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**Protecting US Security
by Minimizing the
Role of Nuclear Weapons:
A NEW US NUCLEAR POLICY**

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MAY 2015

This paper was prepared in September 2014 and commissioned by the Center for Strategic and International Studies (CSIS). It will be published in "Project Atom: A Competitive Strategies Approach to Defining U.S. Nuclear Strategy and Posture for 2025-2050" (Washington, DC: CSIS, 2015.)

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*“After seventy years of indulging **fantasies of what nuclear weapons can do**, it is high time to acknowledge that they do very little and adapt US nuclear policy, strategy, and forces to those facts.”*

INTRODUCTION

Nuclear weapons remain the most potent destructive force known to humanity. Yet, US nuclear policies and doctrines remain encumbered by Cold War beliefs in the potential utility of nuclear weapons, even though the United States enjoys a dominant geopolitical position in the world, underpinned by a conventional military superiority greater than any ever known before. These false hopes that nuclear weapons can play a range of political and military roles in US security policy cause the United States to mistakenly pursue a nuclear strategy that is costly — not only in material terms, but also in geopolitical terms. In the worst case scenarios, this strategy could be catastrophic in terms of human lives and the nation's future. The overarching goal of US nuclear policy and strategy should be to seek to minimize the roles played by these weapons, both in our own policies and in the policies of all other nations.

The United States enjoys conventional military superiority over every other nation in the world. As a result, in all situations in which military instruments are relevant means of defending American interests, conventional armed forces are the preferred means of protecting those interests. For the United States, the only role of nuclear weapons is to deter nuclear attacks on the US and its allies. These weapons provide no military or political advantage for the United States against any other threat. In addition, any use of nuclear weapons, no matter how limited, would end the longstanding taboo on their use and make devastating nuclear wars more likely. Consequently, US political and military strategy, diplomacy, military doctrine, and military force structure should all aim to minimize the importance accorded to nuclear weapons by the US and all other nations.

To demonstrate why US interests would be served best by a policy of minimizing perceptions of the utility of nuclear weapons, we first examine current US conventional military superiority and the likelihood that it can be maintained well into the future. Next, we consider what military or political advantages the United States could gain from nuclear weapons — beyond deterring nuclear attacks by others. We then consider the nuclear policy that would best serve US interests. To summarize, we argue that US nuclear policy should state clearly that US nuclear weapons serve only to deter others' use of nuclear weapons against the United States and its allies. Furthermore, the US should: a) as political circumstances make possible, pursue negotiated measures that could lead eventually to a verifiable international regime to eliminate all nuclear weapons from all nations; b) adopt declaratory policies and pursue diplomatic arrangements that strengthen the nuclear taboo; and c) focus its force structure solely on maintaining a secure, second-strike capability. We provide a detailed description of this force structure and, finally, consider how specific contingencies would affect both the policy and force structure we advocate.

US Conventional Military Dominance

The key attribute of the US military posture is the conventional military dominance it currently enjoys and will likely be able to maintain for the next several decades, assuming that US citizens are willing to invest sufficient resources to preserve the nation's current advantages. Although military instruments are inherently limited in the strategic and policy goals they can achieve alone,

conventional military superiority provides the US with the ability to defend itself, its allies, and its global interests whenever military means are relevant.

The US enjoys conventional superiority because of the scale and longevity of its investments in relevant technologies, the size of its forces, and the qualities and training of the people in its armed forces. The United States leads the world in military technologies. Sensors on satellites and manned and unmanned aircraft, paired with redundant global command, control and communications networks, provide unprecedented and unparalleled situational awareness to US political and military leaders. Precision-guided munitions launched from air, sea, and land platforms offer the potential for US armed forces to eliminate targets with a degree of speed and accuracy that was unimagined only a few decades ago. Furthermore, the United States maintains unmatched capabilities to project military power around the world, including large and small aircraft carriers, sea and air-launched cruise missiles, penetrating strike aircraft and bombers, a large fleet of cargo and tanker aircraft, and mobile theater missile defenses. The US can move large numbers of Marines and/or Army forces rapidly to distant regions. And, finally, the United States has unique capabilities to deploy significant numbers of technologically advanced Special Operations Forces almost anywhere in the world on short notice.

The US can capitalize on these advanced military technologies because of its investment in people and its unique military culture. As one of the first nations to abandon conscription, the US all-volunteer force provides greater selectivity and longer tenures than conscripted forces, resulting in the high caliber of individuals serving in the military. The qualities of these individuals are further enhanced by the significant and unmatched investments in training made by the United States. No other nation provides as frequent opportunities for its fighting men and women to conduct training operations on their equipment or in simulators, both in small units and in larger exercises. Finally, an American culture of individual initiative, combined with high-quality, well-trained personnel, produces the ability for US armed forces to conduct complex, decentralized military operations more effectively than any other state.

Besides the quality edge in both people and equipment, the United States also has a massive quantitative advantage in most types of military capabilities. The US has long been the greatest spender on armed forces. The US maintains more people in active service than any country other than China, and much of China's military consists of domestically focused conscript forces. The US maintains larger numbers of warships, bombers, and advanced tactical fighters than any other nation, and its forces of armored and wheeled ground vehicles are at least comparable in size to other nations. Moreover, each of these pieces of equipment also is qualitatively superior to any other counterpart.

US conventional dominance is not guaranteed and depends on a continued high level of investment, efficient use of resources, and the continuing willingness of US citizens to sacrifice personal resources to provide sufficient national resources. But the previous high levels of investments do mean the United States has conventional military superiority today in almost every respect.

Assuming continuing high levels of investment in military capabilities, US conventional superiority is likely to endure for at least several decades. Relative US economic dominance is declining as other nations develop, but the US will remain a very wealthy nation with vast resources for decades to come. The US has untapped capacity to expend significantly greater resources on defense, as it has demonstrated repeatedly during past wars and crises. US technological superiority can be maintained by

continuing to invest in relevant research and development — the nation has a vibrant private technological sector that can be drawn upon to support that R&D. Moreover, the large, well-educated US population offers a pool for military service that no other nation can duplicate in the near-term.

US conventional dominance is not uncontested. Russia and China are actively seeking to erode US military advantages, but remain unlikely to pose anything more than limited regional challenges to American conventional superiority, if that, for many years. Chinese investment in equipment modernization is paying off, but its modern military forces remain small and qualitatively inferior to those of the US. China does not today have the ability to contest the United States successfully, even in specific areas near US allies off China's coasts. Still, given its 20 years of investments in building a more modern military and continuing economic growth, China could plausibly threaten the United States' ability to conduct specific military actions in regions near China's coasts within the next several decades. If realized, such threats could jeopardize America's ability to fulfill its commitments to defend certain allies. But the realization of these threats is far from assured.

