

# BACKGROUND

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## Deterrence and Nuclear Targeting in the 21st Century

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### Abstract

*The Obama Administration is apparently considering further reductions of U.S. nuclear forces based on the misguided notion that the world is safer when America adopts a nuclear deterrence posture based on a minimal level of effectiveness. In contrast, a sound targeting policy consistent with a “protect and defend” strategy for the U.S. and its allies and friends indicates that the U.S. should maintain approximately 2,700 to 3,000 operationally deployed warheads and be flexible enough to permit continuous updates. These numbers also assume that the U.S. will modernize its delivery systems and upgrade its command and control structure to meet counterforce targeting requirements. Increasing and maintaining the U.S. military’s asymmetric advantage will protect the ability of the U.S. to shape events, rather than be controlled by the wills of other nations.*

This paper, in its entirety, can be found at <http://report.heritage.org/bg2747>

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News reports indicate the Obama Administration is seeking to further reduce the number of deployed warheads in the U.S. long-range nuclear force to between 300 and 1,100.<sup>1</sup> In contrast, this analysis concludes that the appropriate number of operationally deployed warheads should range between 2,700 and 3,000.

The targeting policy recommended in this report responds to the multiplying strategic threats that the U.S. will likely face as result of the spread of ballistic missile and weapons of mass destruction technologies. It reflects U.S. values and strengthens credibility of U.S. deterrence. The targeting policy and the targeting requirements that follow from that policy fundamentally drive the number of nuclear weapons in the U.S. arsenal. Further, the analysis provides a general description of the targeting requirements that follow from this policy.

### Five Principles of Nuclear Targeting

The recommended targeting policy is based on five principles.

**Principle #1: The U.S. should accept a concept of deterrence that leads to a targeting policy that is consistent with a “protect**

### KEY POINTS

- News reports indicate the Obama Administration is seeking to shrink the U.S. nuclear force to levels that would leave the U.S. with a less effective nuclear deterrent posture to protect itself and U.S. friends and allies around the world.
- Instead, the U.S. should retain a nuclear arsenal of 2,700 to 3,000 warheads on fully modernized short-range and long-range delivery systems.
- This recommended range of warheads is derived from a “counterforce” targeting policy and a broader “protect and defend” strategy, which are designed to hold at risk the means of strategic attack on both the U.S. and its friends and allies and the means by which foes maintain oppressive control of their domestic populations.
- The nuclear weapon reductions that the Obama Administration is examining appear to be designed to further President Obama’s nuclear disarmament agenda, not to strengthen nuclear deterrence in an effort to protect the U.S. and its allies and friends.

**and defend” strategy for the country and its allies.** U.S. strategic planners should start with a basic concept for deterrence that over-arches the chosen targeting policy. The deterrence posture needs to be credible both to U.S. allies and to current and potential enemies of the U.S. It should reflect the values of the American people and the federal government’s solemn commitment to protect and defend them to the best of its ability.

The Heritage Foundation spelled out this concept for deterrence in a 2008 study.<sup>2</sup> Both before and after the release of the 2008 study, The Heritage Foundation validated this concept in gaming exercises that tested it against requirements for crisis and arms race stability in proliferated settings.<sup>3</sup> This concept for deterrence has become the declared strategic deterrence policy of the United States, as stated in the resolution of ratification accompanying the New Strategic Arms Reduction Treaty (New START).<sup>4</sup>

The declared protect and defend policy explicitly abandons the Cold War concept of deterrence based on strategic vulnerability, also described as a balance of terror policy, which held that the U.S. needed a nuclear force capable of retaliating against an attacking force by destroying undefended population and economic centers.

This change in declared policy follows from the recognition that destroying enemy population and economic centers has little political and military utility to the U.S., especially if it all but invites follow-on strikes against equally undefended U.S. population and economic centers. Further, purposeful attacks on undefended populations are contrary to the values of the American people. The earlier concept for nuclear deterrence makes it readily apparent that a U.S. President is highly unlikely to employ U.S. nuclear forces for these purposes; therefore, the threat of doing so does not represent a credible deterrent.

An effective nuclear deterrence posture, as a part of a broader strategic deterrence posture, cannot be separated from credible options to employ nuclear weapons under specified circumstances. The old deterrence concept is both less effective and immoral. Pursuant to the protect and defend policy declared in the New START resolution of ratification, the U.S. nuclear force, in conjunction with strategic defensive forces and strategic conventional strike forces, will seek to hold at risk the means of strategic attack on the U.S. and its allies. The U.S. government needs to commence building a strategic force, including the portion consisting of nuclear weapons, under the new declared policy.

**Principle #2: U.S. policymakers need to recognize that in the emerging multipolar strategic setting no mechanistic, apolitical equation will identify what must be added to the U.S. nuclear force or may be subtracted without increasing the risk of inviting extremely destructive strategic attacks.**<sup>5</sup> Rather, nuclear deterrence in this setting requires evaluating various factors that may evolve. These factors include the national goals of foes, what dangerous regimes value, and their willingness to take risks. To treat the threat of nuclear war as stemming from the U.S. increasing its security and thereby tipping an imaginary balance, rather than recognizing that dangerous regimes inimical to the U.S. and its allies are the true threat of conflict and war, is to incorrectly portray deterrence as something far more simplistic than it really is. Failure to maintain a dynamic and effective nuclear force because of a misunderstanding of deterrence or an ideological pursuit of ridding the world of nuclear weapons could empower America’s foes and increase the likelihood of a holocaust.

