

Nuclear Posture Review Report

To cope with new international dangers while making progress on President Barack Obama's call for ultimately achieving a world without nuclear weapons, the Nuclear Posture Review (NPR) Report—a 49-page document that focuses mainly on the next 5 to 10 years—identifies five key objectives for forging U.S. nuclear policies and making decisions about the future nuclear force posture:

- preventing nuclear proliferation and nuclear terrorism
- reducing the role of U.S. nuclear weapons in U.S. national security strategy
- maintaining strategic deterrence and stability at reduced nuclear force levels
- strengthening regional deterrence and reassuring U.S. allies and partners
- sustaining a safe, secure, and effective nuclear arsenal.

Pursuing these objectives, it states, will require a sustainable consensus that produces concerted efforts by a long succession of administrations and Congresses for many years to come.

Handling the Changing International Environment. The NPR Report judges that while the risk of global nuclear war has become remote owing to the end of the Cold War, the risk that nuclear weapons will actually be used has increased owing to other developments. Citing nuclear terrorism and nuclear proliferation as two principal dangers, it moves the task of preventing these scenarios and strengthening the global nonproliferation regime to the top of the U.S. nuclear security agenda. But it also calls for policies aimed at maintaining nuclear stability with Russia and China and countering threats

posed by any nuclear-armed states in ways that protect the United States, as well as allies and partners, from nuclear threats or intimidation.

The NPR Report states that the most immediate and extreme threat today is nuclear terrorism (that is, al Qaeda or other terrorist groups gain access to nuclear weapons and use them against the United States and/or its allies). To date, it states, considerable progress has been made toward achieving a global “lockdown” of nuclear weapons, materials, and related technology, but much more work needs to be done; the United States and the international community currently have insufficient capabilities to detect, interdict, and defeat efforts to covertly deliver nuclear materials and weapons, as well as to minimize casualties and economic impact, and to attribute sources if a nuclear attack occurs.

Today’s other pressing threat, the NPR Report argues, is nuclear proliferation. It particularly cites threats posed by North Korea and Iran, whose nuclear ambitions are violating nonproliferation obligations, increasing regional tensions, threatening to illicitly supply nuclear weapons and materials to other dangerous actors, and weakening the Nuclear Non-Proliferation Treaty (NPT). It further states that the potential for regional nuclear aggression by these states raises challenges to not only deterrence of them, but also the goal of reassuring allies and partners of their security. It holds that if allies and partners are not adequately assured of deterrence and their security, some will elect to acquire nuclear deterrent postures of their own in ways that could unravel the NPT regime and increase the likelihood of nuclear use. The NPR Report declares that the NPT remains a cornerstone of nonproliferation efforts and that its basic agreement—all parties have a right to peaceful nuclear power, states without nuclear weapons forsake them, and nuclear-armed states work toward disarmament—remains sound. But it also judges that because of ongoing noncompliance with the NPT, the nonproliferation regime, including the International Atomic Energy Agency (IAEA), urgently requires strengthening.

The NPR Report further judges that the U.S. nuclear interaction with Russia and potentially China poses muted but still existing dangers of its

own in ways mandating careful management focused on maintaining strategic stability. Noting that both Russia and China are modernizing their nuclear postures, it cites the need to sign the New Strategic Arms Reduction Treaty (START) with Russia, which further reduces nuclear force levels on both sides, and to pursue a stabilizing dialogue with China. The combination of rising threats from nuclear terrorism and nuclear proliferation and still worrisome strategic interactions with Russia and China, it states, has altered the international nuclear security environment in basic ways that threaten to outpace the rate of U.S. adaptation and modification. Accordingly, it judges that in putting an end to Cold War thinking, the United States should:

- intensify efforts to build broad international support for the rigorous measures needed to prevent nuclear terrorism and nuclear proliferation
- pursue steps to enhance regional security architectures to reassure allies and partners that U.S. commitments to their defense remain strong and reliable
- continue striving for deeper nuclear reductions in negotiations with Russia
- lessen U.S. reliance on nuclear weapons in national security strategy in ways that respond to growing U.S. capabilities in conventional forces and missile defenses
- preserve a fully adequate nuclear force posture while making investments to ensure that the nuclear stockpile can be maintained without further nuclear testing.

