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## **Towards A Better U.S. Nuclear Strategy**

John J. Klein

*Analytic Services (ANSER)*, johnjordanklein@aol.com

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## **Towards A Better U.S. Nuclear Strategy**

### **Abstract**

The U.S. nuclear posture and the future role of nuclear deterrence is a topic that continues to be hotly debated. This situation will continue because of changes in the international security environment and the pressure to find reductions within the U.S. defense budget. Regardless of claims to the contrary, nuclear deterrence remains critical in ensuring future peace and stability.

## Introduction

Since the use of the first atomic bombs during World War II, nuclear weapons have been inexorably linked with United States (U.S.) national security policy. Nuclear weapons are a critical part of U.S. strategies to deter would be aggressors.<sup>1</sup> Additionally, the U.S. promise of extending deterrence to partners and allies has at times limited the proliferation of nuclear weapons, which in turn has promoted peace and stability in the international community.<sup>2</sup>

Despite the long history of nuclear deterrence as a strategy, some policy makers and security experts continue to argue that the current U.S. nuclear posture is out of balance with today's security threat and that nuclear deterrence is not what it used to be. In a 2007 Op-Ed in the *Wall Street Journal*, George Shultz, William Perry, Henry Kissinger, and Sam Nunn state that a country's reliance on nuclear deterrence is becoming "decreasingly effective."<sup>3</sup> In his April 2009 speech in Prague, President Obama highlighted current nuclear dangers, declaring that to overcome grave and growing threats, the United States will "seek the peace and security of a world without nuclear weapons."<sup>4</sup> The debate continues to unfold today. Many arms control advocates believe the world would be a better place without nuclear arms, and even supporters of nuclear weapons lament the high monetary costs associated with maintaining an effective arsenal.<sup>5</sup> The resulting discussions frequently focus on either reduction or all out elimination of these warheads.

Even though the international security environment is changing and fiscal pressures continue to increase, nuclear deterrence remains vital to efforts aimed at protecting and promoting U.S. security interests around the globe. Given mounting security and fiscal challenges, it is therefore appropriate to discern recommendations regarding the future U.S. nuclear posture and the role of nuclear deterrence as part of a greater U.S. national security strategy.

## Background and Recent Initiatives

The current debate between nuclear arms supporters and detractors centers on the specifics of existing treaties and periodic posture documents, such as the formal Nuclear Posture Reviews, put out by the Department of Defense (DoD).

### *Nuclear Posture Review*

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<sup>1</sup> While nuclear deterrence tends to be focused towards deterring state nuclear powers, under certain situations, it may be possible to deter non-state actors as well.; John J. Klein, "Deterring and Dissuading Nuclear Terrorism," *Journal of Strategic Security* 5 (2012): 15-30, available at: <http://scholarcommons.usf.edu/jss/vol5/iss1/6>.

<sup>2</sup> Notable exceptions include the nuclear ambitions of North Korea, Iran, and Syria.

<sup>3</sup> George Shultz, William Perry, Henry Kissinger and Sam Nunn, "A World Free of Nuclear Weapons," *The Wall Street Journal* (January 4, 2007), available at: <http://online.wsj.com/article/SB116787515251566636.html>.

<sup>4</sup> President Barack Obama, remarks given in Hradcany Square, Prague, Czech Republic (April 5, 2009), available at: [http://www.whitehouse.gov/the\\_press\\_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered](http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered).

<sup>5</sup> George Perkovich et al., "Abolishing Nuclear Weapons: A Debate," (Carnegie Endowment for International Peace, February 13, 2009), available at: <http://carnegieendowment.org/2009/02/13/abolishing-nuclear-weapons-debate/4boj>.