For China to acquire even a limited ability to deny local US military actions, it will need to sustain the unprecedented economic growth it has enjoyed during the last several decades and devote a substantial portion of its resources to the armed forces; both appear increasingly uncertain.

To forecast that China will be able to disrupt US military dominance, moreover, observers extrapolate from recent advances in China's military equipment.

- First, those projecting Chinese counter-US capabilities assume China will put its resources into capabilities designed to offset US advantages. Yet China's construction of an aircraft carrier and early signs of fifth generation stealth fighter are two examples of Chinese efforts to ape – not counter — advanced US forces, forces in which the US has huge qualitative and quantitative leads. China is currently constructing a single, small aircraft carrier off the keel of an older carrier purchased from Russia. The United States has conducted carrier operations for 70 years and currently has 10 much larger aircraft carriers in operation and is building replacements with even greater capabilities. (Indeed, the US has nine aircraft carriers the size of the one being built by China, but doesn't even call them carriers as they are used only by vertical and short-takeoff and landing aircraft to support US Marine Corps operations.) Similarly, China currently has four fifth-generation prototype fighters, and has yet to construct an indigenous capability to build jet engines. In contrast, the United States already fields nearly 200 F-22 fifth generation fighters, plus more than 100 developmental model F-35s, with plans for nearly two thousand production models in the coming decade.
- Second, those projecting Chinese capabilities to disrupt US operations near China's coasts must assume China will make the organizational changes necessary to field a power projection force. China's current military structure is heavily dominated by the People's Liberation Army (PLA), closely controlled by the Chinese Communist Party and still domestically-oriented in order to ensure the Party's continued rule by suppressing any internal unrest. To become a power projection force, larger leadership roles and greater freedom of action would have to be given to the PLA Navy and Air Force. In contrast, the United States has had a joint and global force since World War II, and is already thirty years into its last major organizational change that clarified its worldwide, operational command chain.

- Third, those projecting a Chinese capability to prevent the US from protecting allies near China's coasts must assume the United States is unable to respond to disruptive technologies now being developed by the Chinese. This case is usually made by assuming China develops a certain capability and the US doesn't respond — the fallacy of the "last move." For example, much has been made of China's development of cruise, and possibly ballistic, missiles that could be targeted against US aircraft carriers and other warships to prevent them from aiding US allies under attack. Quite apart from the difficulty of locating, targeting, and hitting moving warships in wartime conditions, this scenario neglects possible US counter-moves, including learning to decoy, jam, or destroy such anti-ship missiles in flight. In fact, the US is already developing such capabilities in its family of sea-based Standard Missiles. Alternatively, the US could develop different strategies, such as conducting air sorties against missile launch points to destroy or at least significantly degrade China's missile launchers before bringing US warships within range to support further operations. In short, as long as the United States did not consider a Chinese assault against an ally as a *fait accompli* not to be contested, the United States could adapt to disruptive technologies and seek to blunt any advantages China does gain.

Few assert Russia will be able to contest US (and NATO) conventional military dominance, even locally, within reasonable time horizons. Even if successful, Russian military reform efforts will likely take decades to produce a modern, professional force, as the Russian military largely remains an ill-trained conscript force reliant on older equipment. Those pessimistic about relative NATO/Russian conventional capabilities point out that the Russians have quantitative advantages in ground forces at several points along NATO's borders. Such calculations ignore the alliance's ability to move forces around during the crisis that would precede any conflict, as well as the inherent flexibility and mobility of NATO's superior air power. The only plausible scenario is again one of a *fait accompli* that capitalizes on a local imbalance in force postures that the US then chooses to accept. But this scenario requires assuming the United States would not react to such an attack, an assumption not borne out in US history, and given lie by the US 70-year commitment to NATO and sustained deployment of forces on the continent.

While the US obviously needs to work diligently to address potential shortfalls in its conventional military technologies and force structure, history demonstrates that projections of precipitous American military decline should be regarded with considerable skepticism. Over the nearly seven decades since the end of World War II, many analysts have warned of American military weakness, only for these projections to prove either false or irrelevant.

The Limited Role of Nuclear Weapons

The conventional military superiority described in the last section ensures the United States has robust and flexible military tools. Because of the exceptionalism of these tools, nuclear weapons add few options for the United States. Indeed, given US conventional military superiority, nuclear weapons serve no military role for the United States beyond deterring nuclear attacks on itself and its allies.

Unfortunately, nuclear weapons do remain indispensable in order to deter other nations from contemplating nuclear attacks on the US and its allies. Conventional forces are an inadequate deter-

rent for adversaries with significant nuclear forces, as they could not impose a comparable scale of destruction. Deterrence of nuclear attacks will always be a risky proposition, particularly during crises or wars, as it assumes informed and rational decision-makers, effective communications, and a host of other enabling conditions. Still, the fact that the US and Soviet Union generally behaved cautiously during the Cold War, when they each faced existential threats from the other's nuclear weapons, suggests nuclear threats do have some deterrent value. At the same time, the facts that non-nuclear states have been willing to attack and wage conventional war on nuclear powers and that nuclear weapons have never been used since 1945 demonstrate the limited utility of these weapons in the real world, as opposed to the world of nuclear theoreticians.

Other than deterring nuclear attacks, nuclear weapons offer no advantage over conventional forces to the United States. To summarize the many potential military and political uses of nuclear weapons, we consider their possible roles in four overarching categories of potential use: defense, deterrence, coercion and assurance. Though these categories of potential military roles are not absolute, they are analytically useful and roughly correspond with most assessments of the spectrum of uses of force for policy goals. We conclude that in each category, nuclear weapons provide the United States with no advantage as compared to its conventional military capabilities.

Defense includes the broad range of possible means of stopping an attack. The US can defeat any conventional attack on itself or its allies using conventional means. Even if a competitor challenged US conventional dominance in a particular situation and gained a temporary advantage, the US would be able to prevail conventionally over time by repositioning forces and, if necessary, drawing on its substantial demographic and economic resources. Because of this essentially absolute conventional defense capability, nuclear weapons add no further military advantage. Unlike every other major power, the United States does not have to rely on nuclear threats to defend itself from conventional attacks — a tactic of weak states. In addition, for defending against unconventional attacks, such as the 9/11 attack, or the recent covert low-level military operations conducted by Russia in Ukraine, nuclear weapons are irrelevant.

