

THE HENRY L. STIMSON CENTER

**Phased Nuclear
Disarmament and
US Defense Policy**

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Pragmatic steps toward ideal objectives



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Preface

On September 24, 1996, the five declared nuclear weapon states signed the Comprehensive Test Ban Treaty, culminating a 40-year effort to end nuclear testing and thus curb the development of new nuclear weapons. US President Bill Clinton lauded the treaty as a “giant step” forward in the move “toward a century in which the roles and risks of nuclear weapons can be further reduced, and ultimately eliminated.” Clinton also announced that the United States was prepared to begin discussing with Russian President Boris Yeltsin the “possibility” of further bilateral reductions in strategic forces once Russia had ratified the START II accord.

The prospect of further reductions in US nuclear forces and, perhaps, of subsequent steps to eliminate progressively all nuclear weapons raises many important issues for US defense planners. In the nearer term, what impact would reductions to a level of 1,000 to 2,000 weapons have on US military strategy, nuclear doctrine, and conventional forces? to a level of several hundred weapons? At what point in the process of step-by-step reductions would a fundamental revision of thinking about nuclear roles, targeting doctrine, and force structure be necessary? What risks would further steps in the direction of elimination entail for the United States?

These and other issues are the subject of Michael Brown’s study of “Phased Nuclear Disarmament and US Defense Policy.” The study is the third in a series that examines key challenges for the elimination of weapons of mass destruction. Other papers in the series explore the problems of verifying a ban on nuclear weapons; the challenges of safeguarding against violations of an elimination regime; the relationship between deeper cuts in offensive weapons and the development of defensive systems; and linkages between biological, chemical, and nuclear weapons.

The series is part of the Henry L. Stimson Center’s Project on Eliminating Weapons of Mass Destruction, which seeks to encourage a national and international debate on the long-term nuclear future. The project is based on the premise that the end of the Cold War, dissolution of the Soviet Union, and grave dangers of proliferation provide both reason and opportunity to reexamine fundamental assumptions regarding the relative benefits and risks associated with weapons of mass destruction. Through research and public education efforts, the Center seeks to explore the obstacles to, and implications of, the progressive elimination of all nuclear, chemical, and biological weapons from all states and to consider measures that might bring all states closer toward that goal.

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List of Abbreviations

ALCM	Air-launched cruise missile
CTBT	Comprehensive Test Ban Treaty
ICBM	Intercontinental ballistic missile
INF	Intermediate-range Nuclear Forces
Minatom	Ministry of Atomic Energy (Russia)
NATO	North Atlantic Treaty Organization
NPR	US Nuclear Posture Review
NPT	Nuclear Non-Proliferation Treaty
SIOP	Single Integrated Operational Plan
SLCM	Submarine-launched cruise missile
START I	Strategic Arms Reduction Treaty I (between the United States and USSR)
START II	Strategic Arms Reduction Treaty II (between the United States and Russia)

Phased Nuclear Disarmament and US Defense Policy

For decades, nuclear arms control negotiations moved slowly and generated little in the way of real disarmament. The first breakthrough was the 1987 treaty on Intermediate-range Nuclear Forces (INF), which obligated the United States and the Soviet Union to eliminate an entire class of missiles and missile launchers.¹ The eighteen-month period beginning with the signing of the first Strategic Arms Reduction Treaty (START I) in July 1991 and ending with the signing of the second START accord (START II) in January 1993 constituted an even more significant watershed. These two agreements, in conjunction with several unilateral initiatives undertaken during this period by Washington and Moscow, obliged the United States and Russia to reduce their inventories of deployed strategic and tactical nuclear weapons by over 70 percent. In addition, Washington and Moscow took steps to enhance nuclear stability, reduce the dangers posed by accidental launches and unauthorized attacks, slow down nuclear modernization, and strengthen verification mechanisms.²

Important progress has also been made in multilateral efforts to control nuclear proliferation. China and France signed the Nuclear Non-Proliferation Treaty (NPT) in 1992, and the NPT was extended indefinitely at its May 1995 review conference. Efforts to conclude a Comprehensive Test Ban Treaty (CTBT) and a ban on production of fissile material for military purposes have moved forward.

Encouraged by these developments and spurred by the dangers posed by existing nuclear arsenals and nuclear proliferation, scholars, analysts, and policymakers have started to take a harder look at the possibilities for complete, global nuclear disarmament. Many believe that eliminating nuclear weapons from the face of the planet is a highly desirable long-term objective.³ The Stimson Center's Project on Eliminating Weapons of Mass Destruction has taken a pragmatic approach to this issue, arguing that if nuclear disarmament is to come about, it will probably do so through a step-by-step process that will unfold over a long period of time—perhaps decades. The Project's

¹ For an analysis of the INF Treaty, see International Institute for Strategic Studies (IISS), *Strategic Survey, 1987–1988* (London: IISS, 1988), 21–32.