The most current U.S. Nuclear Posture Review (NPR), released in 2010, reaffirms existing strategic guidance and states that the primary role of the U.S. nuclear arsenal is to deter a nuclear attack on the United States, its allies, and partners.<sup>6</sup> The NPR describes the following five policy objectives: preventing nuclear proliferation and nuclear terrorism; reducing the role of U.S. nuclear weapons in U.S. national security strategy; maintaining strategic deterrence and stability at reduced nuclear force levels; strengthening regional deterrence and reassuring U.S. allies and partners; and sustaining a safe, secure, and effective nuclear arsenal.<sup>7</sup>

The 2010 NPR notes that as long as nuclear weapons exist, the United States will seek to deter potential adversaries and assure U.S. allies and other security partners with a credible and comprehensive security guarantee.<sup>8</sup> By maintaining a credible nuclear deterrent and reinforcing regional security architectures with missile defenses and other conventional military capabilities, the Obama administration believes it can provide confidence to its non-nuclear allies while also discouraging any nuclear ambitions they may entertain. While the Obama administration has sought to reduce the number of warheads in the U.S. nuclear stockpile, its stated goal is to do so without affecting the reliability, efficacy, and deterrent effect of the entire arsenal.<sup>9</sup>

The 2010 NPR also states that the United States must continue to maintain stable strategic relationships with Russia and China. Correspondingly, the United States must further counter threats posed by any emerging nuclear-armed states, in order to protect the United States—along with its allies and partners—against nuclear threats or intimidation.<sup>10</sup> The NPR underscores the importance of the United States’ “negative security assurance,” by declaring that Washington will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the Nuclear Non-Proliferation Treaty (NPT) and are in compliance with established non-proliferation protocols.<sup>11</sup> This negative security assurance is intended to highlight the security benefits gained by adhering to and fully complying with the NPT, while strengthening the current non-proliferation regime.

#### *New Strategic Arms Reduction Treaty (New START)*

Based upon the analysis conducted in support of the 2010 NPR, New START, signed in April 2010, limits Russia and the United States to fewer strategic nuclear weapons by 2018. New START includes three main points. It caps the number of deployed, long-range nuclear warheads on each side at 1,550, down from 2,200. It reduces the number of deployed intercontinental ballistic missiles (ICBMs), deployed submarine launched ballistic missiles (SLBMs), and deployed heavy bombers equipped for nuclear armaments to 700, with a combined limit of

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<sup>6</sup> The Department of Defense, *Nuclear Posture Review Report* (Washington, D.C.: April 2010), vii; “The fundamental role of U.S. nuclear weapons, which will continue as long as nuclear weapons exist, is to deter nuclear attack on the United States, our allies, and partners.”

<sup>7</sup> Ibid, iii.

<sup>8</sup> Ibid.

<sup>9</sup> Executive Office of the President, *National Security Strategy* (Washington, D.C.: The White House, May 2010), 4; “We are reducing our nuclear arsenal and reliance on nuclear weapons, while ensuring the reliability and effectiveness of our deterrent.”

<sup>10</sup> The Department of Defense, *Nuclear Posture Review Report*, 4.

<sup>11</sup> Ibid, viii.

800 deployed and non-deployed ICBM launchers, SLBM launchers, and heavy bombers equipped for nuclear armaments (the United States currently has about 850 deployed and Russia has an estimated 565).<sup>12</sup> It reestablishes a system in which both countries monitor each other's arsenal.

Under New START, the verification regime includes relevant parts of START I as well as new provisions to cover items not previously monitored. Both the United States and Russia will continue to depend on satellite surveillance, or National Technical Means (NTM), to monitor the other's strategic forces. With respect to Russian mobile ICBMs, all new missiles are subject to the treaty as soon as they leave a production facility, and each missile and bomber will carry a unique identifier. Russia must notify the United States forty-eight hours before a new solid-fueled ICBM or SLBM leaves its production facility and when it arrives at its destination, which will facilitate monitoring by NTM. Verification of treaty limits and conversion or elimination of delivery systems is carried out by NTM and eighteen annual short-notice, on-site inspections. The verification regime allows ten on-site inspections of deployed warheads and deployed and non-deployed delivery systems at any land, air, and submarine base. It also allows eight on-site inspections at facilities that may hold only non-deployed delivery systems.<sup>13</sup>

New START has been criticized for several shortcomings. In particular, it is criticized for failing to address Russia's large arsenal of short range, tactical nuclear weapons. According to U.S. officials, Russia has close to a 10-to-1 numeric advantage in this class.<sup>14</sup> As of 2012, the United States is reported to have approximately 760 tactical nuclear weapons, and Russia is estimated to have upwards of 6,000 in its arsenal.<sup>15</sup> During negotiations, Senators Joe Biden and John Kerry both expressed concern that the Bush administration's 2002 Moscow Treaty did not limit Russian tactical nuclear forces.<sup>16</sup> Senator Jim Risch tried to insert language addressing the tactical nuclear weapons issue into the New START treaty preamble, but was unsuccessful.<sup>17</sup>

Interestingly, Washington and Moscow have reversed their respective views on the role of tactical nuclear weapons in military strategy. During the Cold War,

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<sup>12</sup> See the U.S. Department of State New START website for an overview of the Treaty, available at <http://www.state.gov/t/avc/newstart/index.htm>.