Deterrence seeks to prevent adversaries from initiating attacks in the first place, instead of directly stopping them with military force, and clearly is preferable to *defense*. The United States' ability to defend itself and its allies successfully, combined with the capability to retaliate conventionally anywhere in the world, serves as a powerful deterrent against any conventional attack. As with defense, since US conventional capabilities are near absolute, nuclear weapons add no value to conventional threats. Moreover, since the US has used conventional forces repeatedly, but has not used nuclear weapons throughout the nuclear age, the deterrent threat of a conventional response is more credible than a threat of responding to conventional attack with a nuclear strike.

In the unlikely event that American security guarantees were disbelieved by an adversary and deterrence failed, it would be the result of a perception of insufficient American will, not insufficient American military capability. Threats to respond to conventional aggression with nuclear weapons would not enhance the credibility of American deterrence. If the United States were seen as unwilling to commit conventional forces to defend an ally, there is no reason to believe that threats to risk a nuclear war on an ally's behalf would be seen as more credible. Conversely, an adversary may believe it necessary to counter US conventional superiority with the threat or actual use of tactical

nuclear weapons. US policy should make clear that crossing the nuclear threshold by any means — with any type of warhead or weapon system, strategic or tactical — would bring into play the possibility of a response from the United States’ strategic nuclear arsenal.

In the unlikely event that US conventional capabilities to defend an ally in a specific theater or scenario eroded, threatening a nuclear response to a conventional attack on an ally would still be a highly questionable strategy. A threat to initiate nuclear use to defend an ally from conventional attack, and thereby risk nuclear escalation and extensive damage to the United States itself, would likely be seen as lacking credibility. A far preferable strategy would be to take urgent measures to offset whatever development on the part of the adversary had brought into question US conventional capabilities, and to demonstrate the US’ continuing firm commitment to the ally through the forward deployment of significant American conventional forces.

In recent years, some have argued that the United States should not restrict the purposes of its nuclear arsenal to deterring nuclear attacks, and instead threaten their use in response to a wider range of threats, such as attacks with chemical or biological weapons, cyber attacks that cause physical damage to important infrastructures, or efforts by states to provide terrorist organizations with nuclear weapons that would be used on US or allied territory through unconventional means (e.g., smuggled in a container).

Apart from questions about the efficacy of such threats, deterring them by threatening massive retaliation with conventional forces remains far preferable to broadening the stated role of nuclear weapons. Elevating the importance of nuclear weapons by widening their roles establishes precedents and perceptions of nuclear utility that can only encourage their emulation by others and result in vertical and horizontal proliferation. In contrast, the United States has the ability to respond to any of these threats with devastating conventional forces, thus achieving all the military utility without any of the political drawbacks.

Coercion is the use of force, or the threat of its use, to achieve specific policy goals. The US can apply precise, scalable, and overwhelming conventional force to back up coercive threats or to directly coerce other states. Such actions can range from isolated air strikes to destroy a target or to warn a government or terrorist organization about a threatened action, to the actual invasion of a country to topple its government — or the threat to do so. The US has conducted the full range of such coercive actions frequently since the end of the Cold War, and nuclear weapons or threats of nuclear use were not involved in any of these actions. Indeed, in these types of situations, coercive threats backed by nuclear weapons would likely be seen as less credible than conventional threats.

Obviously, there are limits to US coercive powers, particularly in situations in which the sitting administration seems irresolute or the US population reluctant to become involved. But incorporating nuclear threats into the coercive action would not ease those limitations. The risk of nuclear war already limits the US’ ability to coerce nuclear states, particularly those with significant nuclear arsenals. After 70 years, nuclear threats against non-nuclear nations or in lesser contingencies are simply not credible. After all, the US accepted a humiliating conventional defeat in Southeast Asia without using nuclear weapons, as did the Soviet Union in Afghanistan. Moreover, even though the US’ ability to stabilize nations and build effective governments is limited with conventional forces, as has been demonstrated in Iraq, Libya, and Somalia, nuclear weapons are also irrelevant in all such scenarios.

Assurance is diplomacy, combined with the symbolic use of force, to persuade allies that US commitments to their security are sincere, credible, and that the nation is capable of fulfilling them. Allies, particularly officials charged with security in allied nations, always will harbor some doubts about whether the United States would risk American lives to defend their sovereignty. Such doubts will wax and wane over time depending on the quality of relations between the US and its allies, perceptions of US strength and leadership, and events around the world—over most of which the US will have only limited influence.

Maintaining allies' confidence in US commitments requires frequent consultations, political reassurances, high-level meetings, and cooperation in military planning. US conventional forces also provide a global, visible, flexible, and credible means of reassuring allies — particularly when they are deployed on the ally's territory or conduct temporary deployments to exercise jointly with allied forces. Though nuclear guarantees are an important component of US security commitments, allies doubt them more than they doubt US conventional commitments because of the greater risk they pose to the US homeland. If an adversary in fact attacked a US ally with conventional forces, the adversary would have already discounted the US commitment to defend the ally. And if US credibility had already been discounted, the potentially graver consequences of a nuclear response would make nuclear guarantees even less credible in the eyes of the adversary. Consequently, the US should make clear repeatedly that it will fulfill all of its treaty obligations and would respond conventionally to conventional attacks against allies, and with nuclear weapons in the event of nuclear attacks. The long history of US security commitments, and the sacrifices in blood and money which the American people have repeatedly made in defense of these commitments, provide ample evidence that US security guarantees are credible.

Although the US should pursue all feasible conventional and diplomatic means to assure allies, there is no level of force deployment, whether conventional or nuclear, that can guarantee allies' confidence in American security commitments. Some allies have expressed concerns about American security commitments despite the presence of tens-of-thousands of permanently based US forces, underscoring the dependence of allied confidence on factors beyond military presence. Joint command and control of tactical nuclear weapons under NATO nuclear sharing arrangements has apparently failed to reassure some NATO members, which demonstrates that the forward deployment of nuclear weapons may also be insufficient to assure allies. Furthermore, though it is undiplomatic to acknowledge, allies often express grave concerns about potential threats and worry about US security commitments, but then fail to take steps to significantly increase their own defense capabilities, raising questions about the seriousness of their concerns. And the frank truth is that the alternatives to dependence on US security guarantees are even less palatable for most US allies. Allying with Russia or China is not a reasonable alternative to a US alliance, attempting to balance Russian or Chinese military capabilities unilaterally or in combination with neighboring states would be a difficult and unnecessary choice, and developing nuclear weapons of their own is in most cases too far a stretch financially or politically.