This strategic agenda, the NRP Report states, has major implications for U.S. nuclear weapons policies and force structures. It observes that the massive nuclear arsenal inherited from the Cold War is poorly suited to addressing the challenges posed by suicidal terrorists and unfriendly states seeking nuclear weapons. It also calls for steps to better align nuclear policies and force structures with the most urgent priorities of preventing nuclear terrorism and nuclear proliferation. It acknowledges that for the

foreseeable future, a strong U.S. nuclear force posture will be needed to safeguard deterrence, reassure allies and partners, and promote regional and global stability. But it also judges that because of fundamental changes in recent years—including the growth of unrivalled U.S. conventional military capabilities, major improvements in missile defenses, and easing of Cold War rivalries—the United States will be able to pursue its national security goals at significantly lower nuclear force levels and with reduced reliance upon nuclear weapons. In aspiring to build a new and deeper understanding of how U.S. weapons affect modern-era international dynamics, it reasons that:

- by reducing the role and number of nuclear weapons and thereby meeting its own NPT obligations, the United States can strengthen its ability to persuade NPT partners to pursue measures aimed at reinvigorating the nonproliferation regime and securing nuclear materials worldwide against theft or seizure by terrorist groups
- by maintaining a credible nuclear deterrent posture while reinforcing regional security architectures with missile defenses and other conventional military capabilities, the United States can reassure its nonnuclear allies and partners worldwide that their security is intact and that they do not need nuclear weapons
- by maintaining strategic stability with Russia and China while promoting transparency and mutual confidence, the United States can help create the conditions for moving toward a world without nuclear weapons, while building greater cooperation with them on addressing the threats of nuclear terrorism and nuclear proliferation
- by working to reduce the salience of nuclear weapons in international affairs, partly by further restricting the conditions under which U.S. nuclear weapons might be used, the United States can reverse the growing expectation that a world of many nuclear-armed powers lies ahead, decrease the incentives for additional countries to acquire nuclear weapons, reduce the likelihood of nuclear use, and promote the eventual elimination of nuclear weapons in a step-by-step manner

- by pursuing a sound stockpile management program for extending the life of existing U.S. nuclear weapons, while modernizing aging nuclear facilities and investing in human capital, the United States can substantially reduce the number of stockpiled nuclear weapons retained as a hedge against technological or geopolitical surprises and accelerate the dismantlement of unneeded nuclear weapons.

Preventing Nuclear Proliferation and Nuclear Terrorism. In elevating these two goals to the top of the U.S. nuclear security agenda, the NPR Report strongly affirms that the United States will lead efforts to strengthen the global nonproliferation regime and to accelerate efforts to prevent nuclear terrorism. To bolster the nonproliferation regime, it calls upon the United States to pursue measures aimed at:

- reversing the nuclear ambitions of North Korea and Iran by pursuing negotiations that offer integration into the international community if they comply, while further isolating and pressuring them if they do not
- strengthening IAEA safeguards by giving additional resources and authorities to the agency
- creating consequences for noncompliance, including by ensuring that states cannot escape such consequences by withdrawing from the NPT
- impeding sensitive nuclear trade by strengthening export controls and border controls, disrupting illicit proliferation networks, restricting transfer of dual-use enrichment and reprocessing technologies, making the Proliferation Security Initiative into a durable international institution, disrupting the financing of nuclear terrorism and proliferation networks, and developing a United Nations (UN) trust fund to assist countries in meeting their nonproliferation obligations
- promoting the peaceful uses of nuclear energy without increasing proliferation by pursuing the Global Nuclear Energy Partnership, international fuel banks, agreements by suppliers to take back spent fuel, creation of fuel repositories, and cradle-to-grave nuclear dual-use management.

To strengthen international efforts to prevent nuclear terrorism, the NPR Report calls upon the United States to:

- pursue the President's Prague Initiative, endorsed by UN Security Council Resolution 1887, to secure all vulnerable nuclear materials worldwide
- host summits aimed at fighting nuclear smuggling and terrorism, and at strengthening effective nuclear security measures
- increase funding by 25 percent for national nonproliferation programs
- accelerate the Global Threat Reduction Initiative by removing and securing vulnerable nuclear material, converting reactors to use fuels that cannot be used in nuclear weapons, and completing repatriation of U.S.-origin and Russian-origin highly enriched uranium from world research reactors
- accelerate the International Nuclear Material Protection and Cooperation Program to install nuclear security upgrades at Russian complexes and to expand cooperation with new countries beyond Russia and the former Soviet Union
- secure and eliminate weapons of mass destruction (WMD) and their means of delivery through threat reduction programs at Defense, State, and other departments, including the flagship Nunn-Lugar Cooperative Threat Reduction Program
- enhance national and international capabilities to detect and interdict smuggling of nuclear materials by expanding the Container Security Initiative to screen U.S.-bound cargo; pursue the Second Line of Defense Megaports Initiative to install radiation detectors at key borders, airports, and seaports; and build the 77-country Global Initiative to Combat Terrorism into a durable international institution
- continue to strengthen nuclear forensics efforts
- renew the U.S. commitment to hold fully accountable any state, terrorist group, or other nonstate actor that supports or enables terrorist efforts to obtain or use WMD.