<sup>13</sup> "Treaty Between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms," Article VI, IX, X, XI, Protocol and Annexes, available at: <http://www.state.gov/t/avc/newstart/c44126.htm>.

<sup>14</sup> Keith Payne, "Evaluating the U.S.-Russia Nuclear Deal," *The Wall Street Journal* (April 8, 2010), available at: <http://online.wsj.com/article/SB10001424052702303720604575169532920779888.html>.

<sup>15</sup> Amy F. Woolf, "Nonstrategic Nuclear Weapons," *CRS Report for Congress* (December 19, 2012), available at: <http://www.fas.org/sgp/crs/nuke/RL32572.pdf>; The U.S. forward deploys B-61 tactical nuclear warheads in Europe under American military custody, but they are on-hand for delivery by NATO or U.S. dual-capable aircraft (Ibid). The Russians are believed to use a variety of tactical nuclear weapons tailored to different military units, such as rocket forces, artillery, air defense, frontal aviation, naval aviation, and ships and submarines. See Gunnar Arbman and Charles Thornton, "Russia's Tactical Nuclear Weapons, Part I: Background and Policy Issues," (Swedish Defence Research Agency, November 2003), 17, available at: <http://drum.lib.umd.edu/bitstream/1903/7912/1/thorntonrussia.pdf>.

<sup>16</sup> Payne, "Evaluating the U.S.-Russia Nuclear Deal."

<sup>17</sup> Walter Pincus, "Russian tactical nuclear weapons still an issue after START treaty ratification," *The Washington Post* (December 27, 2010), available at: <http://www.washingtonpost.com/wp-dyn/content/article/2010/12/27/AR2010122702931.html>.

the United States and NATO initially viewed tactical nuclear weapons as crucial to thwart the Warsaw Pact's overwhelming, conventional forces, an approach validated and required once the West abandoned any hope of countering the threat man-for-man or tank-for-tank. Instead, NATO would employ tactical nuclear weapons along the assumed axes of Soviet advance.<sup>18</sup> Today, Russia views tactical nuclear weapons as an inexpensive option and "equalizer" that compensates for its potential security and military shortfalls while providing for a defense against potential aggression by NATO, which it still views as an aggressive bloc. For these reasons, Russian leaders will likely be reluctant to agree to any reductions in their number of tactical nuclear weapons during future arms control negotiations.<sup>19</sup>

### *Calls for an Even Smaller Nuclear Force*

Despite the significant reductions in long-range arms secured in New START, many security and policy experts continue to advocate for even further cuts. In the 2012 updated U.S. military strategy, the Secretary of Defense notes, "It is possible that our deterrence goals can be achieved with a smaller nuclear force, which would reduce the number of nuclear weapons in our inventory as well as their role in U.S. national security strategy."<sup>20</sup> It is noted, however, that no analysis is provided defending this view that further reductions will still produce the required deterrent effects.

The idea of further reducing the U.S. nuclear arsenal is echoed by arms control groups advocating for the total elimination of all nuclear weapons. In May 2012 one such group—Global Zero—called for eliminating the U.S. fleet of fixed, land-based nuclear ICBMs that make up one leg of the American nuclear triad. It also advocated that all U.S. tactical nuclear weapons be eliminated over the next ten years, ranking their strategic utility as practically nil.<sup>21</sup> Global Zero advocates include the former Vice Chairman of the Joint Chiefs of Staff, General James Cartwright, who has stated that U.S. nuclear deterrence could be guaranteed in the near term with 900 nuclear warheads, and with only half deployed at a time.<sup>22</sup> Cartwright goes on to state that steep reductions in the U.S. nuclear arsenal are needed if the United States wants to maintain credibility in urging restraint by other nuclear-aspirant powers such as India, Pakistan, and North Korea.<sup>23</sup>

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<sup>18</sup> Tom Nichols, Douglas Stuart and Jeffrey D. McCausland (eds.), *Tactical Nuclear Weapons and NATO* (Strategic Studies Institute, April 2012), Preface, viii.