² For an overview of these agreements and initiatives, see Michael E. Brown, “Recent and Prospective Developments in Nuclear Arsenals,” in *Nuclear Deterrence: Problems and Perspectives in the 1990s*, ed. Serge Sur (New York: United Nations, 1993), 17–44.

³ See, for example, Barry M. Blechman and Cathleen S. Fisher, “Phase Out the Bomb,” *Foreign Policy* 97 (Winter 1994–95): 79–95; Michael MccGwire, “Is There a Future for Nuclear Weapons?” *International Affairs* 70, no. 2 (April 1994): 211–228; Joseph Rotblat, Jack Steinberger, and Bhalchandra Udgaonkar, eds., *A Nuclear-Weapon-Free World: Desirable? Feasible?* (Boulder, Colo.: Westview Press, 1993); Robert S. McNamara, “Conclusion, 30 Years On: Better a Non-Nuclear World,” *International Herald Tribune*, 15 October 1992, 4; Richard Barnet, “Twin Anachronisms: Nuclear Weapons and Militarism,” *Bulletin of the Atomic Scientists* 48, no. 4 (May 1992): 26–27; Randall Forsberg, “Keep Peace by Pooling Armies,” *Bulletin of the Atomic Scientists* 48, no. 4 (May 1992): 41–42; Daniel Ellsberg, “Undoing the Doomsday Machine,” *Washington Post*, 10 May 1992, C-3; Gar Alperovitz and Kai Bird, “Dream of Total Disarmament Could Become a Reality,” *Los Angeles Times*, 12 January 1992, M-2.

Steering Committee envisages a four-step process: during Phase I, the United States and Russia would reduce their strategic arsenals to no more than 2,000 weapons each; during Phase II, the five declared nuclear weapon states (the United States, Russia, China, France, and Britain) would agree to reduce their arsenals to or cap their arsenals at no more than several hundred weapons each; during Phase III, all nuclear weapon states would reduce their arsenals to or cap their arsenals at no more than several dozen weapons each; during Phase IV, all nuclear weapons would be eliminated.⁴

This paper explores the implications of phased reductions in nuclear forces for US defense policy. First, it identifies and analyzes the main strategic conditions that would have to be met, particularly from the standpoint of US policymakers, before each of these steps could be taken. It then discusses the impact these steps would have on US defense policy, focusing in particular on the changes that would have to take place in US military strategy, US nuclear doctrine, the US nuclear force structure (strategic offensive forces, strategic defenses, and tactical nuclear capabilities), US conventional forces, and the US ability to extend deterrence to key allies in Europe, Asia, and the Middle East. Third, it makes some broad assessments about the risks each of these disarmament steps would pose to US national security.

My main arguments are as follows. Phase I reductions (to 2,000 strategic nuclear weapons in the United States and Russia) would be comparatively easy to bring about, and they would involve comparatively minor changes in US defense policy. (See Table 1.) Fundamental changes in US nuclear doctrine and the strategic triad would not be required, for example. A commitment to Phase I reductions would improve the odds for Russian ratification and implementation of START II, which is very much in the US national interest, and Phase I reductions themselves would pose only small risks to US national security.

Table 1. Phased Nuclear Disarmament: Conditions, Changes, Risks

	Conditions	Changes in US Defense Policy	Risks to US National Security
Phase I	Easy	Minor	Small
Phase II	Hard	Major	Moderate
Phase III	Hard	Minor	Moderate
Phase IV	Very Hard	Major	Moderate–Great

⁴ Steering Committee of the Project on Eliminating Weapons of Mass Destruction, *An Evolving US Nuclear Posture*, Report No. 19 (Washington, D.C.: Henry L. Stimson Center, December 1995).

Phase II reductions (to no more than several hundred weapons in the United States, Russia, China, France, and Britain) would be much more complicated, because they would have to involve five (and perhaps more) nuclear powers, and because they would involve major changes in several aspects of US defense policy. For example, fundamental changes in US nuclear doctrine would probably be required, and the strategic triad would almost certainly have to be jettisoned. Phase II reductions would involve moderate but manageable risks to US national security.

Phase III reductions (to no more than several dozen weapons in any state) would also be complicated because more states would have to be worked into the equation, because the non-proliferation regime would have to be strong and dependable, and because questions about the number of nuclear weapons and the amount of weapon-grade fissile material produced worldwide—especially in the former Soviet Union—would have to be resolved. Since major changes in US nuclear doctrine and the triad would have to take place with the implementation of Phase II reductions, Phase III reductions would involve comparatively minor, incremental changes in the main elements of US defense policy. Assuming that the proliferation and verification problems noted above could be overcome, Phase III reductions would involve moderate but manageable risks to US national security.