By making clear that the US believes nuclear weapons can serve only to deter nuclear attacks, the US also would be helping to weaken perceptions of the importance of these weapons and to strengthen perceptions of the dangers they pose, thereby facilitating efforts to limit or reverse pro-

liferation and reduce nuclear arsenals. In contrast, if the United States were to make clear it relies on nuclear weapons for a larger set of roles, it would legitimize these weapons, falsely draw attention to their potential uses, and thereby encourage nuclear proliferation. US threats to respond to conventional attack with nuclear weapons exaggerate the utility of nuclear weapons and could reinforce other states' inclination to acquire nuclear arsenals. If the US were to threaten a nuclear attack despite its conventional superiority, states with weaker conventional forces might have even more incentive to follow suit. The repetition of explicit threats to initiate the first use of nuclear weapons in a conflict could render such threats more credible and gradually weaken the taboo against the use of nuclear weapons.

In all of these potential use of military force scenarios, save nuclear deterrence, nuclear weapons do not provide any capabilities or attributes US conventional superiority does not also provide. In short, nuclear weapons do not advance US interests, diplomacy, or nuclear policy, and its nuclear posture should therefore minimize them.

Minimizing the Roles of Nuclear Weapons in US Policies and Those of Other Nations

Given this analysis of the single-purpose served by nuclear weapons in protecting the security of the United States and its allies, the US should orchestrate its diplomacy, nuclear declaratory policies, and force posture in order to minimize perceptions of the utility of nuclear weapons in world affairs. Among other things, such a policy would include: a) as political circumstances make possible, pursuing various types of negotiated arrangements that could lead eventually to a verifiable international regime that eliminated nuclear weapons from all nations; b) adopting declaratory policies that make clear the US belief in the narrow utility of nuclear weapons; and c) focusing its force structure solely on maintaining a secure, second-strike capability.

The primary objective of US policy on nuclear weapons should be the establishment of a verifiable international regime eliminating nuclear weapons globally. Since nuclear weapons only provide strategic value as a deterrent against nuclear use, while the potential effects of even a limited nuclear exchange could be devastating, US and global security would be enhanced substantially by the elimination of nuclear weapons from all nations. A functioning nuclear disarmament regime would better protect US interests than deterrence, as deterrence is inherently a risky and uncertain phenomenon. As long as nuclear weapons exist, their use is a possibility. Only by causing them to cease to exist can this possibility be ruled out.

Moreover, modern surveillance and reconnaissance capabilities and the long experience with US-Russian and multilateral arms control treaties demonstrate that verifiable regimes are possible. The risk of cheating under such a regime could be curtailed by the creation of an international body charged with monitoring treaty compliance, backed by the power to impose punitive sanctions and the possibility of collective military action by the Treaty's signatories against nations that cheat or seek to break out of the agreement.

Of course, nuclear weapons will only be eliminated when underlying political conflicts among nations that have nuclear arsenals are resolved. Most important would be the achievement of understandings among Russia, the US, and the nations of Europe about Russia's role on the continent,

and the political and economic integration of Russia into European affairs. A similar process concerning China's role in East Asia and its continuing economic and political integration into world affairs is also essential. As these broad international issues are worked out, however, processes that no doubt will take years, it would be possible to take steps towards the establishment of a verifiable elimination regime. Such steps would include reducing the size of nuclear weapons stockpiles, beginning with those of the US and Russia, erecting tighter controls and more extensive monitoring procedures on civilian nuclear facilities and fuel cycles, developing and testing verification methods, particularly those pertaining to verifying limits on warheads (limits in existing treaties pertain mainly to weapons launchers), broadening and strengthening existing nuclear weapons free zones, strengthening the Non-proliferation Treaty, and developing common international understandings about the humanitarian consequences of nuclear use and the means through which nuclear disarmament might be achieved.

Although the United States should not eliminate its nuclear weapons unilaterally as it pursues this diplomatic agenda, it could reduce the size of its arsenal and still have confidence in its capability to deter nuclear attacks. Complete unilateral disarmament, on the other hand, would make it impossible for the US to deter nuclear attacks through the threat of nuclear retaliation. This could increase the risk of a nuclear first strike and could encourage nuclear proliferation by allies who would no longer feel secure in the absence of the American nuclear deterrent umbrella. While in pursuit of a fully implemented and verifiable disarmament regime, the US has an interest in limiting the proliferation of nuclear weapons and therefore must work to maintain allies' confidence in nuclear deterrence guarantees.

That said, the US should refrain from the permanent forward-basing of nuclear weapons, which imposes additional costs and risks and increases political tensions, without providing capabilities beyond those offered by US-based strategic forces. Instead, the US should assure allies of its nuclear deterrence guarantees by:

- maintaining (or establishing where they do not yet exist) standing consultative mechanisms with nations to whose defense we are committed to discuss threats to their security and plans to counter them jointly, including the nuclear component of such plans;
- frequently demonstrating the global reach of US nuclear capabilities through exercises, temporary deployments of bombers, and port visits by strategic submarines; and
- frequently demonstrating US conventional capabilities by temporary deployments of ground, air, and naval forces to allied nations for joint exercises.

By taking these concrete and practical steps, US nuclear policy and diplomacy can set a course for a truly secure future.

The second prong of US nuclear policy should rule out the use of nuclear weapons except as a response to others' use of nuclear weapons. US nuclear policy and doctrine should seek to strengthen the taboo against nuclear use by creating starkly clear boundaries that would raise the thresholds for nuclear use.

US declaratory policies should emphasize both the grave humanitarian consequences of nuclear use and the military disutility of nuclear weapons.

US nuclear policy and doctrine should state clearly that the US would not use nuclear weapons unless a nuclear weapon had already been used against the United States or one of its allies. Whatever marginal tactical or operational advantage the United States might gain from envisioning broader roles for nuclear weapons would not offset the greater negative consequence: Encouraging other states to look favorably on acquiring nuclear weapons and weakening the nuclear taboo.

At the same time, the United States must make clear beyond a shadow of a doubt that any nuclear attack on the United States or an ally under the United States' nuclear deterrence umbrella would be met with a nuclear counter-attack of equal or greater severity. A nuclear attack should be defined as any attack that incorporates a nuclear explosion, including an EMP attack, an attack with low-yield weapons, or an attack with weapons launched by short-range systems, no matter how few in number or limited in yield.