<sup>19</sup> Leonid Polyakov, "Aspects of the Current Russian Perspective on Tactical Nuclear Weapons," in Tom Nichols, Douglas Stuart and Jeffrey D. McCausland (eds.), *Tactical Nuclear Weapons and NATO* (Strategic Studies Institute, April 2012), 155-56.

<sup>20</sup> The Secretary of Defense, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense* (Washington, D.C.: January 2012), 5.

<sup>21</sup> Global Zero U.S. Nuclear Policy Commission, *Global Zero U.S. Nuclear Policy Commission Report: Modernizing U.S. Nuclear Strategy, Force Structure and Posture* (Global Zero, May 2012), 7-8.

<sup>22</sup> Thom Shanker, "Former Commander of U.S. Nuclear Forces Call for Large Cut in Warheads," *The New York Times*, May 15, 2012, available at: <http://www.nytimes.com/2012/05/16/world/cartwright-key-retired-general-backs-large-us-nuclear-reduction.html>.

<sup>23</sup> *Ibid.*

Reductions in U.S. nuclear forces are also said to be needed because of the high-cost to maintain and upgrade the arsenal. Such a proponent is Republican Senator Tom Coburn, who advocates further cuts in the U.S. nuclear arsenal to achieve over \$79 billion in savings.<sup>24</sup> Official DoD estimates put U.S. spending levels for nuclear weapons at about \$214 billion over the next ten years, or just above \$20 billion a year.<sup>25</sup> With looming fiscal cuts to the U.S. Defense budget, reducing spending on efforts to upgrade and maintain the nuclear arsenal is seen by some as good policy.<sup>26</sup>

Still, those advocating for deeper cuts in the nuclear arsenal, particularly Global Zero, have been criticized for shortsightedness and failing to fully understand the role of nuclear deterrence. Referencing General Cartwright and the Global Zero nuclear policy report, General Norton Schwartz, Chief of Staff of the Air Force, is reported to have admonished, “I don’t agree with his assessment nor the study.”<sup>27</sup> Keith Payne of the National Institute of Public Policy has taken exception to the report’s assessment that “Security is mainly a state of mind, not a physical condition,” noting that states feel insecure when under a real threat or when physically attacked.<sup>28</sup> Payne also counters Global Zero’s assertion that allies can and will be more assured by U.S. non-nuclear forces than by the “nuclear umbrella”<sup>29</sup> He notes much evidence exists to the contrary because key allies—South Korea, Japan, and members of NATO—continue to stress the importance of the U.S. nuclear umbrella in maintaining security assurances and promoting regional stability.<sup>30</sup>

### *The Role and Limitations of Nuclear Deterrence*

When considering the future role of deterrence in U.S. national security policy, it is important to understand what deterrence is and what it is not. In one of the most enduring definitions, deterrence is said to be “persuading a potential enemy that he should in his own interest avoid certain courses of activity.”<sup>31</sup> As a subset of general deterrence, the concept of nuclear deterrence holds that a credible and potentially overwhelming use of nuclear weapons in response to an adversary’s attack is sufficient to deter most potential aggressors from employing nuclear weapons. The most current Nuclear Posture Report underscores this idea. It states: the “United States will continue to ensure that, in the calculations of any

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<sup>24</sup> Tom Coburn, “Back in Black,” 14-15, available at: [http://www.coburn.senate.gov/public/index.cfm?a=Files.Serve&File\\_id=92a11aeb-a484-45d4-b02a-83071603accf](http://www.coburn.senate.gov/public/index.cfm?a=Files.Serve&File_id=92a11aeb-a484-45d4-b02a-83071603accf).

<sup>25</sup> Gordon Adams, “Our Nukes Cost More Than You Think; Stimson Pegs Annual Nuke Spending at \$13B,” *AOL Defense* (June 18, 2012), available at: <http://defense.aol.com/2012/06/18/our-nukes-cost-more-than-you-think-stimson-pegs-annual-nuke-spe/>.