Phase IV reductions—the elimination of all nuclear weapons worldwide—would involve crossing a qualitative threshold that might be hard to negotiate. Complete nuclear disarmament would have to involve extraordinarily stringent non-proliferation and verification regimes and safeguards. This, in turn, would involve infringements on state sovereignty that many states would find objectionable. In addition, complete nuclear disarmament would involve another fundamental shift in US defense policy. The problem of extending deterrence to close allies, which could be sidestepped as long as the United States retained at least a small nuclear arsenal, would loom large at this point. The long-term ability of the United States to retain conventional superiority and formidable capabilities to project military power overseas would also have to be taken into account. Phase IV reductions could involve great risks to US national security because of the dangers posed by secret caches of nuclear weapons or stockpiles of fissile material, and by the possibility of rearmament races.

Much would depend, however, on the political context within which disarmament might take place. It is possible that a more benign scenario could unfold.⁵ The emergence of good political relations between and among the great powers could diminish threat perceptions and the value attached to having nuclear arsenals. The emergence of “safeguards regimes” and collective security arrangements could minimize the chances of rogue states acquiring or reacquiring nuclear capabilities. The process of implementing phased nuclear reductions over many years could reinforce these trends and make the final leap across the disarmament threshold less intimidating.

⁵ See *Ibid.*, 35–36.

Even if these benign trends do not develop, there is a realist case for nuclear disarmament. Although reducing nuclear capabilities will often involve running some national security risks, inaction could be even more dangerous. If nuclear powers do not take meaningful steps to live up to their NPT commitments and eliminate their nuclear arsenals, it might become difficult to sustain and extend the non-proliferation regime. If the dangers of rampant proliferation to a wide range of state and non-state actors become great, states could decide to accept the risks and infringements on sovereignty associated with a disarmament regime as the alternative would be far worse.

In looking at the prospects for phased nuclear disarmament, therefore, one should consider both benign scenarios (in which relations among the great powers are good) and less benign scenarios (in which relations among the great powers are contentious or even adversarial). Phased disarmament would be more difficult to achieve if the latter unfold, but progress would still be possible. The balance of risks might push states in the direction of disarmament even if political relations between and among the great powers are strained.

Phase I Reductions

The first phase of the disarmament process, as envisaged by the Stimson Center's Project on Eliminating Weapons of Mass Destruction, would involve reductions in US and Russian nuclear arsenals to no more than 2,000 strategic weapons per side.⁶ It is also assumed that reduced alert levels could be worked into the equation, thereby enhancing strategic stability and reducing the dangers posed by unauthorized attacks and accidents. At the same time, more emphasis would be placed on safety, security, and accounting issues. At a multilateral level, it is hoped that bans on nuclear testing and the production of fissile material for military purposes would be in place.

Three other issues should also be considered in Phase I: limits on tactical nuclear weapons, dismantlement of reserve weapons, and problems associated with fissile material.

In 1991 and 1992, Washington and Moscow made several unilateral commitments to redeploy and dismantle vast numbers of tactical nuclear weapons.⁷ The United States promised to destroy its entire inventory of over 2,000 ground-launched tactical nuclear weapons, most of which were deployed in Western Europe and South Korea. NATO decided to reduce the number of air-delivered tactical nuclear weapons deployed in Western Europe from 1,400 to 700. The United States also promised to stop deploying tactical nuclear weapons on naval vessels in peacetime; half of its inventory of approximately 2,200 sea-based tactical nuclear weapons were to be destroyed. In

⁶ The Steering Committee's report does not say if this 2,000-weapon ceiling applies only to strategic nuclear weapons or to all nuclear holdings. Since most of the report's discussion on this question takes place in the context of START I and START II limits, I will assume that this ceiling applies only to strategic weapons. See Steering Committee, *An Evolving US Nuclear Posture*, vii, 11–24.

⁷ For an overview, see Brown, "Recent and Prospective Developments," 18–26.

sum, the United States pledged to reduce its arsenal of tactical nuclear weapons from almost 6,000 weapons to around 2,500 weapons. Further cuts have subsequently been instituted. The US Nuclear Posture Review, launched in October 1993 and completed in September 1994, pledged to “eliminate the option” of deploying tactical nuclear weapons on carrier-based aircraft and of carrying nuclear cruise missiles on surface ships, but it decided to retain the option of deploying nuclear cruise missiles on submarines.⁸ It is estimated that the United States now retains at least several hundred and perhaps as many as 1,500 tactical nuclear weapons.⁹

Moscow pledged to make comparable cuts in its substantially larger inventory of tactical nuclear weapons. As of 1992, its inventory consisted of 17,000 to 18,000 tactical weapons, including 4,000 weapons redeployed from Eastern Europe and 6,000 weapons redeployed from other republics of the former Soviet Union. Like Washington, Moscow pledged to destroy all of its ground-launched weapons and half of its air-delivered weapons. It also promised to stop deploying tactical nuclear weapons on naval vessels in peacetime.¹⁰ It is estimated that Russia retains an operational stockpile of 4,000 tactical nuclear weapons, plus a reserve stockpile of perhaps a thousand or more weapons.¹¹