In addition, the NPR Report states that the United States can help strengthen efforts to prevent nuclear terrorism and nuclear proliferation by ratifying New START and later pursuing deeper nuclear reductions, ratifying the Comprehensive Test Ban Treaty, initiating negotiations on a Fissile Material Cut-off Treaty, working with Russia to eliminate 68 tons of unneeded weapons-grade plutonium, and beginning a comprehensive research, development, test, and evaluation (RDT&E) program that develops improved verification technologies and transparency measures.

Reducing the Role of U.S. Nuclear Weapons in National Security Strategy. The NPR Review proclaims that the fundamental role of nuclear weapons in deterring nuclear attack on the United States, its allies, and partners will remain unchanged. But it also announces that the time has arrived to further reduce the already declining role that nuclear weapons play in deterring and defending against conventional aggression and use of biological and chemical weapons (CBW). This step is possible, it claims, because old Cold War threats in Europe are gone and because U.S., allied, and partner militaries now provide a wide range of conventional options to deter and defeat conventional aggression by regional adversaries. Accordingly, it declares, the United States is now prepared to strengthen its longstanding assurance that it will not use or threaten to use nuclear weapons against nonnuclear states that are parties to the NPT and in compliance with nonproliferation obligations. This upgraded assurance, it states, is intended to underscore the security benefits of complying with the NPT and to persuade nonnuclear states to cooperate with efforts to strengthen the nonproliferation regime. In making this revised assurance, it continues, any nonnuclear state that uses CBW against the United States, its allies, or partners will be held accountable and will face a devastating conventional military response. It adds the caveat that the United States reserves the right to alter its assurance about not using nuclear weapons if warranted by the evolution and proliferation of biological weapons in ways that undermine U.S. capabilities to respond effectively with conventional forces.

In the case of countries that possess nuclear weapons and those not meeting their nonproliferation obligations, the NPR Report states, there remains a narrow range of contingencies in which U.S. nuclear weapons may still play a role in deterring a conventional or CBW attack against the United States, its allies, or partners. Therefore, the United States is not yet prepared to adopt a universal policy in which the sole purpose of nuclear weapons is to deter nuclear attack, but will instead work to establish the conditions under which such a policy could be safely adopted. Accordingly, the NPR Report adopts four principles for U.S. nuclear policies:

- The United States will meet its NPT commitments to pursue nuclear disarmament and will make demonstrable progress over the next 5 to 10 years.
- The United States will continue strengthening conventional capabilities and reduce the role of nuclear weapons in deterring nonnuclear attacks, with the goal of making the deterrence of nuclear attack the sole purpose of U.S. nuclear weapons.
- The United States would consider using nuclear weapons only in extreme circumstances to defend its vital interests and those of allies and partners.
- The United States will not use or threaten to use nuclear weapons against nonnuclear states that are in compliance with the NPT and their nonproliferation obligations.

Maintaining Strategic Deterrence and Stability at Reduced Nuclear Force Levels. The NPR Report begins this section by noting that although the United States and Russia have reduced their operationally deployed strategic nuclear force levels by 75 percent since the Cold War ended, both retain many more nuclear weapons than needed for deterrence. It portrays New START as an initial step toward further reducing force levels while preserving strategic stability. U.S. negotiating positions in the New START talks with Russia, it states, were derived from careful NPR analysis aimed at identifying emerging requirements for U.S. strategic nuclear weapons, the scope of potential reductions below the Moscow Treaty level of 2,200 deployed

nuclear forces, and subsequent force limitations. After concluding that the United States should retain a nuclear triad, it states, the analysis determined the appropriate force structure for each leg of the triad: ballistic missile submarines (SSBNs) and submarine-launched ballistic missiles (SLBMs), intercontinental ballistic missiles (ICBMs), and nuclear-capable heavy bombers. The analysis focused on meeting four requirements:

- supporting strategic stability through an assured second-strike capability
- retaining sufficient forces in each leg to be able to hedge effectively by shifting emphasis from one triad leg to another in response to technological surprise or operational vulnerabilities
- retaining a margin above the minimum required nuclear force structure for the possible addition of nonnuclear prompt global strike capabilities, such as ICBMs and SLBMs, that would carry conventional weapons but still be accountable under New START
- maintaining the needed capabilities over the next several decades and more, including retaining a sufficient cadre of trained personnel and infrastructure.

