



Center for a  
New American  
Security

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## Testimony before the House Armed Services Subcommittee on Strategic Forces Adapting U.S. Nuclear Strategy and Posture to a More Contested and Competitive World

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Mr. Chairman, Ranking Member Cooper, and distinguished members of the committee, thank you for inviting me to testify today on the future of America's nuclear deterrent. It is an honor to speak to you today on this matter of the greatest importance to our nation's security.

Continuity has been a hallmark of U.S. nuclear policy and posture, but so too have adaptation and evolution. This is only natural, as effective deterrence is not the result of a static formula divorced from context but rather the product of relating credible threats to the scale, scope, and intensity of the challenges to the nation's security. If, then, the U.S. nuclear posture is to be effective in deterring potential adversaries and reassuring allies and partners, it must adapt to the strategic and military-technological circumstances the nation and the beneficiaries of its extended deterrent face. And the fact is that contemporary and likely future circumstances require substantial adaptation of our nuclear strategy and posture.

### The Changing Global Geopolitical and Military-Technological Landscape

We are entering a period of significant and possibly dramatic change in both the geopolitical and military-technological spheres. First, global geopolitics are becoming markedly more contested, and are increasingly being defined by the rise of a more capable and assertive China, a resurgent and revanchist Russia, and a host of more powerful regional players whose strategic trajectories are uncertain. This is a world in which the United States can and should strive to maintain its leading position, but in which it will face more serious competition in seeking to do so.

These dynamics will have significant ramifications in the nuclear policy realm because these tectonic shifts in power, and the new ambitions they will enable, look set to put increasing pressure on the legacy U.S.-led security architectures in Europe, East Asia, and the Middle East. In brief, the United States is likely to confront more significant challenges to its interests and alliances from more capable powers than appeared likely to be the case even a few years ago – particularly from China in Asia and from Russia in and around Europe.

*Bold.*

*Innovative.*

At the same time, the military-technological environment is also undergoing rapid and in some cases profound change in ways that will substantially influence U.S. nuclear policy. Most importantly, as the Pentagon has been increasingly making clear, a growing number of countries are exploiting the opportunities provided by advanced technologies to improve the potency, reach, and flexibility of their military forces. This is true above all of China and Russia, which are – not coincidentally – also the United States’ prime competitors in the nuclear sphere.

In practice, this means that U.S. conventional military advantages over its plausible opponents will likely narrow, particularly with respect to China and, to a lesser degree, Russia. This will represent a marked shift from the era following the Cold War, when U.S. nonnuclear forces enjoyed a commanding mastery over potential adversaries, an ascendancy that effectively allowed the United States to rely on these forces for dealing with nearly all plausible contingencies about which it cared. Looking to the future, however, the United States will have to strive – vigorously in certain domains and regions – for nonnuclear military advantage rather than simply assume it.

The combination of these geopolitical and military-technological developments will have substantial implications for U.S. nuclear policy. The geopolitical developments mean that the United States is likely to face renewed strategic competition with countries that wish to revise the regional orders they inhabit or even the global order by exploiting their newfound strength with respect to the United States and its traditional allies. This will heighten the possibility of serious conflict with major nuclear-armed powers, necessitating that the United States grapple more earnestly with the possibility of conflict under the nuclear shadow and even with the possibility of nuclear conflict itself. At the same time, because of the growing competitiveness of the military forces of its potential adversaries, the United States will not be able to rely so significantly and so confidently on its nonnuclear forces to deter and, if necessary, to prevail against its and its allies’ opponents. This means that the United States may need to consider shifting more weight on to its nuclear forces in order to compensate for the diminished coercive power of its conventional military.

## **U.S. Nuclear Strategy**

In light of these significant and continuing changes, the United States will therefore need to think anew about the roles and missions of its nuclear forces, their composition, how they and their potential employment are best explained, and how they should be postured and, if need be, used. The entry into office of a new presidential administration in January 2017 will offer an excellent opportunity for such new thinking. Much continuity will be in order, as there is much in past nuclear policy that can and should be carried forward; moreover, it is important for the United States to signal stability and continuity in such a weighty matter.

Nonetheless, a revised U.S. nuclear policy should also depart in important respects from past thinking, including the 2010 Nuclear Posture Review, which focused on continuing reductions in the numbers and narrowing the salience of U.S. nuclear forces, prioritized addressing nuclear terrorism rather than the deterrence of major war and aggression as the prime focus of U.S. nuclear policy, and effectively established a policy by which the United States would extend a basically static and progressively shrinking nuclear force into the indefinite future. This review reflected an underlying confidence that geopolitical and military-technological conditions would not materially worsen for the United States and its allies. Yet such confidence now appears unfounded, and thus a new look is in order.