Although substantial progress has been made in consolidating and reducing US and Russian inventories of tactical nuclear weapons, this has been done on an informal, unilateral basis. If the goal is limited to reducing strategic arsenals to 2,000 weapons per side and no further reductions are foreseen or desired, then it is not necessary to reach a formal agreement complete with verification protocols on tactical nuclear weapons; if each side retains 2,000 strategic weapons plus large numbers of tactical weapons, a few hundred tactical weapons one way or the other will not upset the nuclear balance. However, if the goal is to proceed to Phase II reductions that would limit the United States, Russia, China, France, and Britain to several hundred nuclear weapons each, then US and Russian tactical nuclear arsenals will have to be worked into the equation in a formal way sooner or later. It is inconceivable that China, for example, would agree to place limits on its intermediate-range and intercontinental-range capabilities if hundreds and perhaps thousands of Russian tactical nuclear weapons were unaccounted for.

The same problem is posed by reserve weapons. START I and START II oblige Washington and Moscow to destroy large numbers of strategic launchers, but these treaties do not include provisions for dismantling warheads and gravity bombs taken out of operational inventories. These two treaties obligate Russia, for example, to take out of service launchers associated with approximately 8,000

⁸ See “DOD Review Recommends Reduction in Nuclear Force,” News Release, Office of the Assistant Secretary of Defense (Public Affairs), 22 September 1994, 2.

⁹ See David Albright et al, “Inventories of Fissile Materials and Nuclear Weapons,” in Stockholm International Peace Research Institute (SIPRI), *SIPRI Yearbook 1995* (Oxford: Oxford University Press, 1995), 326–327

¹⁰ For details, see Brown, “Recent and Prospective Developments,” 18–26.

¹¹ See Owen R. Coté, Jr., “The Russian Nuclear Archipelago,” in Graham T. Allison, Owen R. Coté, Jr., Richard A. Falkenrath, and Steven E. Miller, *Avoiding Nuclear Anarchy: Containing the Threat of Loose Russian Nuclear Weapons and Fissile Material* (Cambridge, Mass.: MIT Press, 1996), 177–180.

strategic nuclear weapons. Although Russia is dismantling strategic and tactical nuclear weapons at a rate of 2,000 to 3,000 weapons per year, it is under no legal obligation to do so, and no bilateral or multilateral verification mechanisms are in place to determine how many weapons have been dismantled and how many remain intact. If current trends continue, it is estimated that in the year 2003 Russia will have operational stockpiles of 3,000 strategic weapons and 4,000 tactical weapons, plus a reserve stockpile of 4,000 strategic and tactical weapons.¹² This reserve stockpile does not pose a problem if the goal is simply a new agreement on lower ceilings for strategic forces. Reserve weapons pose serious problems, however, if the aim is to pursue Phase II reductions.

Although dismantlement of nuclear weapons is generally seen as a good thing, it can compound some problems and risks. In Russia, for example, nuclear weapons are controlled by the Ministry of Defense, which appears to have effective safety and security mechanisms in place. Once weapons are dismantled, however, the fissile material that remains is controlled by the Ministry of Atomic Energy (Minatom), which appears to have ineffective safety and security systems in place at many of its facilities. Since Russia has enough fissile material for 100,000 nuclear weapons, establishing and maintaining control over all of Minatom's facilities is a matter of great importance.¹³ The dangers are twofold. First, fissile material might be smuggled out of Russia and into the hands of proliferators or terrorists. This is a problem that merits immediate, serious, and sustained attention from policymakers everywhere. Second, this massive inventory of fissile material gives Russia a break-out capability that will eventually complicate the arms reduction process. Policymakers in the United States will not be unduly worried about this as long as the US nuclear arsenal contains thousands of weapons, but they would probably be disinclined to slash the US arsenal to a few hundred weapons if Russia had a latent capability to deploy thousands or tens of thousands of weapons.

Because Phase II negotiations would be multilateral and complicated, it would be wise to tackle the problems posed by US and Russian tactical nuclear weapons, reserve weapons, and fissile material inventories in Phase I. Lower ceilings for strategic weapons, formal limits on tactical nuclear weapons, and agreements on reserve weapons and fissile material need not be tackled simultaneously, however. In "Phase I-A," a START III framework for strategic weapons could be reached. In "Phase I-B," formal agreements could be reached on tactical nuclear weapons, reserve weapons, and fissile material. One option would be to aim for a limit of 1,000 tactical nuclear weapons and 1,000 reserve weapons on each side. This agreement would formalize reductions in these areas and allow for the creation of bilateral verification mechanisms without pushing US and Russian arsenals down to very low levels. US and Russian policymakers would have to contend with only one set of issues at a time. These bilateral frameworks would lay the groundwork for the multilateral agreements that might follow.