Based on this analysis, the NPR Report declares that New START is based on the following mutual limits, which reduce force levels below the 2,200 nuclear warheads and 1,200 strategic delivery vehicles (SDVs) allowed by the expired Moscow Treaty. Accountable warheads are reduced by about 30 percent below the Moscow Treaty and SDVs are reduced by about 50 percent:

- a limit of 1,550 accountable strategic warheads
- a separate limit of 700 deployed SDVs: ICBMs, SLBMs, and heavy bombers
- a combined limit of 800 deployed and nondeployed ICBM launchers, SLBM launchers, and heavy bombers
- dual-capable bombers will count as one SDV and one warhead in recognition of the fact that heavy bombers do not pose a first-strike threat.

The NPR Report's conclusion that a triad posture should be retained under New START reflects the judgment that each leg of the triad offers unique advantages. SSBNs are highly survivable when deployed at sea, and SLBMs are not vulnerable to air defenses. Single-warhead ICBMs provide strong response capabilities and contribute to stability. Heavy bombers can be deployed forward in a crisis to signal deterrence and reassure allies and partners. Three legs provide a hedge against the risk that one might suffer a major technical or operational failure. A three-leg posture, with each leg capable of withstanding a surprise attack, is far harder to destroy than a single-leg posture. Each leg of the posture offers important targeting capabilities: ballistic missiles can respond rapidly with great accuracy and bombers can strike a wide variety of targets ranging from cities to military installations. Beyond this, as the NPR Report states, a three-leg posture provides options for uploading additional nuclear warheads as a technical hedge against any future problems with delivery systems or warheads or a fundamental deterioration in the security environment.

In providing guidance on the future of the triad under New START, the NPR Report addresses all three legs individually. The United States, it states, will retain all 14 *Ohio*-class SSBNs for the near term while considering a reduction to 12 SSBNs late in the decade. The development of a new SSBN to eventually replace the aging *Ohio*-class SSBNs will commence. The United States will retain 450 Minuteman III ICBMs, de-MIRV (multiple independently targetable reentry vehicle) them by equipping them with only one warhead, extend the service life of the Minuteman IIIs, and initiate study of a follow-on ICBM. The United States will retain a heavy bomber force of 76 B-52H bombers and 18 B-2 bombers that can be equipped with nuclear weapons but are "dual-use" because they are not placed on nuclear alert and can carry conventional bombs and missiles. The B-2 bombers will be upgraded in the coming years.

In addition, the NPR Report provides steps aimed at maximizing presidential decision time in a nuclear crisis:

- maintain the current alert posture of U.S. nuclear forces, with heavy bombers off full-time alert, nearly all ICBMs on alert, and a significant number of SSBNs deployed at sea
- continue the practice of “open-ocean” targeting so that if a missile is inadvertently launched, it will land in the open ocean
- make investments in the U.S. command and control system to enhance its resiliency and capabilities for fully deliberate control of the force in a crisis
- explore new forms of ICBM basing that could enhance survivability.

The NPR Report also provides guidance on future nonstrategic (tactical) nuclear weapons. It notes that these weapons have been reduced dramatically since the Cold War ended. Today, it states, the United States keeps only a limited number of these weapons deployed in Europe, plus a small number stored domestically, that can be promptly deployed in a crisis. All such weapons have been withdrawn from Asia. It argues that particularly because Russia retains large numbers of nonstrategic nuclear weapons, they should be included in any future reduction agreements with Russia beyond New START, but in close consultation with North Atlantic Treaty Organization (NATO) Allies. The NPR Report states that, in cooperation with allies and partners, the United States has determined the Air Force will retain a dual-capable fighter as new F-35s arrive and extend the life span of the B-61 nuclear bomb, and the Navy will retire the nuclear-tipped cruise missile (Tactical Land Attack Missile–Nuclear).

Looking toward the future of nuclear arms control negotiations with Russia, the NPR Report judges that further significant bilateral reductions below New START levels should be pursued. Any such reductions, it cautions, must continue to strengthen the deterrence of adversaries, strategic stability vis-à-vis Russia and China, and reassurance of allies and partners. The United States, it states, is committed to further reducing its own nuclear arsenal, but because large disparities with Russian nuclear forces would not be conducive to a stable long-term relationship, Russia should join the United States in this enterprise.

Strengthening Regional Deterrence and Reassuring U.S. Allies and Partners.

In this section, the NPR Report points out that U.S. allies and partners are on the front line of a changing global security environment. Some of them enjoy unprecedented security and are therefore seeking reduced reliance on nuclear weapons, but others—neighbored by major nuclear-armed powers seeking stronger regional roles, potential aggressors, nuclear proliferators, potential WMD smugglers, and failing states—have been led to seek enhanced security ties to the United States. This complex milieu dictates that the United States must continue to reaffirm its commitment to the security of its allies and partners through not only words, but also deeds. Credibly underwriting these commitments, it continues, includes maintaining firm political ties with them, strengthening U.S. and allied conventional capabilities, and continuing to provide extended deterrence.