**Principle #3: This analysis does not make a precise recommendation on the number of nuclear weapons that should make up the U.S. arsenal.** The exact number of nuclear weapons

1. The Obama Administration’s plans for the U.S. short-range nuclear arsenal are not clear.
2. Baker Spring, “Congressional Commission Should Recommend ‘Damage Limitation’ Strategy,” Heritage Foundation *Backgrounder* No. 2172, August 14, 2008, <http://www.heritage.org/research/reports/2008/08/congressional-commission-should-recommend-damage-limitation-strategy>.
3. Nuclear Stability Working Group, *Nuclear Games: An Exercise Examining Stability and Defenses in a Proliferated World*, The Heritage Foundation, 2005, <http://www.heritage.org/research/reports/2005/11/nuclear-games-an-exercise-examining-stability>, and Nuclear Stability Working Group, “Nuclear Games II: An Exercise in Examining the Dynamic of Missile Defenses and Arms Control in a Proliferated World,” Heritage Foundation *Special Report* No. 83, July 26, 2010, <http://www.heritage.org/research/reports/2010/07/nuclear-games-ii-an-exercise-in-examining-the-dynamic-of-missile-defenses-and-arms-control>.
4. U.S. Senate, “Treaty with Russia on Measures for Further Reduction and Limitation of Strategic Offensive Arms,” Treaty Doc. 111-5, § c(2), December 22, 2010.
5. Keith B. Payne, *The Great American Gamble: Deterrence Theory and Practice from the Cold War to the Twenty-First Century* (Fairfax, VA: National Institute Press, 2008), p. 75.

that the U.S. needs is unknowable, particularly in a nonclassified setting. To make a specific numerical recommendation is to claim perfect knowledge of the future actions of U.S. foes, all scenarios that may require the U.S. to employ nuclear weapons, and a precise understanding of how strategic defenses and conventional strategic strike systems will influence deterrence. It would require access to classified information about other countries' nuclear and other strategic forces. Therefore, recognizing the complexity of the calculations, this report takes a more flexible approach and recommends a range for the number of nuclear weapons. The quantity and quality of nuclear weapons, including both warheads and delivery systems, is whatever it takes to present a compelling, credible deterrent in the minds of current and projected U.S. foes and to offer real, credible assurance to U.S. allies. Further, the actual number of nuclear weapons in the U.S. arsenal will fluctuate within this range on a continuous basis in response to evolving circumstances.

**Principle #4: The U.S. strategic force, including its nuclear component, must give the President options that allow him to employ the force with precision by holding at risk a spectrum of**

**targets.** This flexibility and precision is necessary because, when an employment decision is imminent, the President will need to meet the specific threat at hand. Of course, the U.S. will need to plan and construct the required nuclear force well in advance, anticipating a wide variety of circumstances, not in response to a specific, imminent circumstance.

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**THE QUANTITY AND QUALITY OF U.S. NUCLEAR WEAPONS IS WHATEVER IT TAKES TO PRESENT A COMPELLING, CREDIBLE DETERRENT IN THE MINDS OF CURRENT AND PROJECTED U.S. FOES AND TO OFFER REAL, CREDIBLE ASSURANCE TO U.S. ALLIES.**

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**Principle #5: The nuclear force must be safe and reliable.** A decaying, vulnerable, or unsafe force is not a credible force and is therefore less effective in deterring foes and assuring allies. While this report makes a recommendation on appropriate force levels, modernizing the current U.S. nuclear weapons force and its design and industrial complex is of utmost importance and urgency.<sup>6</sup>

**Deterrence in a World with Other Nuclear-Armed Players**  
The contemporary American

political leadership led by President Barack Obama is making a concerted effort to take the world to zero nuclear weapons.<sup>7</sup> The President outlined his vision in his April 2009 speech in Prague.<sup>8</sup> The 2010 Nuclear Posture Review (NPR) Report listed “Reducing the role of U.S. nuclear weapons in U.S. national security strategy” and “Maintaining strategic deterrence and stability at reduced nuclear force levels” as two of the Administration’s five aims regarding the U.S. nuclear posture.<sup>9</sup>

On February 2, 2011, President Obama took a significant step toward this wrongheaded goal by signing the New START instruments of ratification, presumably as instructed by the U.S. Senate.<sup>10</sup> According to the Obama Administration, the treaty stipulates that the U.S. and Russia will cap their accountable deployed strategic nuclear warheads at 1,550 and deployed delivery vehicles at 700, a 74 percent reduction from the limits of the 1991 START and a 30 percent reduction in the allowed number of real deployed strategic warheads under the 2002 Strategic Offensive Reductions Treaty (the Moscow Treaty).<sup>11</sup> Despite the still uncertain effects of reducing the size of the force, on March 26, 2012, President Obama flippantly remarked in Seoul that the U.S. has

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6. Baker Spring and Michaela Bendikova, “Time to Modernize and Revitalize the Nuclear Triad,” Heritage Foundation *Backgrounder* No. 2646, January 27, 2012, <http://www.heritage.org/research/reports/2012/01/time-to-modernize-and-revitalize-the-nuclear-triad>.

7. See Barack Obama, remarks in Prague, Czech Republic, April 5, 2009, [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) (accessed October 24, 2012), and Rose Gottemoeller, keynote speech to Arms Control Association, June 4, 2012, <http://www.armscontrol.org/events/Join-ACA-June-4-Our-Annual-Meeting%20#keynote> (accessed October 24, 2012).

8. Obama, remarks in Prague.

9. U.S. Department of Defense, “Nuclear Posture Review Report,” April 2010, p. iii, <http://www.defense.gov/npr/docs/2010%20nuclear%20posture%20review%20report.pdf> (accessed October 24, 2012).

10. It is possible to only presume the content of the U.S. instrument of ratification to New START. The Heritage Foundation has filed a Freedom of Information Act request for copies of both the U.S. and Russian instruments, but has yet to receive them.

11. Macon Phillips, “The New START Treaty and Protocol,” The White House, April 8, 2010, <http://www.whitehouse.gov/blog/2010/04/08/new-start-treaty-and-protocol> (accessed October 24, 2012). The warhead limit under New START is an accountable number because the treaty permits both sides to deploy as many warheads on heavy bombers as they want and still have each bomber count as only one warhead under the limit.

“more weapons than we need,”<sup>12</sup> signaling that he intends another round of cuts in the near future.