The US should reserve the option to respond to a tactical nuclear strike against in-theater conventional forces with the use of strategic nuclear weapons against tactical military targets, such as command and control nodes, large troop formations, or military bases. US policy should make clear that any step onto the nuclear escalation ladder could bring all of the capabilities of US strategic nuclear forces into play. Doctrine aside, in fact, the US might choose to respond to a very small, battlefield use of nuclear weapons with conventional forces. Such a response would further belittle the military utility of nuclear weapons. But such a decision would be a tactical choice that could only be made in the circumstances at the time. Although a logical possibility, such a battlefield option should not be stated explicitly as part of US doctrine in order to avoid weakening the perception that any nuclear use would prompt a US nuclear response, and thereby weaken deterrence of limited nuclear strikes.

Given US conventional capabilities, it is extremely unlikely the US would find itself in a position where it would be unable to preserve the sovereignty and territorial integrity of the US and its allies with conventional forces alone. It is therefore extremely unlikely the US would find itself in a position to even contemplate the use of nuclear weapons to terminate a conventional conflict.

The United States also should make clear that it does not plan to use nuclear weapons in response to conventional, chemical, biological, or cyber-attacks on the US or its allies; instead, that it would respond to such attacks with passive defenses and its dominant conventional capabilities. The effects of these types of attacks, while potentially severe, would be neither as immediate nor as complete as the effects of a nuclear strike, which would instantaneously annihilate nearly everything within its blast radius. While there are essentially no means to mitigate or contain the effects of the successful delivery of a nuclear weapon, there are such means available in the case of a chemical or biological attack, such as gas masks, vaccines, and quarantines. And while reliable unclassified information about relative US and potential adversary cyber capabilities does not exist, given the United States' vibrant and innovative commercial IT sector and the resources allocated to cyber warfare in the US defense budget, one would assume that the United States is at least competitive with other nations in both offensive and defensive cyber warfare.

While not as absolute as a fully verifiable regime for eliminating all nuclear weapons, these declaratory policies are implementable immediately and would advance the marginalization of nuclear weapons by making clear the United States has confined them to a single role --- deterring nuclear attacks.

Finally, reflecting the narrow role conceived for nuclear weapons, the US nuclear force structure should be focused solely on maintaining a secure second-strike capability. This focus would be reflected in the size, composition, and attributes of its nuclear forces, and their interactions with other non-nuclear, but strategic, capabilities.

In the absence of major progress towards the global elimination of nuclear weapons or additional bilateral arms control agreements with Russia that sharply reduces the size of both nations' nuclear forces, the United States should maintain a strategic nuclear triad of ICBMs, submarines, and bombers.

Forces

In the 2020-2030 timeframe, the US should reduce its arsenal to roughly 1,000 deployed nuclear warheads, as counted under the rules of the New Start agreement, or to the size of the largest nuclear arsenal in the world, whichever is smaller. An arsenal of 1,000 deployed warheads would represent an approximately one-third reduction from the current number of deployed warheads, as counted by the rules of New Start. A force of this size would be capable of inflicting massive devastation on any nation, thus constituting a more-than-minimal deterrent, leaving no doubt of the United States' ability to retaliate against a nuclear attack and continuing to provide extended deterrence for its allies. Illustratively, a 1,000-warhead force could consist of 300 ICBMS with single warheads, 10 ballistic missile submarines carrying missiles with 640 warheads, and 60 long-range bombers.

Additionally, the US should maintain a reserve of 1,000 non-deployed warheads to hedge against the degradation of operational warheads and the possibility of a nuclear crisis. While the United States should not reduce its forces below 1,000 deployed and 1,000 reserve warheads unilaterally, it should seek whenever possible to make further reductions through arms control treaties, with the ultimate goal of the global elimination of nuclear weapons.

Importance of the Strategic Triad

The US should seek to maintain the nuclear triad for as long as possible, even if agreements cause deployed forces to be reduced below 1,000 warheads, as each component provides unique attributes to the overall US nuclear deterrent.

ICBMs provide reliability, as they are based on tried-and-true technology and, unlike bombers that can be shot down, are extremely difficult to intercept. The wide geographical dispersion of ICBM silos and the fact that they are each equipped with one warhead also means that destroying one launcher in the event of a nuclear exchange would require at least one warhead. (In fact, as no missile can be expected to perform perfectly at all times, multiple warheads would probably be targeted against each silo.) This calculus strengthens the deterrence dynamic by casting into doubt an enemy's ability to preemptively destroy the US ICBM force without utilizing a large portion of its own forces. For decades to come, the US ICBM component could be composed of existing Minuteman III missiles, their components updated as needed with service-life extension programs or replacement parts, as this is the lowest-cost option. Reduction of the force from the START mandated 400 to 300 would also provide replacement parts and test missiles during this period.

Bombers offer flexibility. Unlike ICBMs and SLBMs that cannot be recalled once launched, bombers can be launched towards their target in a nuclear crisis and maintained near, but outside enemy air defenses, while political leaders sought to end the crisis without a nuclear strike. The bombers could be recalled should there prove to be a diplomatic solution or if the initial crisis was based on error, such as an erroneous interpretation of radar data. B-2s will remain the mainstay of the bomber fleet. If advances in Russian or Chinese air defenses raise doubts about the B-2s ability to penetrate to its targets, it should be equipped with a new, nuclear-capable cruise missile. B-52s, while aging, offer volume in the delivery of nuclear weapons. A new nuclear-capable cruise missile will be necessary to ensure the B-52s' continuing effectiveness. The LRS-B next-generation bomber should be designed so that it could be made nuclear capable, but it should not be so-equipped unless serious doubts are raised about the continuing capabilities of the B-2s and B-52s.

Submarines offer survivability when at sea. Whereas airfields and missile silos are stationary and easy to locate and target, US deployed submarines are extremely difficult to track reliably. This enhances the nuclear deterrent by reducing the enemy's confidence in its ability to avoid a retaliatory strike. A force of ten *Ohio*-class and *Ohio*-replacement submarines, two below currently planned levels, should be sufficient. A reduced fleet of ballistic missile submarines would be proportionate to reductions in the overall nuclear force. A slightly reduced fleet would also hedge against the possibility of over-investing in the sea-based leg of the triad in the extremely unlikely event that new technological developments fundamentally diminished submarines' ability to operate undetected. Reducing the purchase of *Ohio*-replacement submarines, which are very expensive platforms, also would ease long-term pressures on the Navy's shipbuilding budget.