¹² Ibid.

¹³ See Allison, Coté, Falkenrath, and Miller, *Avoiding Nuclear Anarchy*, chapter 1.

Strategic Conditions

The disarmament steps envisaged for Phase I would face the fewest strategic obstacles. First, Phase I reductions (to 2,000 strategic nuclear weapons) would involve only the United States and Russia; China, France, and Britain would not have to be brought into the negotiating picture until Phase II.¹⁴

Second, Phase I reductions would not undercut US and Russian perceptions (misguided or not) about the relationship between the possession of massive nuclear arsenals and superpower status in international affairs. Although the United States has the world's largest economy and most powerful conventional military forces, many US policymakers see the country's massive nuclear arsenal as an important, tangible manifestation of its superpower status. These feelings are even more intense in Russia, which remains a superpower in one and only one area: nuclear affairs. Phase I reductions to 2,000 strategic nuclear weapons would not agitate individuals in Washington and Moscow who believe that their country's nuclear arsenals should be substantially more powerful than those of China, France, and Britain.

Third, Phase I reductions would not necessarily depend on the existence of warm, friendly relations between the United States and Moscow. Lower ceilings for strategic weapons would be in Moscow's interest, regardless of the state of its relationship with Washington, because they would address perceived inequities in the START II framework and cap US deployments at 2,000 weapons—a level Russia would be hard-pressed to exceed in any event due to economic and financial constraints.¹⁵ Agreeing to further cuts would be in Washington's interest because this would improve the chances for Russian ratification and implementation of START II. This is a paramount interest of the United States, because START II obligates Russia to eliminate all of its multiple-warhead intercontinental ballistic missiles (ICBMs), a major threat to strategic stability.¹⁶ National security interests should push the United States and Russia in the direction of a deal even if political relations between the two are less than cozy.

The main argument made in Washington against further reductions in US nuclear forces is that Russia's political future is uncertain. Large US nuclear forces are needed, it is said, as a "hedge" against the possibility that a resurgent, expansionist regime might come to power in Moscow. This

¹⁴ Although China, France, and Britain would not have to be brought into the negotiations at this point, there might be value in including them in informal discussions to set the stage for more substantive talks later on.

¹⁵ For an overview of Russian complaints about START II, see John W.R. Lepingwell, "START II and the Politics of Arms Control in Russia," *International Security* 20, no. 2 (Fall 1995): 63–91.

¹⁶ Some argue that the United States should favor further cuts because another round of reductions would leave Russia with only 2,000 instead of 3,500 or 6,000 strategic weapons. The United States, it is said, would "be better off" even if a hostile government came to power in Russia. A hostile Russia armed with 2,000 strategic weapons, however, would still be able to inflict unthinkable amounts of damage on the United States in the event of an all-out war. The main reason for favoring Phase I/START III reductions is the impact this would have on the prospects for START II ratification and implementation. See Steering Committee, *An Evolving US Nuclear Posture*, vii, 17.

was one of the main reasons why the US Nuclear Posture Review (NPR) did not endorse the idea of START III negotiations. Secretary of Defense William Perry explained:

[We] kept in mind as we conducted the NPR that START I has not yet entered into force, nor has START II been ratified. For this reason, and because of the uncertain future of the rapid political and economic change still underway in the former Soviet Union, we made two judgments in the NPR. First, we concluded that deeper reductions beyond that made in the NPR would be imprudent at this time; and second, we took several actions to ensure that we could reconstitute our forces as the decade went along, if we needed to.¹⁷

There are two flaws in this line of argumentation. First, it characterizes the START process in simple, linear terms, arguing that it makes no sense to outline START III limits until START II has been implemented. Yet, ratification and implementation of START II might depend on the existence of a START III framework that addresses Russian concerns. A mechanistic approach to this issue could undercut the implementation of START II—a treaty that is very much in the US national security interest. Second, Perry and his colleagues in the Clinton administration argue that the United States needs to retain 3,500 strategic weapons in case Russia becomes aggressive and an even larger US nuclear force is needed. Thousands of additional strategic nuclear weapons would add little or nothing to Washington's and NATO's ability to deter Russia, however, especially given that NATO has overwhelming conventional superiority with respect to Russia and given that Moscow has lost almost all of its allies in Central and Eastern Europe. Even if additional strategic nuclear capabilities were needed, a force structure capped at 2,000 weapons provides an adequate base for expansion. In addition, because of its sound economy, the United States would be in a stronger position than Russia to embark on a nuclear expansion program, should such an effort become necessary.