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An appropriately revised nuclear policy and posture would adapt the nation's nuclear policy and posture to this new era while remaining in basic and primary continuity with the long-established U.S. approach toward the nation's reliance on "the absolute weapon." In particular, such an approach would emphasize a greater degree of discrimination and flexibility in the U.S. posture.

### *The Roles and Missions of U.S. Nuclear Weapons*

The principal role for U.S. nuclear weapons should continue to be to deter major aggression and coercion of all kinds against the United States and its allies. The United States should seek to rely where possible – at reasonable cost and risk – on its and its allies' conventional forces for deterrence, but U.S. nuclear forces should serve as a backstop for these conventional forces should they fail to achieve U.S. objectives or if the costs or risks of such an effort become too great. While the United States should rely on its nuclear forces for more than solely deterrence of nuclear attack, they should be reserved only for the most severe types of nonnuclear aggression.

That said, given ongoing trends in the global security environment, the relative value of U.S. nuclear weapons will likely rise. This is both because nuclear weapons have become or are likely to become more salient in the strategies and military postures of Russia, China, and North Korea and because at least some potential U.S. adversaries, particularly China, are likely to become relatively stronger and be able to challenge U.S. conventional military advantages, especially regionally. These factors mean that, if the United States continues to want to extend deterrence effectively, it will need to rely more than it has in the recent past on its own nuclear forces in order to compensate for its diminished conventional advantages to deter and, if necessary, prevail against the strategies and capabilities of its potential adversaries.

To accomplish this, U.S. nuclear weapons need to do more than threaten unhindered devastation, particularly if America's extended deterrent is to remain credible and effective. Under continuing conditions of U.S. conventional superiority in areas of vital interest, nuclear weapons should play an important reserve role in U.S. planning regarding war termination and escalation control, primarily as a deterrent to a losing adversary's effort to "cheat" the rules of a war that the United States is winning and wishes to keep conventional. In this role, U.S. nuclear forces will provide a powerful disincentive to an adversary contemplating seeking to use its nuclear forces to dramatically escalate a conflict and either break U.S. or allied will or short-circuit U.S. conventional dominance. U.S. nuclear forces will need to be appropriately structured and tailored to respond to such a limited nuclear attack.

In a situation in which the United States has lost the conventional advantage, however, U.S. nuclear weapons should play a vital role in bringing a war the United States and its allies are losing to a tolerable close. While such a loss of conventional advantage appears unlikely for the nearer term, this eventuality could develop in particular in maritime Asia, where the United States could lose its conventional dominance should it not take sufficiently effective and resolute actions to maintain its margin over China. In such an event, U.S. nuclear forces will need to provide the United States with credible options for controlled escalation against China, options designed to telegraph firm U.S. resolve to continue escalating, positively influence the conventional military conflict that would be the presumed precursor for such use, and demonstrate a willingness to end the conflict on mutually satisfactory terms.

### *Declaratory Policy*

U.S. declaratory policy should emphasize U.S. resolve and ability to employ nuclear weapons to defeat or retaliate against major aggression while simultaneously emphasizing U.S. commitment to the responsible stewardship of and restraint regarding these awesome weapons. The United States should

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therefore state that it stands ready to use nuclear weapons in the event of major aggression against itself or its allies, but that it will only contemplate employment of its arsenal in extreme circumstances and for strategically defensive purposes. The precise contours of these criteria should be left deliberately ambiguous, but the doctrine should be explained as one designed to chill adversaries' consideration of resorting to the use of nuclear weapons, strategically significant weapons of mass destruction (WMD), massive conventional force, or comparable forms of violence against the United States or its allies.

Finally, the United States should emphasize that it will seek to “minimize” (rather than “reduce,” as in the current parlance) its reliance on nuclear forces in its security strategy. This emphasis should be designed to suggest the interest of the United States in keeping the salience of its nuclear forces as modest as feasible without pledging a continuing reduction, a reduction that cannot be justified divorced from the strategic context.

### ***Employment Policy***

In addition to ensuring the basic retaliatory deterrent function that has always been a longstanding focus of the nation's nuclear policy, U.S. employment policy should emphasize U.S. capability for and willingness to wield nuclear weapons discriminately. That is, while the ultimate source of U.S. deterrence should remain the threat of the overwhelming devastation that would be wrought by release of the full power of the U.S. nuclear force, the United States should also prepare for and make clear that it would, as appropriate, use its nuclear force in more limited fashion for more focused effect.

In particular, the United States should develop capabilities, options, and doctrine to enable limited and tailored nuclear strikes – including with varying yields, trajectories, and target types – designed to demonstrate resolve and the preparedness to escalate further to an opponent, degrade the enemy's capability to persist in the actions to which the United States was objecting (e.g., by attacking an adversary's conventional or theater nuclear forces engaged in a regional conflict that had been the catalyst for escalation to the nuclear level), and clearly convey a measure of restraint and thus willingness to terminate the war.