Such commitments, the NPR Report states, will retain a nuclear dimension for as long as nuclear threats to allies and partners remain. Today, it judges, a credible U.S. nuclear umbrella is provided by a combination of means: U.S. strategic forces, nonstrategic weapons that are forward deployed, and U.S.-based nuclear weapons that can be deployed forward quickly in response to regional contingencies. In Europe, it states, the continuing presence of a small number of nuclear weapons contributes to NATO cohesion and reassures member nations who feel exposed to regional threats. As a result, decisions to alter the Alliance's nuclear posture should be taken carefully and only after thorough review. In Asia, it reports, the withdrawal of U.S. forward-deployed nuclear weapons means that extended deterrence is mainly carried out by bilateral security agreements with several nations, U.S. conventional forces, central strategic forces, and the capacity to redeploy nonstrategic nuclear forces if necessary. The United States, it states, is pursuing strategic dialogues with its allies and partners in East Asia and the Middle East to determine how best to reassure them that U.S. extended deterrence efforts remain credible and effective.

Enhancing regional security architectures, the NPR Report argues, is a key part of U.S. strategy for strengthening deterrence while reducing the role

and numbers of nuclear weapons. These regional architectures, it states, are to include effective missile defenses, counter-WMD capabilities, conventional power-projection capabilities, and integrated command and control, all underwritten by strong political commitments. Although the U.S. nuclear posture has a vital role to play in these regional architectures, strengthening their nonnuclear elements is vital. Effective missile defenses are essential, and credible deterrence requires land, naval, and air forces capable of fighting limited and large-scale conflicts in antiaccess environments.

Accordingly, the NPR Report calls for the following initiatives:

- continue to work with allies and partners to build enhanced regional security architectures, including nonnuclear capabilities for deterrence, improved partner capacities, and combined exercises and training
- continue and expand ongoing bilateral and multilateral discussions with allies and partners to determine the most effective ways to enhance regional stability in Europe, Northeast and Southwest Asia, and the Middle East
- work with allies and partners to respond to regional threats by deploying effective missile defenses in multiple regions through a phased adaptive approach
- deepen consultations with allies and partners on policies and combined postures to prevent proliferation and to credibly deter aggression
- strengthen counter-WMD capabilities for defeating chemical or biological attacks
- develop improved nonnuclear prompt global strike capabilities for defeating time-urgent regional threats
- develop and deploy more effective capabilities for real-time intelligence, surveillance, and reconnaissance operations
- retain the capability to forward deploy U.S. nuclear weapons on fighters and heavy bombers.

Maintaining a Safe, Secure, and Effective Nuclear Arsenal. The NPR Report declares that the United States is committed to ensure that its

stockpile of nuclear weapons remains safe, effective, and secure. It announces decisions on how best to meet this long-term obligation. Today's nuclear weapons, it notes, have aged well beyond their originally planned life spans, and many excess nuclear weapons are awaiting dismantlement. Since 1992, the United States has not developed, procured, and tested new nuclear weapons to replace aging weapons. Instead, it has stopped nuclear testing and relied upon a Stockpile Stewardship Program to ensure the safety and reliability of existing weapons while extending their lives by refurbishing them to nearly original specifications. Calling for a continuation of this practice, the NPR Report reaches the following conclusions regarding future stockpile management decisions:

- The United States will not conduct nuclear testing, and will pursue ratification and entry into force of the Comprehensive Test Ban Treaty.
- The United States will not develop new nuclear weapons. Life Extension Programs (LEPs) for existing weapons will use only nuclear components based on previously tested designs, and will not support new missions or capabilities.
- The United States will study options for ensuring the safety, security, and reliability of nuclear warheads on a case-by-case basis consistent with the congressionally mandated Stockpile Management Program, and will consider the full range of LEP approaches: refurbishment of existing warheads, reuse of nuclear components from different warheads, and replacement of nuclear components.
- In engineering development for warhead LEPs, the United States will give strong preference to refurbishment or reuse. Replacement of nuclear components will be undertaken only if absolutely necessary.
- The United States will retain the smallest possible stockpile consistent with military and strategic needs.
- Using this approach, the NPR Report urges full funding of ongoing LEPs for the W-76 submarine-based warhead, completion of the LEP study and subsequent activities for the B-61 bomb, and initiation of an LEP study for the W-78 ICBM warhead.