Those who favor retention of massive arsenals also argue that they help to deter rogue states that might acquire nuclear, biological, or chemical weapons, and that they minimize vulnerabilities that could be created if one's adversary breaks out of an agreement.¹⁸ But reducing US strategic nuclear capabilities from 3,500 to 2,000 weapons would not significantly undercut the US ability to deter rogue states; one does not need thousands of nuclear weapons to deal with the threats posed by potential proliferators or nuclear terrorists. New nuclear states would not be able to deploy large

¹⁷ Perry quoted in "DOD Review," 3.

¹⁸ For arguments in favor of retaining large nuclear arsenals, see Walter B. Slocombe, "Strategic Stability in a Restructured World," *Survival* 32, no. 4 (July–August 1990): 299–312; Walter B. Slocombe, "The Continued Need for Extended Deterrence," *Washington Quarterly* 14, no. 4 (Autumn 1991): 157–172; Thomas C. Reed and Michael O. Wheeler, "The Role of Nuclear Weapons in the New World Order," Hearings Before the Armed Services Committee, U.S. Senate, 102nd Congress, 2nd Session, January 23, 1992. For a discussion of the debate over appropriate force levels, see Stephen A. Cambone and Patrick J. Garrity, "The Future of U.S. Nuclear Policy," *Survival* 36, no. 4 (Winter 1994–95): 73–95; Michael J. Mazarr, "Nuclear Weapons After the Cold War," *Washington Quarterly* 15, no. 3 (Summer 1992): 185–201; Michael E. Brown, "The 'End' of Nuclear Arms Control," *Arms Control* 14, no. 1 (April 1993): 38–68.

arsenals quickly; established arsenals of even a few dozen nuclear weapons would be awesome in comparison. If proliferators tried to deploy large forces, the established nuclear powers would have years to build up their own forces in response. If they desired to do so, the established nuclear powers would be able to retain a margin of superiority over most new nuclear powers. The key to deterring terrorists is identifying and finding them; massive nuclear arsenals do not add to one's deterrent capabilities in this context. Indeed, it is not at all clear that nuclear weapons are effective deterrents against terrorist use or threat of use of weapons of mass destruction. Finally, although large forces do provide more insurance against cheating and break-out problems than small forces, it is hard to imagine national leaders entering into *any* agreement that failed to address these problems effectively. Better verification is the appropriate response to these concerns, and verifying a START III agreement should not be a problem.

In short, there are few strategic obstacles to the institution of Phase I cuts that would reduce US and Russian strategic nuclear arsenals to 2,000 weapons each. The situation becomes more complicated, however, if one is also thinking of pursuing agreements on tactical nuclear weapons, reserve weapons, and fissile material. Agreements in these areas would require a significant expansion of the verification protocols currently enshrined in START I and START II. Because verifying limits on tactical nuclear weapons and monitoring dismantlement operations would be highly intrusive undertakings, extending these verification arrangements would be facilitated by the existence of cordial relations between Washington and Moscow. Addressing Russian concerns about START II by agreeing on a START III framework might make Moscow more agreeable to these kinds of highly intrusive verification arrangements. It is not at all clear, however, that the United States would be willing to go down this path as well; to date, Washington has been reluctant to accept such transparency provisions. Overcoming US bureaucratic opposition to deeper cuts and more intrusive verification is one of the main obstacles to further arms control progress. Much will depend, therefore, on the ability of the political leadership in Washington to recognize that the benefits of deeper cuts and intrusive verification outweigh their costs.

Implications for US Defense Policy

Phase I reductions would not force US policymakers to make major changes in the main elements of US defense policy.

First, the role of nuclear weapons in US military strategy is already being de-emphasized. One reason for this is the disappearance of the Soviet conventional threat. Nuclear weapons were designated "truly weapons of last resort" by NATO in July 1990, soon after the collapse of Soviet power in Central and Eastern Europe.¹⁹ With the break-up of the Soviet Union in December 1991 and the subsequent collapse of the Russian military, Moscow's conventional threat to Western European security completely evaporated. NATO leaders believe that, even if the Russian military

¹⁹ Heads of State and Government Participating in the Meeting of the North Atlantic Council, "Declaration on a Transformed North Atlantic Alliance," London, 5-6 July 1990.

was revitalized at some point in the future, Russian conventional capabilities could be easily countered by US and Western European conventional forces, which would have enormous technological advantages and economic resources on which to draw. Nuclear weapons, which were once near the center of NATO planning, have been relegated to the most distant of peripheries.

Another reason for the diminishing role of nuclear weapons in US military strategy is the emergence of conventional alternatives. As vividly demonstrated during the Gulf War in 1991, US military forces have a growing array of long-range, precision-guided munitions on which to draw. Highly accurate conventional weapons have achieved a level of lethality, even against hard targets, that makes the use of nuclear weapons even more remote: high levels of accuracy make high levels of yield unnecessary.²⁰ This increasing lethality, along with START constraints, is why many long-range bombers, including the entire B-1B fleet, have been given conventional missions.