Although the Obama Administration is responsible for the most recent cuts and the attempt to take the U.S. force to radically lower levels, the U.S. has reduced the number of nuclear weapons in its stockpile by 75 percent since the end of the Cold War. In spite of this effort to prevent the spread of nuclear weapons, material, and technology by lowering the number of U.S. nuclear weapons, no evidence suggests U.S. reductions have “set an example” that other countries would follow. To the contrary, more countries possess weapons of mass destruction (WMDs) now, and dangerous regimes inimical to U.S. interests are determinedly pursuing these capabilities, publicly threatening highly destructive attacks on the United States and U.S. allies.

Some advocates of nuclear disarmament speculate that nuclear weapons should necessarily play a lesser role in U.S. security planning because nuclear deterrence no longer “works” in the post-Cold War world in which the several nuclear powers vary in character and intentions.<sup>13</sup> Yet no evidence supports this argument. To the contrary, the growing complexity and uncertainty of the global threats suggest that the U.S. should increase its options to deter and defend, not decrease them. The motivations and character of the modern threats may have changed

since the Cold War, but the basic principles of deterrence have not.

At the heart of nuclear deterrence is the foe’s perception that the consequences of attacking the U.S. or U.S. allies with strategic weapons would far outweigh the benefit of doing so. Put another way, “[d]eterrence is a state of mind brought about by the existence of a credible threat of unacceptable counteraction.”<sup>14</sup> As such, determining an effective U.S. targeting policy begins with assessing the character of each foe and identifying the instruments of power they value most. Contemporary foes value most:

- The assets that enable them to blackmail or influence the U.S. by holding the U.S. and its allies at risk of strategic attack and
- The means of maintaining oppressive control of their domestic populations.

As such, the means of strategic aggression and internal oppression should be included in the list of instruments of power that the United States should be prepared to hold at risk.

To convince foes that attacking the U.S. or U.S. allies with chemical, biological, or nuclear weapons would result in an outcome far worse than their current situation, the U.S. must possess a credible ability to target the enemy’s political and military assets in a strategic attack.<sup>15</sup> Such a targeting policy is called

“counterforce.” Strategic planners should develop a list that includes targets for implementing a counterforce strategy.

While establishing target sets for each of America’s current and future foes based on a counterforce policy, it is vital the U.S. maintain moral clarity and certitude about which items the U.S. will never purposely target. Under no circumstances would purposely targeting civilian populations and economic centers further American interests. Targeting civilians and economic centers—“countervalue” in nuclear deterrence parlance—contradicts the ideals that motivate and characterize the United States of America. Moreover, U.S. foes tend not to value the lives of their populations the way that the U.S. does. Therefore, targeting their civilians would not serve as a means of effective deterrence. In addition, if the U.S. claimed to target civilian populations, few states would believe that the U.S. would employ nuclear weapons against such targets because of the nature of the American people. Therefore, such deterrence posture would not be credible.

During the early 1960s, deterrence was discussed in countervalue terms. For example, Jerome Wiesner, science adviser to President John F. Kennedy and President Lyndon B. Johnson, testified before Congress that the U.S. could establish deterrence based on a threat to destroy six of the 10 largest Soviet cities.

12. Barack Obama, remarks at Hankuk University, Seoul, South Korea, March 26, 2012, <http://www.whitehouse.gov/the-press-office/2012/03/26/remarks-president-obama-hankuk-university/> (accessed October 24, 2012).

13. See Global Zero U.S. Nuclear Policy Commission, “Modernizing U.S. Nuclear Strategy, Force Structure and Posture,” May 2012, <http://dl.dropbox.com/u/6395109/GZ%20US%20Nuclear%20Policy%20Commission%20Report.pdf> (accessed October 24, 2012).

14. U.S. Air Force, “Nuclear Operations,” Air Force Doctrine Document 2-12, May 7, 2009, <http://www.fas.org/irp/doddir/usaf/afdd2-12.pdf> (accessed October 24, 2012).

15. See also U.S. Department of Defense, *Dictionary of Military and Associated Terms*, August 15, 2012, s.v. “deterrence,” [http://www.dtic.mil/doctrine/dod\\_dictionary/](http://www.dtic.mil/doctrine/dod_dictionary/) (accessed October 24, 2012).

However, by the mid-1980s, U.S. officials began to publicly explain that the U.S. did not target civilian populations and instead targeted Soviet military assets, including nuclear forces. Nonetheless, the U.S. made clear in public statements that it maintained a limited force, which would allow the Soviets a retaliatory response in the event the U.S. attacked the Soviet Union with nuclear weapons. This created an imaginary mechanistic “strategic balance” or “balance of terror,” which was thought to deter either country from attacking the other. Illustrating this principle, Secretary of State Henry Kissinger praised the 1972 Anti-Ballistic Missile (ABM) Treaty, which codified that neither the U.S. nor the Soviet Union would build effective defenses, noting that it gives Soviet missiles “a free ride” to their U.S. targets.<sup>16</sup>

The George W. Bush Administration deliberately moved away from this balance of terror formulation when it withdrew the U.S. from the ABM Treaty in 2002 and instead worked to develop a strategic policy that included conventional weapons, defensive weapons, and nuclear weapons to provide the strongest possible defense of the American people. The 2001 NPR recognized that the U.S. needs missile defense and conventional weapons to complement its nuclear force in the overall U.S. strategic posture in a post-Cold War environment, in which the U.S. faces a wide and diverse range of threats.<sup>17</sup> This policy,

which The Heritage Foundation has called the protect and defend strategy, has become the declared policy of the United States in the resolution of ratification accompanying New START.<sup>18</sup>

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**THE OBAMA ADMINISTRATION HAS INSTEAD MADE IT A GOAL FOR THE U.S. TO MOVE TOWARD A MINIMAL DETERRENCE STRATEGY RATHER THAN IMPLEMENT A PROTECT AND DEFEND POLICY WITH AN EFFECTIVE COUNTERFORCE TARGETING CAPABILITY.**