<sup>26</sup> Editor, “The Bloated Nuclear Weapons Budget,” *The New York Times* (October 29, 2011), available at: <http://www.nytimes.com/2011/10/30/opinion/sunday/the-bloated-nuclear-weapons-budget.html>.

<sup>27</sup> Marcus Weisgerber, “USAF Chief Raps Report on Cutting Nuke Arsenal,” *Defense News* (May 16, 2012), available at: <http://www.defensenews.com/article/20120516/DEFREG02/305160009/USAF-Chief-Raps-Report-Cutting-Nuke-Arsenal>.

<sup>28</sup> Ibid; Keith B. Payne, “Zero Nuclear Sense: Is Reckless Disarmament the Plan for the Second Obama Term?” *The Washington Times* (May 2012), available at: <http://www.washingtontimes.com/news/2012/may/29/zero-nuclear-sense/>.

<sup>29</sup> Payne, “Zero Nuclear Sense.”

<sup>30</sup> Ibid.

<sup>31</sup> Schelling, Thomas, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1960), 9.

potential opponent, the perceived gains of attacking the United States or its allies and partners would be far outweighed by the unacceptable costs of the response.”<sup>32</sup> To be effective, therefore, nuclear deterrence must convey to a potential adversary the unacceptable consequences resulting from armed attack.

Yet strategist Colin S. Gray helps us begin to understand that deterrence theory also has its limitations. “Given that deterrence can only work, when it does, in the minds of enemy leaders,” he writes, “it is their worldview, not ours, that must determine whether or not deterrence succeeds.”<sup>33</sup> Therefore, it ultimately does not matter if U.S. national leaders, strategic planners, and defense analysts all agree that a potential adversary *should be* deterred by the U.S. nuclear posture. It only matters if a potential adversary’s leadership *is* deterred.

Nuclear deterrence theory is a complex concept because at its heart lies a fundamental paradox. Nuclear deterrence is only successful if it averts the use of nuclear weapons, but a credible deterrence capability requires planning for their intended use. If employed, deterrence has failed. In short, nuclear deterrence is possible only by means of maintaining an effective and credible nuclear strike capability as well as through efforts to implement planning necessary for its use against potential adversaries.

The task of American nuclear strategists is complicated further because the concept of nuclear deterrence can be undermined in two additional and important ways. First, if an offensive nuclear capability is unilaterally reduced so that the leadership of a potential adversary believes it can “win”—or at least “not lose”—a nuclear exchange, then such an arsenal cannot be considered sufficient and deterrence is undermined. Second, deterrence, or more specifically extended deterrence, may be subverted if a leading nuclear power such as the United States fails to maintain a reliable and sufficiently sized arsenal capable of providing a nuclear guarantee to its allies. With respect to the United States, an incredible security guarantee would confound the existing policy objectives of the United States and could encourage allies to pursue development of their own nuclear programs independent of U.S. stockpiles. An increase in the number of nuclear-armed countries would consequently exacerbate proliferation concerns and possibly increase the likelihood of a terrorist organization acquiring such weapons from one of the more nascent nuclear powers.

Deterrence also works only if a credible threat of retaliatory force exists, and for the U.S. defense community credibility is typically governed by what is known as the Law of Armed Conflict, an extension of that part of international law regulating the conduct of armed hostilities.<sup>34</sup> Of the ideas and principles contained in the Law of Armed Conflict, the two following principles are most germane to the idea of nuclear deterrence and any action in response to nuclear aggression: the principle of military necessity and that of lawful targeting. The principle of military necessity calls for using only that degree and kind of force required for the partial or complete submission of the enemy, while taking into

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<sup>32</sup> The Secretary of Defense, *The Nuclear Posture Review Report*, xi.

<sup>33</sup> Gray, Colin S., *National Security Dilemmas: Challenges & Opportunities* (Dulles, VA: Potomac Books, Inc., 2009), 56.