This transformation in thinking is not limited to US Army and Air Force operations. As noted above, the US Navy has forsworn the capability to deploy tactical nuclear weapons on surface ships. Nuclear weapons for carrier-based aircraft and nuclear cruise missiles will no longer be deployed on US Navy surface vessels.

As a result of these trends, Phase I reductions in nuclear forces would not impinge on US military strategy. To the contrary, they would simply reinforce developments that already have taken place or are taking place for other reasons. Reducing US strategic nuclear forces to 2,000 weapons would not constrain plans to use nuclear weapons in the event of a large-scale conventional war in Europe or Asia, an exceedingly remote contingency in any event. Similarly, placing a cap of 1,000 on US tactical nuclear weapons would not impinge on planning for other contingencies.²¹

Second, Phase I reductions would not require US policymakers to make major changes in US nuclear doctrine or US nuclear war plans. Although US officials conducted a wide-ranging Nuclear Posture Review in 1993–94, the basic philosophy and deterrent strategy that guide the formation of the Single Integrated Operational Plan (SIOP) have not changed. The kinds of targets in the SIOP and targeting priorities have not changed. More specifically, the SIOP still places tremendous emphasis on counter-nuclear targeting, and the levels of damage expected of attack options are still high. This focus translates into plans for prompt, massive attacks on a wide range of nuclear and other military facilities.

What has changed is that the number of installations targeted in US nuclear war plans has dropped sharply—from 10,000 in October 1989 to approximately 3,000 in October 1995. Around 1,000 targets in Eastern Europe were taken out of the SIOP that went into effect in October 1990;

²⁰ Although the claims made for precision-guided munitions were exaggerated in the immediate aftermath of the Gulf War, there is no doubt that the lethality of such weaponry has improved dramatically over time.

²¹ It is possible that a 1,000-weapon ceiling would not require the United States to get rid of any tactical nuclear weapons; current holdings might number in the hundreds.

Soviet forces in Eastern Europe were in the process of being withdrawn, bases were being closed, and Eastern European military forces and defense industries were no longer seen as threats. The break-up of the Soviet Union in December 1991 led to even more drastic changes in US nuclear war plans in 1992 and 1993. The number of installations in the target set dropped, because thousands of tactical nuclear weapons were shipped from a wide variety of places in the former Soviet Union to military bases in Russia. Non-Russian republics were consequently taken out of main attack plans. With the collapse of Communist Party rule, the number of leadership targets in US nuclear war plans declined significantly. By October 1993, the number of installations in the SIOP had plummeted to around 3,500.²² The net effect of doctrinal inertia and geopolitical change was a modest revision rather than a fundamental transformation in US nuclear war plans in the first half of the 1990s; the plans that have been developed for Russia since 1991 are streamlined versions of the plans that were developed during the Cold War to deter and, if necessary, to devastate the Soviet Union.

Setting aside the question of whether US nuclear doctrine and nuclear war plans *should* be reconceptualized, the United States *could* continue to emphasize prompt, massive counter-nuclear attacks in the SIOP if strategic force levels were reduced from 3,500 to 2,000 weapons. This would, of course, involve further scrubbing of the target set and some incremental changes in attack options. Given that the number of installations in the SIOP has already dropped from 10,000 to 3,000, trimming a further 1,000 installations would not be cataclysmic. Although US nuclear doctrine and nuclear war plans *should* be reconceptualized at this point, they would not *have* to be overhauled to accommodate Phase I reductions. This problem could be side-stepped for the moment.²³ In short, US nuclear doctrine would not be an obstacle to adoption and implementation of Phase I force structure reductions.

Third, Phase I reductions would not require fundamental changes in the US nuclear force structure. More specifically, they would not force US policymakers to abandon the strategic triad. As Table 2 suggests, it should be possible to reduce overall force levels to 2,000 deployed strategic weapons by making simple reductions in each leg of the triad. This force structure would preserve the “reconstitution” capabilities stressed in the Nuclear Posture Review, and avoid the doctrinal and bureaucratic wars that would accompany any attempt to eliminate one or more legs of the triad.

Fourth, Phase I reductions would not place undue pressure on US conventional forces. The United States has the most advanced, powerful conventional forces in the world, with capabilities to project military power to distant regions that stand head and shoulders above all others. US defense expenditures, currently in the neighborhood of \$260 billion per year, are roughly equal to

²² Author’s interviews with Department of Defense officials.

²³ Tackling this problem at this juncture would help to smooth the path for Phase II reductions, but to do so civilian leaders in Washington would have to revisit the contentious issues that were debated during the Nuclear Posture Review of 1993–94. The political leadership might prefer to defer this issue rather than go over same ground again so soon.

the expenditures of the next ten biggest spenders *combined*, eight of whom are US allies.²⁴ Even if US defense spending were reduced significantly in the future, US conventional forces would not need a nuclear backstop. Even if they did, Phase I reductions would not impinge significantly on US nuclear capabilities.