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Ten years after the U.S. withdrew from the ABM Treaty and nearly two years since the ratification of New START, the Obama Administration has instead made it a goal for the U.S. to move toward a minimal deterrence strategy rather than implement a protect and defend policy with an effective counterforce targeting capability. In a minimal deterrence strategy, nuclear weapons serve the sole purpose of deterring the first use of nuclear weapons. In explaining the narrow circumstances in which the U.S. may use the threat of nuclear employment to deter the use of chemical and biological weapons, the 2010 NPR states, “The United States is therefore not prepared at the present time to adopt a universal policy that deterring nuclear attack is the sole purpose of nuclear weapons, but will work to establish conditions under

which such a policy could be safely adopted.”<sup>19</sup>

There are two major problems with this goal. First, it requires the U.S. to return to a countervalue strategy because under a minimal deterrence strategy the U.S. would be unable to hold at risk the spectrum of military and political targets that foes need to attack the U.S. or its allies with strategic weapons. Rather, minimal deterrence necessitates the U.S. maintain a small nuclear force and establish a targeting policy and targeting requirements that would inflict enough pain so as to deter first use. The only target sets that fit this description with minimal numbers of nuclear weapons are large population centers. As already discussed, indiscriminately targeting population centers to cause as many fatalities and economic damage as possible is immoral and contrary to American values. It is also ineffective due to the lack of credibility that a U.S. President would ever order such an attack.

Second, if the “sole purpose”—as opposed to the chief purpose—of U.S. nuclear weapons is to deter, one would deduce that this means that the U.S. is effectively barring itself from launching the first nuclear strike and therefore can only be the recipient of a first strike if deterrence fails. More importantly, the logic of this policy dictates that if the U.S. is attacked with nuclear weapons—meaning deterrence has failed—its nuclear weapons would no longer serve any purpose because the policy

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16. Robert Joseph, “Obama Chooses Vulnerability,” *The Washington Times*, June 12, 2012, <http://www.washingtontimes.com/news/2012/jun/12/obama-chooses-vulnerability/> (accessed October 24, 2012).

17. U.S. Department of Defense, “Nuclear Posture Review Report,” reconstructed, December 31, 2001, [http://www.fas.org/blog/ssp/united\\_states/NPR2001re.pdf](http://www.fas.org/blog/ssp/united_states/NPR2001re.pdf) (accessed October 24, 2012).

18. U.S. Senate, “Treaty with Russia,” § c(2).

19. U.S. Department of Defense, “Nuclear Posture Review Report,” April 2010, p. viii.

would not permit the U.S. to retaliate with nuclear weapons. Moreover, if the U.S. maintains a minimal force, it would lack survivability and likely would be completely destroyed by the enemy's first strike in the event deterrence does fail.

In reality, the sole purpose of the Obama Administration's minimal deterrence strategy is to provide a stepping-stone to complete U.S. nuclear disarmament. Clearly, if the U.S. adopts a minimal deterrence posture, which logically bars the use of nuclear weapons under any circumstance, the weapons will necessarily be defined as lacking utility and ready for abandonment on a unilateral basis.

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**IN REALITY, THE SOLE PURPOSE OF THE OBAMA ADMINISTRATION'S MINIMAL DETERRENCE STRATEGY IS TO PROVIDE A STEPPING-STONE TO COMPLETE U.S. NUCLEAR DISARMAMENT.**

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### **Policy for Counterforce Strategic Targeting**

In the context of the protect and defend strategy, the U.S. would have an overall strategic posture consisting of a mix of complementary nuclear, conventional, and defensive forces. It is essential to recognize that nuclear weapons are unique. This is due, in part, to their physical qualities, which enable them not only to hit their targets, but to destroy them with a higher level of

confidence. In February of this year, U.S. Strategic Command's Deputy Director for Plans and Policy Greg Weaver said, "You can't replace nuclear weapons today with conventional capability" because "they don't have the same effects on targets."<sup>20</sup> Dr. Mark Schneider puts it this way, "Ultimately, an attempt to counter a nuclear attack with conventional weapons would be fighting a yield of up to one million to one." Although analysts arguing for significant cuts to the nuclear force often make the case that conventional weapons can hold at risk critical targets, it is highly unlikely that conventional weapons can reach deeply buried, hardened targets. One can deduce that an enemy would keep its most valuable assets in such places. Accordingly, the U.S. needs a credible means of holding them at risk. The National Academy of Sciences has reported that there are 10,000 such targets, mostly controlled by foes of the U.S.<sup>21</sup>

In addition to their physical qualities, nuclear weapons have unique psychological effects. This is because deterrence has everything to do with creating a calculus in the minds of U.S. enemies that attacking the U.S. is not worth the cost. The extreme destructive power of nuclear weapons make their possible employment a more persuasive deterrent. In 2010, General Kevin P. Chilton, Commander of U.S. Strategic Command, warned, "We have to be careful when we start talking about one-for-one substitutions of conventional weapons for nuclear weapons,"

because "the nuclear weapon has a deterrent factor that far exceeds a conventional threat."<sup>22</sup> Since the goal motivating the use of military force is to achieve political objectives and to terminate war on terms favorable to the U.S., it is not necessarily the case that simply because a conventional weapon *can* reach a target that it would be the optimal weapon for the U.S. to employ. The threat of the U.S. employing a nuclear weapon may actually better achieve deterrence aims, and in the event deterrence fails, the employment of a nuclear weapon with its unique physical and psychological attributes may help to end the war on terms more favorable to the U.S.

By the same token, a counterforce strategic targeting policy recognizes that conventional strategic strike weapons and defensive weapons have unique attributes and make essential contributions to deterrence. In some scenarios, conventional strike weapons can cause the least amount of collateral damage while still achieving the desired political aim, and defensive weapons can provide the most effective option for denying an enemy his war aims. Undergirding this broader counterforce strategic targeting policy are the three legs of this strategic posture: nuclear weapons, conventional strategic strike weapons, and defensive weapons and postures. In this context, the three legs reinforce each other to achieve maximal, as opposed to minimal, deterrence.