<sup>34</sup> U.S. Joint Chiefs of Staff, *Department of Defense Dictionary of Military and Associated Terms*, Joint Publication 1-02 (Washington, D.C.: March, 23 1994), 215.



consideration the minimum expenditure of time, life, and physical resources.<sup>35</sup> This principle is designed to limit the application of force to that required for carrying out lawful military purposes. Although the principle of military necessity recognizes that some collateral damage and incidental injury to civilians may occur when a legitimate military target is attacked, it does not excuse the wanton destruction of lives and property disproportionate to the military advantage to be gained.<sup>36</sup> When considering the employment of nuclear weapons, therefore, the weapons used should not cause more destruction than necessary to achieve military objectives. For example, a smaller yield nuclear weapon would be preferred over a larger yield warhead, if the military objectives can still be achieved.

In contrast, the principle of lawful targeting is based on three underpinnings.<sup>37</sup> First, it stipulates that a belligerent's right to injure the enemy is not unlimited. Second, it states that the launching of attacks specifically against civilian populations is prohibited. And third, it posits that the identification and distinction of combatants must be made clear so as to spare as much as possible any injury to non-combatants. Consequently, and by extension, the principle of lawful targeting requires that all "reasonable precautions" must be taken to ensure the targeting of only military objectives, so that damage to civilian objects (collateral damage) or death and injury to civilians (incidental injury) is avoided as much as possible.<sup>38</sup> Such considerations are fundamentally important to all U.S. nuclear force posture decisions because an excessively large nuclear weapon could more difficult to successful employ against a smaller, more localized target where non-combatants are located nearby.

Arms control has a critical place in U.S. national security strategy, and calls to further reduce to the number of warheads in the nuclear arsenal should be discussed and debated by both policy makers and strategists. It is noted, however, that frequently those proponents advocating the most significant reductions from current nuclear warhead levels do so without any analytical justification. Commonly, those seeking dramatic reductions simply state that the international environment has changed since the end of the Cold War, and therefore, nuclear weapons are now useless against most of today's greatest threats.<sup>39</sup> This argument is merely a supposition that because the world has changed, the role of nuclear deterrence is no longer valid. It is also a nonanalytic argument when simply stating that United States has more than enough nuclear weapons to deter any nation and can retain that deterrent while eliminating excess weapons. When debating the size of the U.S. nuclear arsenal, the final decision should be based upon sound analytics and not on conjecture or wishful thinking.

## Recommendations for the Future

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<sup>35</sup> U.S. Department of the Navy, *The Commander's Handbook on the Law of Naval Operations*, NWP 1-14M (Washington, D.C.: July 9, 1995), 6-5.

<sup>36</sup> *Ibid*; This concept is also referred to as the principle of proportionality.

<sup>37</sup> *Ibid*, 8-1; This also referred to as the principle of distinction.

<sup>38</sup> *Ibid*.

<sup>39</sup> Global Zero U.S. Nuclear Policy Commission, *Global Zero U.S. Nuclear Policy Commission Report*, 1-2.

There are several kinds of assessments and analytical techniques that could be used to suggest the “correct” number of warheads so that the U.S. can “ensure” deterrence, and these techniques are dependent on the informed preconceptions of perceived threats. While providing specifics on the type and number of nuclear weapons needed to ensure deterrence implies a finite degree of certitude about the accuracy of any forthcoming analysis, more often than not, such analysis is simply a best—though educated—guess about the potential threat. In other words, it is based on assumptions about the strength and extent of competing arsenals, as well as assumptions about the risk tolerance of those holding leadership positions in the governments of potential adversaries. Once made, furthermore, such assumptions almost certainly would become outdated within a relatively short amount of time. In the aggregate, such uncertainties associated with the assumptions used to assess a potential adversary’s capability and motivation may help explain why the U.S. defense establishment has consistently displayed an inability to accurately assess the capabilities of potential adversaries and for predicting future threats.<sup>40</sup> Despite the level of uncertainty embedded in such strategic efforts related to calculating the required number of nuclear weapons, it remains possible to provide specific recommendations concerning the future U.S. nuclear posture and the role of nuclear deterrence in addressing future global security challenges. These recommendations are as follows.