The logic of this policy would be to render more credible and effective the U.S. nuclear deterrent for less than total contingencies, such as regional conflicts, and in particular for extended deterrence scenarios. In these situations, total release of U.S. nuclear forces would not be particularly credible, let alone appropriate. These capabilities would be especially useful for deterrence of Russia and China and escalation management in the event of conflict with them. Each of these two states possesses substantial survivable strategic nuclear forces of their own that would compel the United States to seek to limit any war. But such tailored capabilities could also be applicable in the event of conflict with North Korea, which is moving in the direction of obtaining potentially survivable and iteratively usable nuclear forces. Accordingly, the United States should make a special effort to develop the platforms and weapons, doctrine, planning capacity, and other capabilities needed to fight a limited nuclear war more effectively than plausible adversaries. Such superiority in the ability to fight a limited nuclear war would give the United States coercive leverage over these potential opponents – leverage that could become significant and even crucial in the event of war.

## **U.S. Nuclear Posture**

### ***The Composition of the U.S. Nuclear Force***

The ideal U.S. nuclear force, therefore, is one that is not only highly survivable and able to issue a devastating blow against any adversary under any scenario, but that is also capable of conducting effective limited nuclear operations in a controlled fashion while maintaining the ability to escalate to

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full-scale war if necessary. It is a force that can achieve reasonably precise effects for U.S. national decisionmakers across a wide spectrum of possible scenarios, enabling a more effective limited nuclear war capability and thus providing greater leverage and advantage for the United States.

The U.S. nuclear force of today is not optimally designed for this demanding set of criteria. To optimize its nuclear force structure, the United States should invest in an improved nuclear command and control system and maintaining the nuclear triad:

*Nuclear Command and Control:* Nuclear forces need to be able to perform their missions reliably under any plausible conditions, including the most stressing forms of attack, and need to do so in sufficiently controlled and deliberate fashions. Accordingly, the United States should invest heavily in a survivable and resilient nuclear command and control system that can provide sure and reliable communications, enable a wide variety of taskings, and disseminate detailed information to forces – and do all of these things in an iterated fashion. Achieving this in an increasingly perilous and competitive military environment entails that the United States explore novel ways of communicating and of protecting communications and that it develop more resilient space assets, more terrestrial and air-breathing platforms for C4ISR, and a more modular and disaggregated architecture. This should allow the United States to conduct effective nuclear operations even if an adversary is able to deny or substantially degrade U.S. use of elements of its nuclear command and control system, such as its space assets.

*Maintaining the Triad:* The United States should maintain a triad of SSBNs, ICBMs, and nuclear-armed bombers to ensure a resilient, redundant, and highly capable nuclear deterrent.

- *Submarines.* The United States should fully fund the *Ohio* ballistic-missile submarine replacement program, with a particular emphasis on maintaining the submarine's ability to operate securely and clandestinely over its full lifetime.
  - *ICBMs.* Once life extension of the Minuteman III is no longer practicable or if the United States determines it needs greater capability from its ICBM force, the United States should replace the Minuteman III with a modernized ICBM, likely also emplaced in existing silos.
  - *Bombers.* The United States should maintain and modernize its fleet of nuclear-armed bombers to ensure they and/or their weaponry are able to penetrate to strike highly defended targets. This modernization effort is particularly important in light of the unique attack capabilities found in the bomber force and the growing challenges to stealth and other traditional U.S. approaches to penetration of adversary air defenses.
    - *Penetrating long-range strike bomber (LRSB)/family of systems.* This critical aircraft/family of systems should be procured as a low-observable/stealth penetrating platform, made nuclear-capable (or at least some fraction of the total force should be), and equipped to deliver both nuclear gravity bombs and nuclear-armed cruise missiles.
    - *Standoff bomber.* B-52Hs should be maintained in a standoff role as long as practical and affordable. The B-2A fleet, meanwhile, should be equipped for effective standoff attack, especially as their penetration capability diminishes in light of challenges to stealth technology.
    - *Dual-capable shorter-range attack aircraft.* The United States should procure sufficient numbers of F-35 aircraft in a dual-capable mode to provide for theater deterrence and assurance purposes in Europe, East Asia, and the Middle East. These aircraft
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are the only purely “tactical” or theater nuclear weapons platforms in the U.S. inventory and thus are particularly useful for tailored assurance and deterrence strategies. The United States will need to acquire enough such dual-capable aircraft to enable forward deployment in multiple regions simultaneously.