Regrettably, President Obama's defense budget fails to recognize

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20. Greg Weaver, quoted in Mark Schneider, "Zero Deterrent?" *Air Force Magazine*, August 2012, <http://www.airforce-magazine.com/MagazineArchive/Pages/2012/August%202012/0812Zero.aspx> (accessed October 24, 2012).

21. Schneider, "Zero Deterrent?"

22. General Kevin P. Chilton, quoted in *ibid.*

the benefits of this broader strategic posture.<sup>23</sup> It precludes an adequate conventional strategic strike force. It ensures that the current missile defense architecture can provide only a limited defense against a limited threat and cannot defend against such sophisticated threats as from Russia and China.

Ultimately, a strategic counterforce targeting policy would divide the global target set into three baskets: targets best held at risk by U.S. nuclear weapons, targets best held at risk by conventional strike weapons, and targets best held at risk by defensive weapons and postures (e.g., civil defense steps). This policy would also permit redundancies that would permit placing some targets in more than one basket. For example, an intercontinental ballistic missile (ICBM) in a hardened silo would fall into the first basket, while the same ICBM in flight would fall into the third basket. Applying this counterforce strategic targeting policy makes it possible to determine the subset of targets that should be placed in the nuclear basket and the appropriate size of the overall nuclear arsenal.

### Principles for Contemporary Targeting Policy

Nuclear targeting policy is ultimately established through presidential guidance, which typically takes the form of a directive. Meeting the demands of this guidance, more than anything else, determines the overall size and structure of the U.S. nuclear force. According to a recent report

from the Government Accountability Office (GAO), the current guidance was issued in 2002, although new presidential guidance may be issued as soon as later this year.<sup>24</sup>

Following the application of more detailed guidance from the Secretary of Defense and the Chairman of the Joint Chiefs of Staff, Strategic Command produces the Nuclear Forces Employment Plan. Given the overall structure of this process, presidential guidance has the potential to do enormous damage to U.S. national security if it is conceptually flawed.

A conceptually sound presidential directive on nuclear weapons employment and targeting policy should:

- **State that the central purpose of nuclear targeting policy is to support the protect and defend strategy.** At the outset, a presidential directive for establishing nuclear targeting policy should clearly and concisely state its overall purpose. A conceptually sound guidance document will state that the purpose of the nuclear targeting policy is to support the broader strategic posture of the U.S. in terms of strengthening deterrence by holding at risk the means of strategic attack on the U.S. and its allies in the most effective manner possible. The guidance should also make clear that this statement of purpose has several essential components. The first is that the most credible and effective deterrent strategy for

the U.S. is one based on counterforce strategic capabilities, including the nuclear component. The second is that the U.S. nuclear arsenal, as a part of these broader counterforce capabilities, should be assigned targets that meet the counterforce requirements more effectively than the other capabilities in the broader strategic posture. The third is that the proper definition of the “means of strategic attack” goes beyond nuclear weapons to include any military capability directed against the U.S. and its allies that in large measure has the potential to undermine the political, social, economic, or military viability of the U.S. or its allies.

- **Broadly define the concept of deterrence and acknowledge the essential role of nuclear weapons in achieving effective deterrence.** The presidential directive should not only reaffirm the essential concept of deterrence as convincing any enemy that the costs of a strategic attack on the U.S. will outweigh the benefits, but also commit to enhancing extended deterrence for U.S. allies to protect them and to reassure them in order to enhance the overall alliance structure. U.S. allies under the nuclear umbrella need to believe that the U.S. umbrella has the sufficient strength to protect them. Allies in NATO, South Korea, and Japan still rely on the U.S. nuclear umbrella for their own security.

23. See Baker Spring, “Obama’s Defense Budget Makes Protecting America its Lowest Priority,” Heritage Foundation *Backgrounder* No. 2658, March 1, 2012, <http://www.heritage.org/research/reports/2012/03/obamas-defense-budget-makes-protecting-america-its-lowest-priority>, and Rebeccah Heinrichs, “Providing the Capabilities That the Common Defense Requires,” Heritage Foundation *America at Risk Memo* No. 12-04, March 21, 2012, <http://www.heritage.org/research/reports/2012/05/providing-the-capabilities-that-the-common-defense-requires>.

24. U.S. Government Accountability Office, “Strategic Weapons: Changes in the Nuclear Weapons Targeting Process Since 1991,” GAO-12-786R, July 31, 2012, pp. 5-6, <http://www.gao.gov/assets/600/593142.pdf> (accessed October 24, 2012).

According to Keith Payne, one of the world's foremost experts on nuclear deterrence:

In 2006, immediately following a North Korean nuclear test, Japanese leaders sought assurances from U.S. officials of the credibility of the U.S. nuclear umbrella. The former defense ministers of NATO members Poland, Latvia and Lithuania recently stressed that "any possible reduction in America's nuclear capabilities" in Europe would be contrary to "Europe's security and NATO's cohesion."<sup>25</sup>

U.S. allies must be convinced that the U.S. force will deter aggression against them. Therefore, their perception of U.S. credibility is crucial if U.S. assurances are to dissuade allies from acquiring their own nuclear forces. The explanation should go on to make it clear that nuclear weapons play a unique role in bolstering deterrence in terms of this broad meaning of the term.

- **Account for the deterrence asymmetry.** A long-standing element of U.S. nuclear force planning has been that nuclear weapons are to hold at risk those assets and capabilities that an enemy values most. What is frequently left unstated in this planning is that an authoritarian or totalitarian enemy will have a different view of what is valuable compared with what the U.S. and its democratic allies value. These enemies view their means of strategic attack and internal repression

as their most valuable assets. In contrast, the U.S. and its allies most value the well-being of their populations and their continued social and economic viability. This fundamental asymmetry in deterrence logically leads to the preference for both the protect and defend strategy and the counterforce targeting policy in the overall U.S. strategic posture. Any concept of deterrence that fails to account for this asymmetry will prove fragile and ultimately destabilizing.