#### *Don’t Seek the Minimum Number of Weapons*

Policymakers should not seek to reduce the U.S. nuclear arsenal to the minimum required to achieve deterrence. This is because any determined minimum threshold could be based upon erroneous information or the threat assessment could change after such a determination is made. Among some analysts, there is frequently a tendency to determine through some chosen process the minimum number of nuclear warheads that the United States should maintain to ensure effective deterrence, while still meeting our extended deterrence obligations with allies and partners. For example, Global Zero’s Nuclear Policy Commission has advocated for a “substantially decreased stockpile of nuclear weapons and delivery vehicles” resulting in only 450 immediately deployable warheads.<sup>41</sup> This number is dramatically lower than current levels and would cause extensive changes in current U.S. contingency plans and military agreements. Such reductions could in themselves result in additional security risks and unintended consequences.

Seeking a minimum threshold is a dangerous strategy. If U.S. national security leadership decided to only have a nuclear arsenal that was on par or comparable to that of a potential adversary, then deterrence would be limited. As Henry Kissinger and Brent Scowcroft have astutely noted, “Strategic stability is not inherent [in a strategic posture] with low numbers of weapons; indeed, excessively low numbers could lead to a situation in which surprise attacks are conceivable.”<sup>42</sup> Therefore, a potential adversary, based upon its own

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<sup>40</sup> Richard Danzig, *Driving in the Dark: Ten Propositions About Prediction and National Security* (Washington, D.C.: Center for a New American Century, October 2011), 5.

<sup>41</sup> Global Zero U.S. Nuclear Policy Commission, *Global Zero U.S. Nuclear Policy Commission Report*, 6-7.

<sup>42</sup> Henry A. Kissinger and Brent Scowcroft, “Strategic Stability in Today’s Nuclear World,” *The Washington Post*, April 23, 2012.

assessments, could determine it could actually “win” or even achieve a stalemate during a nuclear exchange with the United States. So, reductions that set an arbitrary bottom threshold on nuclear capability might increase the likelihood of deterrence failing. This is because the lower the threshold, the greater the chance for ambiguity or uncertainty about the U.S. nuclear capability, which could cause an adversary to seek conflict.

### *Maintain a Range of Nuclear Response Options*

In order to have a credible nuclear deterrent—one that is able to deter a range of potential future threats—the United States must have a variety of nuclear weapons that are able to deliver both minor and severe military effect commensurate with the anticipated threat. Specifically, the U.S. nuclear arsenal should include an ample number of low-yield nuclear weapons, so that the president is provided with the best range of potential response options following an adversary’s attack. According to the Law of Armed Conflict, the application of the principle of military necessity to any potential U.S. nuclear response following an act of aggression means that the response should not exceed the kind or degree of force needed to accomplish the military objective.<sup>43</sup> Additionally, applying the principle of lawful targeting means that a nuclear response should discriminate between military objectives and civilian objects to mitigate collateral damage and incidental injury.<sup>44</sup> For these reasons, smaller low-yield weapons may prove to be the preferred nuclear response option vice larger and potentially more indiscriminate nuclear warheads.

If an adversary detonated a low-yield nuclear weapon within the United States and a commensurate low-yield nuclear weapon was not readily available for a U.S. response to the attack, U.S. national leadership would need to weigh other options, such as employing a higher-yield nuclear weapon or conventional weapons with a similar destructive effect. Both options pose challenges for policymakers. Using a significantly higher yield nuclear weapon might greatly increase the possibility of conflict escalation, which may not be in the best interests of the United States. The employment of a higher-yield nuclear response option might also exceed the degree of force needed to accomplish the military objective and could, therefore, violate the Law of Armed Conflict. As for planning for and relying on a conventional response to a nuclear strike, U.S. policymakers would be required to consider how this might undermine allied perceptions of Washington’s resolve, commitment to the idea of extended deterrence, and the credibility of the American nuclear arsenal.

Maintaining a range of U.S. nuclear options also means providing for a variety of delivery vehicles such as those provided in the current triad system with launch capabilities across the air, sea, and land environs. This goes against Global Zero proposals to eliminate all fixed, land-based inter-continental ballistic missiles (ICBMs), in part because of perceived risks associated with this leg of the nuclear triad. The argument of Global Zero advocates is based on assertions that the existence of ICBMs can produce ambiguous attack indications in the minds of

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<sup>43</sup> U.S. Department of the Navy, *The Commander’s Handbook on the Law of Naval Operations*, 6-5.