Proponents of current *Ohio*-replacement building plans argue that a fleet of 12 submarines is the minimum necessary to meet (classified) nuclear coverage requirements. These requirements should be revised downwards, however, as the value of ballistic missile submarines lies more in their ability to survive a nuclear first strike than in their ability to retaliate immediately. So long as the submarines remain survivable, it is unnecessary to maintain a nuclear submarine fleet that is capable of holding all nuclear-armed adversaries at risk at any given time; some transit delay before a retaliatory strike would be acceptable.

Tactical Nuclear Weapons

The US should not modernize its tactical nuclear weapons, permitting them to be phased out at the end of their current lifetimes in the mid-2020s. The role currently presumed to be played by these weapons can be played by US strategic nuclear forces. Tactical nuclear forces offer no operational or strategic advantage as compared to either strategic nuclear forces or conventional forces, while generating significant costs for modernization and maintenance, and for the training and certification of flight crews and aircraft. Implementing this recommendation means cancelling plans to extend the lifetimes of tactical versions of the B-61 bomb and cancelling the planned development of a nuclear delivery capability for the F-35 — a savings of perhaps \$8 billion in the relatively near term.

Most importantly, reductions in the size of the US strategic nuclear forces and the phasing out of tactical nuclear weapons will facilitate the allocation of resources necessary to maintain US conventional military superiority.

Other Strategic Technologies

While the US should continue to invest in other technologies with potential strategic implications, such as cyber warfare, electronic warfare, and conventional global strike, these technologies do not supplant the need to maintain a nuclear deterrent as long as other states maintain nuclear arsenals.

Although cyber warfare and electronic warfare will likely play an increasing and integral role in future conflicts, the United States should distinguish between cyberwar and nuclear war. If a cyber attack on the US does not involve nuclear weapons, the US should not respond with nuclear weapons even if the cyber attack is on US nuclear command and control. Rather, the threat of a punitive response using cyber or conventional means would provide deterrent enough. To preserve confidence in the nuclear second strike capabilities essential for mutually assured destruction, the US should state a policy of not launching cyber or electronic attacks on other states' nuclear command and control or targeting capabilities.

The US should continue investing in conventional global strike systems, including research into hypersonic weapons, as they promise enhanced tactical options for conventional responses to attacks, crises, or provocations. As missile defense systems are likely to remain limited in their ability to defeat an attack by any sizeable ballistic missile arsenal, there is no need to develop nuclear-capable hypersonic weapons.

The United States should ardently pursue missile defense technologies at both the theater and national levels. As technology permits, the US should deploy theater missile defenses in or near allied nations that can protect against, or at least limit the damage from, attacks by small nuclear forces. The US should continue to develop incremental improvements to existing theater missile defense systems, such as the THAAD and SM-3 systems. Investment should be continued in potential breakthrough missile defense technologies, such as laser technology, that conceivably could reverse the existing cost imbalance between offensive and defensive capabilities.

The US also should pursue a robust research and development program for national missile defense, but stop short of fielding additional continental-based systems until new technologies prove to be effective. The United States should freeze the Ground-Based Missile Defense program and redirect funding to R&D efforts. The US should not field additional or replacement interceptors at existing West Coast sites, and certainly not develop a new site on the East Coast, until developmental versions of the interceptors achieve consistent success under real-world conditions, including the ability to distinguish incoming warheads from debris, chaff, or decoys.

The US should maintain a stockpile maintenance program to ensure that US nuclear weapons are safe, effective and reliable, and a nuclear infrastructure of sufficient capability to repair or, if necessary, replace warheads and delivery systems as required. Although the aging of existing warheads may at some point require the fabrication of new warheads, any new warheads should be designed following an extremely conservative approach that provides higher margins of error without adding new capabilities to existing designs.

A conservative design approach not only would send a strong message about the disutility of these weapons but also provide a high degree of confidence in warheads' reliability without the resumption of nuclear testing. Since nuclear weapons should be used only as a strategic deterrent with an extremely

high threshold for use, any new or overhauled warheads should be relatively high-yield warheads, like those now deployed on Trident and Minuteman missiles. Bomber weapons might be designed with variable yields so that they could be used in response to the use of tactical weapons on battlefields without excessive collateral damage. Other design features that might present hope of making nuclear weapons more “useable,” such as extremely low yields, electromagnetic pulse, or neutron bomb designs, should not be incorporated as they would present the appearance that the US shares others’ claim that limited nuclear wars could be fought without catastrophic consequences. (Although variable yields on bomber weapons can be seen as an exception to this rule, the lowest available yield on existing weapons is still beyond what might possibly be considered appropriate for nuclear warfighting.)

The US should maintain effective warning and command and control systems, including space-based systems that are protected against disruption by cyber or electronic warfare or by physical interception. This goal can be furthered by investing in hardening, redundancy, and defensive measures, as well as by developing lower cost space launch capabilities, provided by several launcher manufacturers, to make possible the rapid replacement of disabled satellites.

The US should invest research and development funds in methods to protect command and control systems, especially satellite systems, from physical attack, as demonstrated by China’s shoot-down of one of its own satellites, and electronic disruption, as might result from the use of an EMP weapon. Hardening, however, cannot be expected to prevent any and all disruptions, and hardened systems should be developed and fielded with a high sensitivity to cost-effectiveness.

Redundancy applies not only within warning and C2 systems but also across systems. The US should ensure that any given system, such as communications or GPS satellites, are redundant enough (i.e. numerous enough) that the system as a whole can still function even if a significant fraction of those satellites were destroyed or otherwise incapacitated. At the same time, command and control and targeting capabilities must be layered across different systems to ensure that nuclear second strike capabilities could not be severely degraded or eliminated by the failure of any one given system. For example, satellite communications should be layered with ground-based radio and telephone communications and, potentially, even physical courier systems, all supported by appropriate command and control protocols, while ensuring that all nuclear systems continue to incorporate secondary inertial navigation systems.

Finally, the US should invest R&D funds in the creation of active defensive capabilities for satellites critical to nuclear command and control, while shifting the emphasis of cyber warfare programs towards developing more robust defenses against cyber attacks. Defensive measures for key satellites might include the ability to maneuver, deploy decoys, and potentially even employ limited missile defenses. These missile defenses would only be designed to be capable of intercepting missiles targeted at the satellite and might include hit-to-kill and, in a more distant timeframe, laser-based systems.