- **Acknowledge the unique features of nuclear weapons in meeting U.S. deterrence goals.** Nuclear weapons are highly destructive weapons, which can impose high costs on the enemy, ultimately protecting and saving American lives. However, the same destructive power can become self-detering as opposed to enemy deterring because the lethality of nuclear weapons tempts a democratic power such as the U.S. to conclude that employing nuclear weapons is never appropriate. Of course, such a conclusion undermines deterrence, putting at risk the lives of Americans and American allies and the very survivability of free societies. Accordingly, the presidential nuclear targeting policy guidance must navigate the field of nuclear employment options with great care in order to preserve the credibility of deterrence. For the U.S., this means foreswearing, both privately and in declaratory policy, the use of nuclear weapons to purposefully

kill large numbers of enemy civilians or to destroy economic centers in revenge for a strategic attack. It also means declaring that the U.S. government's highest priority is to protect and defend the populations, territories, institutions, and infrastructure of the U.S. and its allies to the best of its ability. In this carefully constructed context, the directive should clearly state that the U.S. will preserve the option to use nuclear weapons to honor this priority, even though their use will cause widespread death and destruction. Ultimately, the U.S. government can best enhance the credibility of its nuclear deterrent by establishing the appropriate linkages between ends and means.

- **Establish a global nuclear target set.** Given current trends in the spread of the technologies that constitute the means of strategic attack, the presidential directive should make it clear that the U.S. will seek to hold at risk—with nuclear weapons where appropriate—the capabilities of strategic attack on a worldwide basis. Arbitrary geographic distinctions have no place in a sound nuclear employment guidance document.
- **Account for both current and future strategic adversaries in nuclear targeting policy.** The strategic threats to the U.S. and its allies are not static. They evolve dynamically in both directions. The process of establishing nuclear targeting requirements should start with current threats, but be flexible enough to permit

25. Keith Payne, "Zero Nuclear Sense," *The Washington Times*, May 29, 2012, <http://p.washingtontimes.com/news/2012/may/29/zero-nuclear-sense/> (accessed October 24, 2012).



continuous updates. This is also a reason why the targeting requirements should permit a range in the number of nuclear weapons in the U.S. arsenal. On the other hand, the directive should identify the states that currently constitute the potential strategic adversaries to the U.S. and its allies in order to define the nuclear targeting requirements appropriately.

- **Permit nuclear planning to account for the capabilities of nuclear-armed allies.** U.S. nonproliferation policy and treaty obligations do not permit direct U.S. support to the nuclear weapons activities of non-weapons states under the Non-Proliferation Treaty (NPT). However, nonproliferation policy notwithstanding, the U.S. could plausibly, if not likely, find in the future that it has friends and allies that are new de facto nuclear-armed states. Presidential guidance should permit nuclear weapons planners to account for such proliferation in U.S. targeting options and other aspects of nuclear employment. Ultimately, such circumstances could present both opportunities to enhance deterrence and risks to undermine it. Whatever the implications in specific circumstances, U.S. nuclear planners cannot afford to ignore the issue.
- **Require nuclear targeting policy to provide the President with varied options for the employment of nuclear weapons.** Reportedly, the current nuclear directive does not provide

for a single, overarching nuclear employment plan, or what used to be called the Single Integrated Operational Plan, but a number of differing options tailored to identified circumstances.<sup>26</sup> This approach should be preserved in future nuclear targeting directives.

- **Require nuclear targeting policy to identify the category of targets, as it has traditionally.** Given the counterforce targeting that is recommended by this study, appropriate targets would include political and military leadership; security forces that protect the political leadership and oppress citizenry; command and control facilities, including space-based facilities; WMDs and their delivery systems, including ICBM bases, submarine bases, air bases, and facilities that house deployed or non-deployed launchers, missiles, bombers, and chemical, biological, and nuclear warheads; and industrial facilities that support the nation's ability to execute a nuclear attack. These include production facilities, ICBM-loading facilities for both silos and mobile launchers, repair facilities, storage facilities, training facilities, test ranges, and space launch facilities.
- **Recognize that a counterforce targeting policy requires a robust nuclear command and control structure.** Counterforce targeting requires that the nuclear command and control structure be both survivable and capable of supporting

highly precise and timely nuclear strikes. Accordingly, the directive should instruct the Department of Defense to undertake a comprehensive review of the nuclear command and control system and, where necessary, to upgrade the system to meet counterforce targeting requirements.

- **Maintain the U.S. nuclear forces on a high state of alert.** Proposals to “de-alert” the U.S. nuclear force assume that the force is on a “hair trigger” status and can easily result in an accidental launch. This is not the case. A de-alerted force is incompatible with meeting the needs of a counterforce strategy. In addition, re-alerting in a time of a crisis could be incorrectly perceived as a step toward escalation by opponents, potentially leading to a destabilizing “re-alerting race.”<sup>27</sup>
- **Maintain a survivable U.S. nuclear force to preserve strategic stability.** Survivability depends on both qualitative and quantitative steps. Qualitatively, survivability depends on basing modes that are either inherently survivable or present a daunting array of challenges to U.S. enemies trying to launch a disarming strike. These qualitative measures are an argument for the preservation of the nuclear triad. Quantitatively, survivability requires fielding a sufficient number of U.S. nuclear weapons to allow some attrition without jeopardizing the attainment of counterforce targeting objectives.

26. Ibid., p. 5.

27. Tim Miller and Rebecca Davis, “De-Alerting Nuclear Forces,” U.S. Air Force Academy, Institute for National Security Studies, 2009, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA536263> (accessed September 25, 2012).