In addition, the NPR Report calls for stronger efforts to improve the eroding complex of laboratories and supporting facilities that handle nuclear weapons, recruit a skilled workforce, and strengthen science, technology, and engineering assets for addressing future warhead policies and programs.

Is a World Without Nuclear Weapons Achievable? In addressing this question, the NPR Report acknowledges that nuclear weapons continue to play a major contributing role in U.S. national security strategy and its quest for stable international security affairs. It also acknowledges the importance of efforts to strengthen U.S. nuclear forces even as negotiations seek deeper reductions than envisioned by New START. Creating a world without nuclear weapons, it judges, will be a long-term and demanding proposition that will require not only ambitious arms control negotiations but also the settlement of regional disputes and the halting of nuclear proliferation. But unless the effort is launched and pursued seriously, the NPR Report concludes, it will never succeed or even make significant headway, and if abject failure is the result, the nuclear world of tomorrow could be significantly more dangerous.

Strengths, Shortfalls, and Lingering Issues. Compared to earlier U.S. Government unclassified studies on nuclear issues, the NPR Report is longer, more complete, and more informative. The report's most ambitious goal is fostering a world without nuclear weapons—a vision that has been praised by some observers, but dismissed as naïve and unachievable by others. Notwithstanding its admission that this goal is a long-term prospect for the far-distant future, the NPR Report is mostly preoccupied with practicalities of handling emerging challenges in the near- and mid-term, and here its approach is decidedly pragmatic. To handle these challenges, it puts forth a large set of policies and initiatives intended to achieve U.S. national security objectives. The key issue is whether these actions are well conceived and sufficiently comprehensive, and whether they will succeed in ways that accomplish their purposes.

A main strength of the NPR Report is its elevation of countering nuclear proliferation and nuclear terrorism to the top of the U.S. nuclear security agenda. Nobody would question that handling these dangerous challenges

is compellingly important, and that the QDR Report makes a concerted effort to chart the path ahead. But while many of its ideas are widely supported, others are controversial. Its agenda for preventing nuclear proliferation reflects a mixture of both. In a bold departure, the NPR Report advances the proposition that nuclear restraint by the United States—for example, such actions as reducing its own nuclear posture and further restricting the conditions under which it would use nuclear weapons in war—will help motivate countries to embrace the NPT and the global nonproliferation regime. Restraint will also prompt others to refrain from acquiring or using nuclear weapons themselves. Is this proposition a reliable guide to effective U.S. policies? Perhaps so but, to a degree, it seems to suggest that past U.S. policies for deploying nuclear forces and using them to enhance deterrence have played a role in accelerating WMD proliferation rather than retarding it. The historical record on this offers a rather mixed appraisal.

Most likely, the powerful U.S. nuclear arsenal helped stimulate the Soviet nuclear buildup early during the Cold War, but had the United States forsaken its own nuclear buildup, it likely would have found itself unable to contain and deter a nuclear-equipped Soviet Union. In recent years, U.S. nuclear weapons may have played a contributing role in motivating North Korea and Iran to pursue their own nuclear weapons. However, these two countries are dangerous adversaries that may have sought these weapons irrespective of whether the United States was reducing its nuclear posture at a faster rate than has been pursued over the past two decades. Beyond this, U.S. nuclear guarantees have undeniably played a strong contributing role in persuading allies and partners—for instance, Germany and Japan—not to acquire their own nuclear weapons. Also, the U.S. nuclear arsenal seemingly played no role in motivating India and Pakistan to acquire nuclear weapons; the two countries were acting for reasons that reflected their own rivalry in South Asia as well as China's nuclear posture, not the U.S. nuclear posture or the global nuclear balance.

The key point of this historical record is that nuclear proliferation responds to underlying geopolitical imperatives and a complex action-

reaction cycle in which the U.S. nuclear arsenal is not always a potent influence on other countries and sometimes retards nuclear proliferation rather than stimulates it. Precisely for this reason, the NPR Report makes clear that U.S. nuclear commitments to allies and friends will remain strong, as will deterrent warnings to nuclear-equipped adversaries, even as the United States strives to scale back the role of nuclear weapons in its global security strategy and reduces its nuclear posture. If nuclear proliferation accelerates in dangerous ways in future years, it likely will compel the United States to extend its nuclear umbrella over a larger number of states than today, including in the Middle East. In this setting, the NPR Report is undoubtedly correct in judging that the United States can help set an example that encourages membership in the nonproliferation regime by showing self-restraint in its own nuclear activities. Whether this approach can be an across-the-board coda for future U.S. nuclear strategy, force posture, and deterrence commitments is another matter entirely. When the dust settles some years from now, U.S. nuclear weapons may play a role that is as large, or even larger, than they play today.