The size, composition, and attributes of US strategic capabilities outlined here set out a force designed solely as a secure, second-strike capability. Without degrading US nuclear deterrence, such a force would refocus US nuclear posture and better achieve US interests.

Together with the other two prongs of US nuclear policy, a more narrow nuclear doctrine and pursuit of a verifiable disarmament regime, the force posture described in this section would sustain a credible US nuclear deterrent, but acknowledges the limited utility of nuclear weapons in all other military applications.

Contingencies

The nuclear policies and forces described in this paper presume that only evolutionary changes take place in relevant technologies, world politics and the conventional military balance.

Technological Changes

Two conceivable, if unlikely, technological developments could cause substantial changes in the policies and forces recommended in this paper.

1. *Development of Cost-Effective Missile Defenses.* A cost-effective missile defense system would be one in which it is cheaper to deploy increments of defensive capabilities than it is to acquire increments of offensive capabilities to offset the increase in defensive capabilities. One such possibility would be the development of a kinetic or laser system deployed on satellites that could destroy missiles in their boost-phase. Such a capability also presumes a self-defense capability for the satellites against kinetic, electronic, and cyber threats, as well as the acquisition of cheap satellite launch capabilities that would permit the rapid replacement of satellites at the end of their orbital lives and steps to expand the network if additional offensive missiles were deployed.

If a potential adversary acquired such a capability and the US did not, the US could no longer depend on nuclear retaliatory capabilities to deter nuclear attacks on its allies, or on itself, and the choices facing the nation would be grim. One possibility would be to withdraw from involvement in the affairs of other nations, returning to the isolationist policies of the 1920s and 1930s, and attempt to reach political accommodation with the adversary — not a happy prospect. On the other hand, if the US developed such a capability and it was not in the hands of an adversary, the US would be well-positioned to push hard for its goal of eliminating nuclear weapons from all nations. As their nuclear arsenals could no longer be used to threaten massive destruction, but the US would retain such a destructive capability, Russia and China — and other nuclear powers — might well see it in their interest to negotiate a nuclear disarmament pact.

Some might argue for capitalizing on this monopoly to push for other US policy goals, relying on an extreme version of nuclear coercion. As described in an earlier section, military coercion — even short of nuclear weapons — has limited viability in achieving US policy goals. Nuclear coercion has a historical antecedent: the period of US monopoly on nuclear weapons following World War II. Soviet behavior, however, in that time period does not augur well for the effectiveness of nuclear coercion. Better to focus on the distinct policy goal — abolition of nuclear weapons — that can be tied directly to their use.

If a cost-effective defensive capability were available both to the US and to one or more adversaries, the situation would be more complicated. One of two things might happen.

If political relationships were tense and conflicts unresolved, the great powers no doubt would expend considerable resources seeking to overcome each other's defenses while retaining their own, leading to massive investments in offensive and defensive forces, unstable relationships, and a high risk of misunderstandings and even nuclear exchanges. If, on the other hand, political relations were relatively peaceful, the availability of cost-effective missile defenses to the US and adversaries would facilitate nuclear disarmament as the great powers would be confident that they could

defend themselves against any state that sought to cheat or break out of the nuclear disarmament regime. This would be the fulfillment of Ronald Reagan's vision. Obviously, US policy should push for the latter outcome.

2. Development of effective anti-submarine weapons. Equally implausible, but similarly consequential in its effects, would be the development of capabilities to find and destroy submarines carrying nuclear-armed missiles with a high degree of confidence. In the 1980s, for example, some claimed that the Soviet Union had developed satellites that could detect anomalies in the earth's magnetic field caused by the movement of submarines through the ocean and target the submarines effectively with ballistic missiles — a claim that had no basis in fact. Currently, some believe that in the future an adversary could deploy large numbers of unmanned sensors near US submarine bases to detect when a submarine had deployed and then either track it somehow or attack it immediately with some kind of long-range weapon. Indeed, the US, which has far quieter nuclear-powered submarines than any other nation, and has been working intensively on anti-submarine warfare (ASW) capabilities since World War II, may have significant capabilities to locate, track, and if necessary destroy adversaries' submarines — one reason why both Russia and China put greater emphasis on mobile land-based missiles than on the submarine component of their strategic forces.

Still, if an adversary did develop effective capabilities against US strategic submarines, it would have profound implications for the force posture described previously in this paper, in which the bulk of US retaliatory capabilities reside in the submarine leg of the Triad. Faced with such a threat, the US would have to diversify its force posture further. It could build larger numbers of long-range bombers equipped with cruise missiles, disperse them to more air fields, and keep them on a high alert level, as was done during the Cold War. It could revisit ideas for deploying mobile ICBMs in the US and develop and field such a system. It could replace the *Ohio*-class strategic submarine with much smaller submarines carrying fewer missiles and procure them in larger numbers. All of these options would be expensive and would divert resources from maintaining US conventional superiority unless the nation was willing to increase the resources it devotes to defense significantly.

However the US chose to offset the ASW threat, assuming it was able to maintain its edge in conventional military capabilities despite the greater resources required for nuclear forces, it could retain the policy of confining the role of nuclear weapons to deterring nuclear attacks on itself and its allies.

Geo-political changes

The actual use of nuclear weapons could have major effects on the US and other nations' nuclear postures, depending on the size of the exchange and its outcome. Beyond that, although hard to imagine, it is conceivable that there could be major realignments in international relationships over the coming decades, just as the past three decades witnessed the fall of the "Iron Curtain," the dissolution of the USSR, and the emergence of China as a global economic and political power. In this section we explore some of these possibilities and their effects on the US nuclear posture.

1. Use of nuclear weapons. The consequences of the breaking of the nuclear taboo would depend on the size of the exchange and its results. Some of the possibilities are:

- **Major US/Russia exchange.** If a US-Russian war began for whatever reason and escalated to

a nuclear exchange between the two states, civilization as we know it would no longer exist, at least in the northern hemisphere. It is difficult to envision stopping a nuclear exchange in the chaos that would be unleashed once one had begun. In that scenario, given that the two nations' nuclear arsenals have such destructive power, the questions addressed in this paper would be irrelevant.