- **Direct U.S. diplomats to pursue arms control as a tool for enhancing deterrence in accordance with the counterforce strategy.** Arms control, if pursued properly, can enhance deterrence. In the context of a counterforce nuclear targeting policy, nuclear arms control should focus on achieving two outcomes. First, the U.S. should try to persuade other nuclear-armed states to adopt fundamentally defensive strategic postures. With this outcome, nuclear-armed states will not purposely attack population and economic centers with their nuclear forces and will assume strategic postures that are fundamentally defensive.<sup>28</sup> Competitively, the U.S. should use arms control to seek the dismantlement of weapons that pose the greatest difficulty for executing its counterforce targeting plan. Under no circumstances should arms control be permitted to place barriers against the implementation of the counterforce nuclear policy.
- **Direct the Defense Department to modernize the U.S. nuclear force.** Executing a counterforce targeting policy requires a U.S. nuclear arsenal that is optimized for holding at risk the categories of targets listed earlier in this paper. This means an arsenal, including both nuclear delivery vehicles and warheads, that permits timely attacks on the intended targets, is highly accurate, is capable of destroying hardened and mobile targets with high confidence, and produces yields that are high

enough to destroy hardened targets and low enough to limit collateral damage to the extent that the counterforce goals permit. Such a modernization program will require a much stronger commitment to nuclear modernization, including robust funding levels, than current funding under the Obama Administration.

- **Maintain sufficient numbers of nuclear weapons to meet counterforce targeting requirements.** By necessity, the number of targets will largely determine the number of long-range and short-range nuclear weapons in the U.S. arsenal. As indicated earlier, the number will actually be a range and the specific number of weapons in the arsenal at any particular time will change according to evolving circumstances. A later section of this paper provides a general discussion of the required numbers and addresses the proper sizing of the U.S. nuclear force.

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THE PROCESS OF ESTABLISHING  
NUCLEAR TARGETING REQUIREMENTS  
SHOULD START WITH CURRENT  
THREATS, BUT BE FLEXIBLE ENOUGH  
TO PERMIT CONTINUOUS UPDATES.

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**Nuclear Targeting  
Requirements for the  
Protect and Defend Strategy**

Military planners have the responsibility to translate presidential nuclear targeting and employment directives as augmented by the Secretary of Defense and Chairman of the Joint Chiefs of Staff into

targeting requirements and to set the “military characteristics” for nuclear weapons. These serve as a guidance when the National Labs design nuclear forces. The military is responsible for deploying the nuclear forces to meet the President’s requirements.<sup>29</sup> Once directed that the U.S. will pursue a counterforce policy, military planners would compile a target list for each current or future strategic foe based on the five targeting categories, determining which offensive weapons would *most effectively* and with *the highest level of confidence* hold such targets at risk.

Military operations planners must then consider the various scenarios in which a foe might employ nuclear weapons and how the U.S. might respond to exact an outcome favorable to the United States. To do this, the U.S. must maintain a nuclear force that can hold at risk the full spectrum of targets within the five targeting categories and maintain the ability to execute an effective strike plan. This would communicate to the aggressor that the U.S. is able and willing to launch strikes that would make the cost of continuing or escalating a war against the U.S. or U.S. allies too high for the enemy.

In addition, the U.S. planners need to build “damage expectancy”—the reliability of each weapon to perform precisely as designed—into their requirements. A foe or coalition of foes would very likely attack U.S. nuclear forces first, destroying or neutralizing some U.S. weapons before the U.S. could use them. The U.S. needs to have enough nuclear weapons on hand to absorb such losses. Moreover, the likelihood that each surviving weapon will perform

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28. Andrei Shoumikhin and Baker Spring, “Strategic Nuclear Arms Control for the Protect and Defend Strategy,” Heritage Foundation *Backgrounders* No. 2266, May 4, 2009, <http://www.heritage.org/research/reports/2009/05/strategic-nuclear-arms-control-for-the-protect-and-defend-strategy>.

29. U.S. Government Accountability Office, “Strategic Weapons.”

exactly as intended without error or delay is minimal.

Just as Iran, Russia, and China are building defensive systems to complement their strategic offensive force, the U.S. needs to allocate warheads to suppress the defensive systems of enemy countries to maximize the effect of its offensive weapons. U.S. ICBMs have missile defense countermeasures, and nuclear cruise missiles have the ability to evade missile defenses. These attributes make them critical elements of the U.S. nuclear force, especially for defense suppression. The force must also be large enough that no country will believe strategic parity with the U.S. is achievable.

### **Sizing the U.S. Nuclear Arsenal**

Sizing the U.S. nuclear force to meet targeting requirements is necessarily a “bottom-up exercise” in which Strategic Command will ultimately design the U.S. long-range and short-range nuclear forces based on the targets that it identifies. As indicated earlier, this will not result in a single preferred number of U.S. weapons. Rather, it will result in a range of numbers. In order to describe how the process should work, this analysis provides the following examples, one for long-range nuclear weapons and one for short-range nuclear weapons.

**Example #1: Targeting Requirements for Countering Russian ICBMs.** According to outside analysts, Russia had about 320

deployed ICBMs as of early 2012.<sup>30</sup> A State Department report on the aggregate number of deployed strategic nuclear delivery vehicles (ICBMs, submarine-launched ballistic missiles, and bombers) states that as of March 1, 2012, Russia possessed 494.<sup>31</sup> Because Russia’s deployed ICBMs are mostly in hardened silos, this force is beyond the capabilities of conventional arms to hold at risk with high confidence. Furthermore, the U.S. possesses only about 30 deployed missile defense interceptors that can intercept ICBMs, which should be considered a necessary redundant capability with U.S. strategic nuclear strike weapons in meeting targeting requirements to counter the Russian ICBM force. Further, it is reasonable to assume that the U.S. will need to allocate two strategic nuclear warheads to each Russian ICBM silo in order to attain high confidence in destroying this portion of the global target set and to account for attrition of U.S. weapons following an initial Russian strike.