U.S. self-restraint aside, the NPR Report puts forth a set of wide-ranging political and diplomatic steps aimed at halting nuclear proliferation, including a stronger IAEA, impediments to sensitive nuclear trade, peaceful uses of nuclear energy, and consequences for noncompliance. All of these steps make strategic sense. At the top of this list is a U.S. policy to reverse the nuclear ambitions of North Korea and Iran by engaging them politically with offers of favorable treatment if they comply, and threats of further isolation and pressure if they do not. Thus far, this well-oiled approach has not prevented North Korea from openly developing nuclear weapons, and it does not seem to be derailing Iran from its nuclear path. What will happen if, a year or more from now, Iran emerges with nuclear weapons and long-range missiles for delivering them? Will diplomatic engagement and political pressure still be appropriate, or will the United States need to apply nuclear deterrence to Iran, or even launch military strikes against its nuclear

weapons, missiles, and facilities? The NPR Report is silent on these sensitive questions, but clear answers may soon be needed.

The NPR Report also puts forth a large set of measures and programs to prevent nuclear terrorism, including enhanced homeland defense programs and accelerated international cooperation in this domain. These steps all make sense. But will they be adequate to get the job done by both denying terrorists access to nuclear weapons and preventing their use if acquired? Only in-depth technical analysis can answer this question, but the NPR Report does not provide such analysis. At the end of its list of measures and programs, the NPR Report renews the U.S. commitment to hold “fully accountable” any state, terrorist group, or other nonstate actor that supports or enables terrorist efforts to obtain or use nuclear weapons or other WMD. But what does *fully accountable* mean, and how can it be applied not only to states that can be attacked but also to terrorist groups and other nonstate actors that are often hard to attack and, under some circumstances, even hard to identify? The NPR Report is silent on retaliatory mechanisms, but if deterrence is to work in this arena, in-depth analysis of such mechanisms and associated strategies will clearly be needed—perhaps sooner rather than later.

One of the NPR Report’s most high-profile measures is its strengthening of already existing assurances that U.S. nuclear weapons will not be used against nonnuclear states that are meeting their nonproliferation obligations. As intended, this step likely will play a role in enhancing the attractiveness of membership in the NPT club. But it is not new when judged in historical terms. In the last 50 years, the United States has fought multiple conventional wars against adversaries that were not nuclear armed, and it has never seriously intended to use nuclear weapons against them. In the future, the NPR Report implies, the United States will never use nuclear weapons against nonnuclear powers even if they are attacking close American allies with conventional weapons and are threatening to conquer them. If this is new U.S. strategy, it may come as a disturbing surprise to several close allies—for instance, those in NATO and South Korea—that have faced serious conventional threats and always have taken comfort in

the idea that if combined U.S.-allied conventional defenses buckle, U.S. nuclear weapons will come to the rescue. After all, NATO military strategy during the Cold War called for nuclear weapons to help offset the Alliance's vulnerable conventional defenses, and, in recent years, NATO has not cast aside this provision or embraced a "no first use" doctrine. Nor have key allies in Asia done so.

Troubling questions arise about the theory and precepts of the new nuclear non-use pledge. Why does the lack of nuclear weapons make a conventional aggressor entirely immune from U.S. nuclear reprisals? Why is U.S. military strategy determined not by the safety and security of vulnerable allies that belong to U.S.-led alliances, but instead by the presence or absence of nuclear armaments in the hands of aggressors? Is U.S. strategy now stating that if vital American interests are threatened by an adversary with imposing conventional forces but no nuclear weapons, the United States will keep its nuclear weapons holstered even if they are the only recourse for protecting those interests? If such a nonnuclear adversary can conduct conventional aggression without fearing U.S. nuclear reprisals, why would a nuclear-armed power hesitate to commit similar aggression if it promises to keep its own nuclear forces out of the contest? If the United States is unwilling to pursue nuclear escalation against enemies that lack nuclear weapons, why should allies and partners trust that it is willing to escalate in the more dangerous presence of enemies with nuclear weapons? In trying to answer these questions, the NPR Report states that if nuclear weapons are to be safely forsaken, future U.S. and allied conventional postures will need to be made strong enough to perform their defense missions. Doubtless so, but sometimes achieving this goal is easier said than done. Although stalwart conventional defenses can be erected, normally they cannot be made impregnable. There will almost always be a degree of risk that nuclear forces were, in the past, designed to lessen, even after they already had been relegated to the backwaters of common defense strategy. To claim that nuclear weapons are a last resort is one thing, but to assert that they are

no longer any resort at all is something else, even if the caveat is that this formula applies only to nonnuclear adversaries.