- ***Battlefield use of nuclear weapons by Russia or China.*** If a military conflict developed in Europe or East Asia in which an adversary attacked a US ally and, for whatever reason, used nuclear weapons in the battle space, the consequences would depend on the US response and its results. If only one or two weapons were used, as a sort of warning, the US could choose to refrain from responding in kind, continuing to press its advantage in conventional warfare, while warning that another nuclear use would be met with a nuclear response. If the adversary relented and negotiated an end to the conflict, the benefits of US conventional superiority would have been validated and the US nuclear posture advocated in this paper would have been affirmed. If the adversary persisted with additional nuclear strikes, the US would have to respond with long-range nuclear forces against military targets in the battle space. At that point, the enemy would either relent or continue to escalate. The latter would likely lead to an all-out exchange and the results noted above. The former would validate the nuclear posture advocated in this paper. If the US did not respond with a nuclear strike, it would have to concede the conflict and its unwillingness to risk nuclear war in fulfillment of its commitments to the ally under attack. This would lead to an unravelling of the US alliance system and the consequences addressed here.

If Russia or China used nuclear weapons in a conflict between the two, the exchange would either escalate, leaving both nations devastated and US global superiority even more firmly entrenched, or an unanswered attack might cause one of the belligerents to sue for peace. Such an outcome may very well be the most dangerous precedent. However, if the United States or its allies was subject to a limited nuclear strike, the US could still respond as described above achieving a world less inclined toward nuclear use.

- ***Use of nuclear weapons by third nations against populated areas.*** One could imagine an India-Pakistan war escalating to nuclear use against cities. For example, if India were winning a conventional war, Pakistan might resort to such use in an effort to compel an end to the conflict before its total defeat. India might or might not then retaliate against Pakistani cities. In any event, there would be massive losses of lives. If Pakistan were perceived to have saved itself by its nuclear use, it likely would motivate other nations to seek to acquire nuclear weapons. The US would then face a more highly proliferated world with the consequences for its nuclear posture described below. If, on the other hand, Pakistan was defeated despite its nuclear use, and the world was repulsed by the massive losses of lives, it could stimulate movement toward nuclear disarmament, which is the goal of the policy advocated in this paper.

2. *Dissolution of the US Alliance System.* Throughout the post-war period, questions have been raised in countries allied with the United States about the credibility of US commitments to their defense. The severity of this questioning rises and falls with world events and the responses of US administrations to them, but it is rarely absent altogether. These doubts sometimes exist even though the US has maintained these commitments for nearly 70 years, stationed military forces

far from US borders in support of them throughout this period, and spends a far larger a share of its national resources on its armed forces than any of these allies. Moreover, the US has confronted challenges to its alliance partners in many crises over the years, confrontations which sometimes have resulted in the loss of American lives.

Still, it is conceivable that individual nations or the whole alliance network could choose, one day, to reach accommodation with nations who threaten them and choose a path independent of US security guarantees. Such actions certainly could result from the US backing down during a confrontation after an initial series of exchanges, as in the battlefield nuclear use scenario described previously. While the wholesale desertion of US allies would clearly be a grave blow to US interests and values, its impact on nuclear policy would be beneficial. Persuading adversaries that an attack on the United States itself would result in a devastating nuclear retaliation is far easier than assuring allies, as well as persuading adversaries that an attack on an ally would result in nuclear retaliation — given the risks this course of action would raise for the United States. Hence, this contingency would not necessitate a change in the US nuclear posture advocated in this paper. If anything, it might make possible further reductions in US nuclear forces.

3. Resolution of fundamental conflicts between Russia and its neighbors and China and its neighbors. As far as nuclear policy is concerned, the uncertainties concerning the basic relationship between Russia and Europe and China and its neighbors in East and South Asia are the basic drivers. The conflicts in the Middle East are irrelevant. In both cases, the adversaries currently seem determined to play a larger role in their regions, and are pursuing aggressive policies toward this end that are creating political tensions, military incidents, and in the Russian case, a war in Ukraine. It is conceivable, however, that over time, political leaders in these adversarial countries will see it in their nations' interest to reach accommodations with their neighbors and to develop closer political and economic relations. In this contingency, it should then be possible to make more rapid progress towards the goal of the nuclear posture advocated in this paper — establishment of a regime to eliminate nuclear weapons from all nations.

Conventional military balance

The nuclear posture presented here is dependent on US conventional military superiority; it is dependent on the notion that the United States is not a weak state, as is every other state currently, including Russia and China, and so does not need to rely on weak state tactics. Though US conventional military superiority, as described here, is likely very robust, with the United States having the economic strength necessary to maintain that superiority, it is plausible US conventional superiority could erode. For this superiority to erode, however, an adversary would have to achieve both the quality and the scale the United States enjoys. Isolated examples of quality are not enough to upset the conventional superiority. Neither is significant scale at dramatically lower quality. The following are potential signals that an adversary might be achieving both attributes:

- Defense spending on par—at market rates—of the United States for a minimum of five years. The United States enjoys a significant lead. Some of that lead might be cut by capitalizing on second-mover advantages: relying on the United States for the basic development and just incurring production costs.

- Successful fielding of asymmetric capabilities reasonably resistant to countermeasures. This countermeasures resistance requires surviving US adaption; simply holding US forces “at risk” would not prevent the United States from risking its resources to achieve critical US policy objectives, as the US military did when it lost the previously unknown stealth helicopter in order to successfully stage a raid on the bin Laden compound in Abbottabad.

Even in these two cases, US nuclear posture would not all fall away. These two cases would undermine US conventional coercive ability. But, as already noted, coercion is already a limited military capability.

The most significant change would come if an adversary could mount a credible threat to attack the United States or an ally and survive a counterattack involving all US resources short of full national mobilization. Such a change may require rethinking the no first use of nuclear weapons doctrine advocated in this paper, as the United States may need to rely on nuclear weapons to resist attack.

Assurance is a more complicated case. If not just adversaries, but allies began to better arm themselves, and then the allies defected to adversaries, the conventional balance could swing more dramatically. However, this is an extremely unlikely case. Even under this far-fetched contingency, US nuclear posture could remain as described in this paper, with the possible exception of adding a threat to initiate use of nuclear weapons if a conventional attack was launched on the United States or its allies.

Conclusion

Nuclear weapons do not achieve US policy objectives; dominant conventional forces do. US interest lies in seeking to minimize the importance accorded to nuclear weapons by narrowing the roles they are perceived to play. US nuclear doctrine, policy, forces, and diplomacy should all be configured to support this interest. The posture described in this paper achieves just that, in contrast to postures that imagine uses of nuclear weapons that have never actually been demonstrated. After seventy years of indulging fantasies of what nuclear weapons can do, it is high time to acknowledge that they do very little and adapt US nuclear policy, strategy, and forces to those facts.