Accordingly, holding at risk the Russian ICBM force alone would require a U.S. nuclear force of roughly 640 warheads. Under New START, Russia is permitted to increase its aggregate number of long-range nuclear delivery systems to 700. Assuming Russia retains the current percentage of ICBMs in its total force, by 2018 it will have about 455 deployed ICBMs. This future Russian ICBM force will then require more than 900 U.S. strategic nuclear warheads to meet counterforce

targeting requirements. Obviously, this warhead requirement does not extend to the plethora of additional targets in the global target set. These additional targets include other nuclear weapon targets, such as long-range bomber and ballistic missile submarine bases; non-nuclear weapons targets, such as some types of biological and chemical munition; non-weapon targets such as command and control facilities; and certain military industrial facilities, such as strategic weapons production plants, depots, and storage areas. Finally, it is essential to remember that a portion of targets exist in select countries outside Russia.

**Example #2: Targeting Requirements for Countering Russian Short-Range Nuclear Weapons.** Estimating the number of Russia’s deployed short-range nuclear weapons is difficult because the Russian government has insisted that its arsenal remain unrestricted and that short-range weapons be excluded from arms control treaties. In 2008, Amy Woolf of the Congressional Research Service estimated the Russians had roughly 3,000 such weapons and as many as 8,000 if nondeployed weapons are counted.<sup>32</sup> This compares with her estimate that the U.S. had somewhat more than 500 short-range nuclear weapons, mostly deployed at bases in Europe, and some 1,100 if non-deployed weapons are included.<sup>33</sup> Assuming these force structures are roughly similar today and that only a percentage of the Russian deployed

30. Hans M. Kristensen and Robert S. Norris, “Russian Nuclear Forces, 2012,” *Bulletin of the Atomic Scientists*, March 5, 2012, <http://bos.sagepub.com/content/68/2/87> (accessed August 20, 2012).

31. U.S. Department of State, “New START Treaty Aggregate Numbers of Strategic Offensive Arms,” June 1, 2012, <http://www.state.gov/t/avc/rls/191580.htm> (accessed August 20, 2012).

32. Amy F. Woolf, “Nonstrategic Nuclear Weapons,” Congressional Research Service *Report for Congress*, July 29, 2008, pp. 17-18, [http://assets.opencrs.com/rpts/RL32572\\_20080729.pdf](http://assets.opencrs.com/rpts/RL32572_20080729.pdf) (accessed October 24, 2012).

33. *Ibid.*, pp. 13-15.

and nondeployed short-range nuclear weapons constitute discrete targets, the U.S. would need to increase its own arsenal by at least several hundred to meet counterforce targeting requirements, even on a one-weapon-per-target basis and accounting for the fact that some portion of the Russian short-range nuclear force may be targeted with conventional strike weapons and countered with defensive systems. This also assumes that the deployed U.S. short-range nuclear force would be modernized and deployed in a fashion to meet the same counterforce targeting requirements.

While this is necessarily a rough estimate, it is reasonable to assume that the U.S. needs a minimum of 800 short-range nuclear weapons that are modernized for rapid delivery in order to meet counterforce targeting requirements relative to the Russian short-range nuclear weapons. As with the example for U.S. long-range nuclear forces, it is essential to acknowledge that U.S. short-range nuclear forces will have other targets outside Russia's short-range nuclear force, including other targets in Russia itself and targets in other countries that pose strategic threats to the U.S. and its allies.

At the time of the 2001 Nuclear Posture Review, the U.S. government concluded that it would need a long-range nuclear arsenal of 1,700 to 2,200 operationally deployed warheads.<sup>34</sup> This range was later codified in the Moscow Treaty, which required the U.S. to meet this range of numbers by the end of this year.<sup>35</sup>

The public briefing on the 2001 study did not include explicit proposals for changing the overall size of the short-range nuclear force. However, it did acknowledge that the U.S. needed to be prepared to address a variety of regional threats in ways that would include U.S. nuclear forces.

Regarding the long-range nuclear force structure, current analysis suggests that the U.S. needs a deployed force that is at the upper range of what was proposed in 2001, assuming that force is modernized to meet counterforce targeting requirements. The U.S. short-range nuclear force needs to be increased by several hundred, even in the context of a thorough modernization effort. This means the total U.S. nuclear force should number between 2,700 and 3,000 operationally deployed warheads for the years ahead. The numbers may go above or below this range only if major strategic developments merit a comprehensive review of U.S. nuclear targeting requirements. The designs of the strategic posture and nuclear targeting policy that are proposed by this paper are such that they should remain in place indefinitely.

## Conclusion

It is a misguided notion that the world is safer when America is weaker. All national security policy should strive first and foremost to protect the American people and U.S. allies. To do this, policymakers should increase and maintain U.S. military strength, thereby protecting the ability of the U.S. to shape events,

rather than be controlled by the wills of other nations. Arms control and diplomacy can be means to this end, but confusing them for ends in themselves is folly.

American nuclear weapons deter aggression and protect America and its allies. Nuclear weapons themselves are not a threat to peace. Rather, the actors who would seek to harm peaceful nations pose the threat. Accordingly, the U.S. must conceive of a deterrence posture that is convincing to both the allies and current and potential enemies of the U.S. and that reflects the values of the American people and the federal government's solemn commitment to protect and defend them to the best of its ability. In order to convince foes that attacking the U.S. or U.S. allies with chemical, biological, or nuclear weapons would result in an outcome far worse than the current situation, the U.S. must possess a credible ability to target the enemy's political and military assets in a strategic attack.

Such a force preserves peace. Failing to maintain such a force due to an ideological opposition to nuclear weapons themselves would only invite aggression and increase the likelihood of nuclear holocaust.

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34. J. D. Crouch, "Special Briefing on the Nuclear Posture Review," U.S. Department of Defense, January 9, 2002, <http://www.defense.gov/utility/printitem.aspx?print=http://www.defense.gov/transcripts/transcript.aspx?transcriptid=1108> (accessed August 21, 2012).

35. U.S. Department of State, "Treaty Between the United States of America and the Russian Federation on Strategic Offensive Reductions," May 24, 2002, <http://www.state.gov/t/avc/trty/127129.htm#1> (accessed August 21, 2012). The Moscow Treaty was replaced by New START upon New START's entry into force in February 2011.