beget new arms — it is a familiar pattern. If the new *Nuclear Posture Review* will change Russian behavior and calculus in any way, it will be to intensify Russia's paranoia regarding U.S. intentions and its determination to stay in the game. Moreover, Russia will compete symmetrically where it can and asymmetrically when it must.

This brings us to a final and consequential military point: Russian analysts and military planners seem acutely, perhaps excessively, aware of their own shortcomings in the conventional domain. This is a key reason Russia retains a large sub-strategic nuclear weapons arsenal and continues to develop nuclear options for new systems. It knows that if a shooting war with NATO were to materialize, Russia would run out of conventional

¹⁸¹ Aleksandr Sharkovskiy, "Vlast' RF uverena, shot nash yaderniy potentsial prevoskhodit amerikanskii", *Nezavisimoye Voennoye Obozreniye*, Nov. 3 2017.

options first. This means that any armed conflict with Russia over issues concerning the “very existence of the Russian state,”¹⁸² as Russia’s military doctrine terms it, will become nuclear. It is wishful thinking to hope that low-yield nuclear weapons will ensure “crisis stability” in conflict with Russia. In a large-scale conventional conflict, those weapons will not change Russia’s willingness to defend itself with nuclear weapons if it feels that the country’s survival is threatened.¹⁸³

Deterrence Beyond the Nuclear Domain?

The new *Nuclear Posture Review* will neither slow down nor change Russian military developments or its behavior in future conflicts. Could the review contribute to deterring other types of unwanted Russian behavior, such as its proclivities to engage in election influence, annex neighboring countries, or carry out reckless military exercises and engage in nuclear sabre-rattling?

Again, the likelihood of the review dampening Russian behavior is slim. First, these Russian efforts are intended to demonstrate Russian prowess and capability across several domains. They are meant to deter potential adversaries, such as the United States, from contemplating aggression against Russia. The fact that the United States claims it has no such intentions makes little difference to this Russian calculus. Observations of Western military meddling and color revolutions across the globe in the past decades have convinced Moscow that it could be the next target in a Western

¹⁸² Kremlin, Voennaya doktrina Rossiiskoi Federatsii (v redaktsii at 2014 g.)

¹⁸³ Jeffrey Edmonds, “How America could accidentally push Russia into a nuclear war,” *The National Interest*, Feb. 6, 2018, <http://nationalinterest.org/feature/how-america-could-accidentally-push-russia-nuclear-war-24378?page=2>.

campaign to promote global democracy.¹⁸⁴ U.S. deterrent efforts will not curtail Russian efforts at deterring us, nor will they convince them that America does not need to be deterred. The opposite effect is more likely: Russia's deterrent efforts will intensify.

Second, the kind of military competition that the *Nuclear Posture Review* prescribes would be very costly. Russia seems to be willing to engage in such strategic competition for now. But it will not necessarily compete symmetrically. Russian generals consistently encourage their strategists to come up with “new ways of warfare.”¹⁸⁵ In a prolonged strategic competition, Russia may resort to dirty, cheap tricks rather than fancy new equipment (although at the moment it seems intent on doing both). This may not bode well for America's ability to deter unwanted Russian behavior.

If It Ain't Broke, Don't Fix It

The good news is that the United States' ability to deter Russia was never really in jeopardy. The *Nuclear Posture Review* has done little to damage that fact. The chance that Russia would ponder aggression against the United States or its allies, given the inherent risks of nuclear escalation, was always slim. The Russians do not desire nuclear war any more than the United States does.

¹⁸⁴ Gudrun Persson, “The war of the future: A conceptual framework and practical conclusions: Essays on strategic thought”, *Russian Studies*, NATO Defence College, Nov. 3, 2017, <http://www.ndc.nato.int/news/news.php?icode=1078>.

¹⁸⁵ Timothy Thomas, “The evolving nature of Russia's way of war”, *Military Review*, Jul-Aug 2017, <http://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/July-August-2017/Thomas-Russias-Way-of-War/>.

The bad news is that the *Nuclear Posture Review* does increase Russian concerns about U.S. objectives and U.S. strategy. Ironically, the content of the review resembles Russian strategy,¹⁸⁶ with an increased emphasis on sub-strategic nuclear weapons, calls for closer integration of nuclear and conventional planning, and calls for deterrence across the nuclear, conventional, cyber, and space domains. These are all features apparent in Russian strategy and planning that Western officials have called deeply destabilizing over the past four years. Russia may not be as concerned with all these features individually. Combined, however, they will vindicate the claims of Russian military theorists that the United States seeks military superiority, conventionally and now also in the nuclear domain.

Although America's ability to deter Russia was never at risk, its ability to assure the Russians of its benign intentions is. Although the United States fosters no plans to carry out a decapitating strike on Moscow, its military actions and nuclear signaling are likely to intensify Russian concerns about just that. The new *Nuclear Posture Review* will not change the way Russia would use its nuclear weapons. Possession of the world's largest nuclear arsenal, combined with a perceived conventional inferiority, means that Russia will rely on nuclear weapons in any large-scale war. One key goal for U.S. nuclear policy should be to make sure never to end up in a shooting war that Russia deems existential. The new *Nuclear Posture Review* does not contribute much toward achieving that goal.

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¹⁸⁶ Nikolai Sokov also points to a russification of the new U.S. national security strategy. Nikolai Sokov, "The Russification of U.S. Deterrence Policy", Dec. 25, 2017, <http://nationalinterest.org/feature/the-russification-us-deterrence-policy-23785>.

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