<sup>44</sup> *Ibid*, 8-1.

potential adversaries and might trigger unnecessary nuclear retaliation.<sup>45</sup> Also, the fixed locations of ICBM launch sites are said to be inherently targetable and depend heavily on launch warning for survival.<sup>46</sup> Admittedly, fixed ICBM sites are indeed targetable and their projected overflight paths might introduce a level of anxiety in some nations. But such anxiety can be addressed through greater diplomatic coordination with affected nations, and their inherent vulnerability can be mitigated through advanced methods of indications and warning and anti-missile defenses. Submarine or aircraft that launch nuclear weapons are also targetable and vulnerable, albeit less so. Yet their existence in the nuclear triad system improves the survivability of the entire arsenal vis-à-vis the concept of dispersal, an effective approach for complicating the targeting calculations of potential adversaries.

### *Address Russia's Tactical Nuclear Weapons*

Tactical nuclear weapons were not addressed in New START, specifically Russia's substantial inventory of these shorter-range nuclear weapons. This was a mistake. Even though Moscow views tactical nuclear weapons as critical to their strategic defense, these weapons should be open to discussion, primarily because the differentiation between "strategic" and "tactical" nuclear weapons is no longer as important as in days past. The distinction may have had significant prior merit, but the technological and geopolitical developments that have occurred over the past several decades suggest the need for a new approach. Colin Gray has correctly observed that military activity is inherently tactical, but also points out that the consequence of all military activity is the realm of strategy.<sup>47</sup> This holds true regarding nuclear weapons. The use of nuclear weapons to achieve military objectives is tactical in nature, but the consequences or effects of their use should and must be considered strategic.

Consequently, future language in a new treaty with Russia or any other country should address all classes and types of nuclear weapons, including shorter-range or "tactical" nuclear weapons.<sup>48</sup> Nuclear deterrence concerns all types and sizes of nuclear weapons and delivery systems. Arms control efforts to limit the future nuclear arsenals should therefore address the full spectrum of a country's nuclear capability.

### Conclusion

It is likely that the role and size of the U.S. nuclear arsenal will continue to be debated because of the advocacy of arms control groups and the ongoing pressure to find savings within the U.S. defense budget. This advocacy and fiscal pressure may indeed lead to further reductions in the nuclear arsenal or to additional delays in efforts to modernize and maintain the arsenal. Any reduction in the number of nuclear warheads should be made with a serious consideration of the

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<sup>45</sup> Global Zero U.S. Nuclear Policy Commission, *Global Zero U.S. Nuclear Policy Commission Report*, 7.

<sup>46</sup> *Ibid.*, 8.

<sup>47</sup> Gray, Colin S., *Modern Strategy* (London: Oxford University Press, 1999), 18.

<sup>48</sup> Such an agreement may be seen as inconsequential to China, whose arsenal is not assessed to include any tactical or low-yield nukes; see Office of the Secretary of Defense, "Military and Security Developments Involving the People's Republic of China" (Washington, D.C.: August 2011): 34, available at: [http://www.defense.gov/pubs/pdfs/2011\\_CMPR\\_Final.pdf](http://www.defense.gov/pubs/pdfs/2011_CMPR_Final.pdf).

risks posed by such reductions. Regardless of the outcome of such reduction discussions, a better understanding of the role of nuclear deterrence—and extended deterrence—and the implications of the Law of Armed Conflict regime, would allow for a more careful discernment of preferred actions regarding the future U.S. nuclear strategy, posture, and the proper employment of American nuclear arms.

A more careful assessment of and approach to the use of American nuclear weapons must: avoid undue reductions in the size of the overall arsenal; maintain a range of nuclear response options, to include a capacity for responding with small-yield nuclear devices and those delivered via ICBMs or SLBMs; and insist on the inclusion of Russian tactical nuclear weapons during future treaty negotiations.

Maintaining effective deterrence and ensuring future non-use of nuclear arms is an expensive proposition, but the alternative of deterrence failing and a state-to-state nuclear exchange is many times more costly and severe. The maintenance of a nuclear capacity is necessary to ensure a strong deterrent capability and to provide an extended guarantee of security to American allies. Such a plan will require a substantial but necessary investment. A failure to provide for adequate financial resources now may prove to be both costly and devastating in the future. It would be wise to provide adequate investments now to reduce such risk.