- *Standoff munitions.* While the United States should invest substantially in developing and procuring a long-range bomber and associated family of systems capable of penetrating the most advanced air defense systems, it would also behoove the country to possess a suite of long-range standoff nuclear attack munitions that can alleviate the need for penetration. This is important particularly due to the growing capabilities of adversary integrated air defense systems and rising questions concerning the long-term viability of stealth and other methods of ensuring penetration. The new long-range standoff missile (LRSO) is intended to be the system that addresses this problem.

In addition, the U.S. nuclear force as a whole should be oriented towards greater flexibility and discrimination and, of increasing importance, earth penetration.

*Greater Flexibility and Discrimination:* The United States should move in the direction of providing all its nuclear forces with variable yield warheads/weapons that can provide a variety of types of effects (e.g., electromagnetic pulse (EMP), different height of burst) so that the United States can more effectively tailor strikes from the full range of its available platforms. To the extent feasible, the United States should invest in enabling a greater degree of variability of yield in its warheads and gravity bombs and in enabling these weapons to be employed in a variety of different modes, for instance, at sea and at varying elevations. The United States should in particular focus on making the ballistic missile force more capable of discriminate strikes. The United States should accordingly render at least some portion of the Trident II D5 SLBM arsenal capable of lower yield strikes, for instance by using primary-only warheads. The United States should also ensure that the LRSO is capable of discriminate employment by arming it with a variable yield warhead.

*Earth Penetration:* Earth penetration should be a special focus of long-term research and development and, ultimately, procurement. As a number of expert bodies have pointed out, there appear to be significant limits to the effectiveness of straightforward earth penetration systems. Given the proliferation of hardened and deeply buried targets (HDBTs), however, and the importance of denying potential adversaries sanctuary – not just for deterrence but also for stability – it is crucial for the United States to have concepts of operations and appropriate capabilities able to credibly hold at risk these facilities, and potentially significant numbers of such facilities. Addressing this worsening problem should therefore be a significant focus of U.S. investment.

The U.S. nuclear infrastructure also should be substantially upgraded.

*Responsive Infrastructure:* It is important to emphasize the essential value of a responsive infrastructure. This is vital to the long-term health and ultimately the deterrent credibility of the U.S. nuclear posture. The goal of the United States should be to develop a nuclear weapons infrastructure responsive to evolving national strategic requirements. The United States should regard the nuclear weapons complex to be sufficiently responsive when it has attained the capability, capacity, and agility to turn over the entire stockpile in a timely fashion (on the order of 10 years) and to respond to emerging threats over the medium term.

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Finally, decisions about the size and composition of the U.S. stockpile should be made based on strategic considerations.

*Size and Composition of the Stockpile:* The United States should avoid reductions for their own sake with respect either to the deployed force or to the geopolitical hedge. Reductions in general below New START levels should be disfavored barring a compelling rationale. Reductions from the technical hedge should be undertaken once a truly responsive infrastructure has been developed, the stockpile has been sufficiently modernized, and as greater confidence is developed regarding the reliability of relevant warhead classes. Arms control efforts, meanwhile, should be pursued where they constructively contribute to stability rather than as means of reducing numbers of systems.

## Conclusion

The world is changing in ways that dictate that U.S. nuclear policy and posture should also change. The renewal of competition among the major states, the shifts of power in the international system away from traditional U.S. allies and toward some potential U.S. adversaries, and the narrowing of U.S. nonnuclear military advantages all mean that the United States needs to reexamine and revise its nuclear policy and posture. The next NPR offers an excellent opportunity to do just this, and to do so while many of the trends demanding this reexamination are evident but still inchoate and susceptible to more effective counteraction by the United States. The United States should therefore grasp this opportunity to adapt its nuclear policy and posture, maintaining U.S. strategic advantages and mitigating vulnerabilities and weaknesses where possible.

It is worth explaining why this is not only important but also justified, for nuclear weapons are terrible weapons capable of killing large numbers of people in short order. Any substantial modernization of such arms requires a rationale beyond the desire of a nation to maintain primacy, bureaucratic inertia, or pride. The modernization program laid out in this document does have such a rationale. And that is that U.S. nuclear weapons continue to offer the prospect of deterring major aggression against not only the United States but also a wide range of like-minded states, and doing so with unique efficacy.

The modernization program here is offered in the hopes of making this most formidable of deterrents as effective in the future as it has been since its inception, a 75-year period correlated with an unprecedented abeyance of major power war and the protection, maturation, and expansion of free systems of sociopolitical organization. If the United States continues to use its nuclear forces as the cornerstone of its own security and the security of its like-minded allies and partners, and thinks about how to use those forces sternly but responsibly, then a modernization program that will make that deterrent more effective in a new era is not just defensible – it is actually incumbent upon the country to support it.

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