The NPR Report tries to work its way out of its strategy conundrum in this area by stating that U.S. nuclear weapons could still be used to counter conventional aggression or CBW use by nuclear-armed states. In doing so, it seems to presume that if future adversaries possess menacing conventional forces, they likely will come equipped with nuclear weapons. Furthermore, it states that owing to superior U.S. and allied conventional means, such contingencies are narrow in range yet plausible. As a result, it declares, the United States is not yet prepared to adopt a universal policy that the sole purpose of nuclear weapons is to deter nuclear attack. Clearly this is a wise decision. But is the NPR Report correct in judging that plausible contingencies involving successful conventional aggression by a nuclear-armed adversary are truly small in number? What if Russia attacks the vulnerable Baltic states, or North Korea attacks South Korea, or China attacks Taiwan, or a nuclear-armed Iran attacks the Gulf Cooperation Council states of the Persian Gulf and tries to close the Strait of Hormuz? If plausible contingencies can be easily imagined in all major regions, this suggests that the era of nuclear-backed conventional aggression is far from being over, is still flourishing, and may be growing. If so, U.S. strategy for blending conventional defense with nuclear deterrence has more to consider than the NPR Report implies.

The NPR Report's advocacy of New START is controversial in some quarters because this treaty allegedly may be manipulated to constrain the United States from such measures as deploying mobile ICBMs and missile defenses, and may leave the Russians too much wiggle room for modernizing their nuclear forces. After a vigorous debate, the Senate ratified New START by 71 to 26 in December 2010. Regardless of how New START criticisms are appraised, the underlying issue is whether the proposed future U.S. nuclear posture—a still existing triad with 700 deployable SDVs and 1,550 warheads—will be adequate to meet enduring U.S. nuclear requirements for deterrence and warfighting. Confident adequacy seems the appropriate judgment, but questions begin arising when ever deeper force cuts are contem-

plated. On the surface, only a few SDVs and warheads appear capable of inflicting all the nuclear damage that could be wanted. But over past years, many studies have shown that when the demands of deterrence, survivable retaliation, and wartime targeting are added up, nuclear force requirements multiply rapidly and soon reach unanticipated levels. Beyond this, the new global nuclear setting involves more than the U.S.-Russia bilateral relationship; it now includes China, North Korea, potentially Iran, and possibly other countries that might have to be factored into the future U.S. force-sizing equation. A sensible conclusion is that if the U.S. Government is to pursue nuclear force cuts far deeper than New START, it is best advised to have its analytical house in order. Among other things, studies should examine the detailed mathematics of how U.S. and Russian nuclear forces should be reduced safely in a global setting of multiple nuclear-armed powers, so that the consequence is existing deterrence and stability, not the opposite.

The NPR Report makes an important contribution by calling for creation of new regional security architectures in such key regions as Europe, Asia, and the Middle East. As it implies, each region must be treated on a case-by-case basis. In this arena, the NPR Report is strong in its assessment of military requirements; it implies that such architectures can be built on a combination of improved conventional forces and missile defenses that lessen the traditional roles of nuclear weapons. Perhaps this treatment is correct, but in its preoccupation with military preparations, it neglects to discuss in any depth the underlying political foundations for such regional architectures. Years of U.S. experience going back to the Cold War and afterward have shown that the task of building solid political foundations is complex and hard, but must be undertaken well before the military superstructure is added. Perhaps Europe and Asia already possess much of this political foundation as well as the necessary military superstructure, but if Iran acquires nuclear weapons, the same cannot be said of the Middle East and Persian Gulf, where discussions with allies and partners are in early stages. If the United States, its allies, and partners must erect new security architecture there with the deterrence of Iran foremost

in mind, they will have their work cut out—even if the NPR Report is not explicit on this point.

Finally, the NPR Report puts forth a coherent agenda for maintaining a safe, secure, and effective nuclear stockpile by not testing nuclear weapons, upgrading existing warheads and components, retiring unneeded warheads, and improving the facility infrastructure with better complexes and competent people. It prescribes a way to support the force posture with fewer warheads, avoid the contentious path of developing new warheads, and lower budget costs. But this agenda is neither inexpensive nor devoid of controversies. Its rejection of new weapons in favor of upgrading old weapons is controversial among some critics, who believe that new weapons are needed. Its proposals for facility infrastructure improvements are criticized by some observers who judge that the necessary funds and activities will not be forthcoming. Such criticisms aside, the NPR Report's basic policies make sense on issues of great technical complexity, but debates over specific warheads, development designs, and investment plans are likely to linger.