Table 2. A Phase I Force Structure Option

	Currently Projected	Phase I
Trident D-5 SLBMs	1,680 (14 subs x 24 missiles x 5 warheads)	1,008 (14 x 24 x 3)
Minuteman III ICBMs	500 (500 missiles x 1 warhead)	200 (200 x 1)
B-52H/ALCM	960 (48 bombers x 20 weapons)	432 (36 x 12)
B-2	320 (20 bombers x 16 weapons)	320 (20 x 16)
Strategic Weapons	3,460	1,960
Tactical Weapons	1,500 (perhaps fewer)	1,000 (maximum limit)
Reserve Weapons	?	1,000 (maximum limit)

Fifth, Phase I reductions would not undercut US efforts to extend deterrence and defense commitments to its allies. The United States would still retain massive arsenals of strategic and tactical weapons, and the United States and its allies would retain conventional superiority over potential adversaries. Leaders of allied countries in Western Europe and East Asia do worry about US disengagement from military and political affairs in their regions, but Phase I reductions would not aggravate these concerns. The best way to address these concerns is to reassure friends and allies about the dependability of US diplomatic, economic, and conventional military commitments.

However, one issue that would have to be tackled in Phase I (and again in subsequent phases of the disarmament process) is the debate over strategic and theater defenses. Those who favor the deployment of strategic and theater defenses are generally worried, in the short term, about the

²⁴ See IISS, *The Military Balance, 1994–1995* (London: IISS, October 1995).

dangers posed by unauthorized ballistic missile attacks, accidental ballistic missile launches, and regional adversaries armed with ballistic missiles and weapons of mass destruction. The deployment of thin area defenses against ballistic missile attacks is consequently often favored. In the long term, many advocates of defenses hope to make the transition to a defense-dominant world that features more robust strategic and theater defenses.

Others argue that near-term deployment of strategic or theater ballistic missile defenses would do little good and much harm. It is said that deployment would do little good because, to be effective, defenses would have to contend with three threats: ballistic missiles; aircraft and cruise missiles, including both air-launched cruise missiles (ALCMs) and submarine-launched cruise missiles (SLCMs); and surreptitious delivery by unconventional means, such as cargo ship or smugglers. The last of these problems is particularly salient and virtually unsolvable as far as the United States is concerned, unless dramatic limitations are placed on civil liberties.²⁵ In addition, if Phase I reductions were accompanied by concrete steps to address concerns over command and control of Russian nuclear forces, the need for thin ballistic missile defenses would be dampened. Deployment of thin area defenses against ballistic missile attack would therefore do little to enhance US national security. At the same time, it would discourage Russia from ratifying START II and undermine the chances of Russian and Chinese leaders agreeing to Phase II and Phase III reductions. Deploying ballistic missile defenses would undercut the disarmament process. Deploying ballistic missile defenses in Phase IV, after all nuclear weapons had been eliminated, would be another matter, but it might be easier and cheaper at that point to simply ban ballistic missiles.

My view is that, even if political relations between and among the United States, Russia, China, France, and Britain evolve in benign ways, it will be extremely difficult to deploy defenses in a cooperative manner. Even in a benign political environment, Russian leaders will be wary of US technological prowess and the break-out threat US defenses would pose. This is a structural problem that cordial political relations will have a hard time overcoming. Russian ratification of START II and the entire disarmament enterprise would therefore be placed in jeopardy if Washington insisted on deploying defenses. In addition, even the thinnest of area defenses would pose a threat to Chinese, French, and British strategic nuclear capabilities. This is another structural problem that cordial political relations will have a hard time neutralizing. US defenses would therefore jeopardize Chinese, French, and British participation in the disarmament process as well.²⁶ This is a difficult issue that US officials will have to contend with early and often in the disarmament process. In making decisions about defenses, it is important that US policymakers give due consideration to the impact US defenses—even thin defenses aimed at rogue states—would have on the prospects for the disarmament process.

²⁵ See the discussion in Allison, Coté, Falkenrath, and Miller, *Avoiding Nuclear Anarchy*, 65–70.

²⁶ The impact of US defenses on Chinese, French, and British calculations will be discussed in more detail in the next section of this paper.

Assessment of Risks

Those who oppose further cuts in US nuclear forces have three main concerns. First, they worry about political developments in Russia, and the possibility that Russia might once again become a determined adversary. Second, they worry about inadequate verification, and the possibility that a treaty partner might break out of an agreement. Third, they worry about the US ability to deter rogue states and terrorists. These are all legitimate concerns, but entering into an agreement that reduces US and Russian strategic nuclear forces to 2,000 weapons per side would neither aggravate these concerns nor compromise US national security in any other way.

Inaction on the arms reduction front, however, would adversely affect US national security interests in two important respects. First, it would weaken the prospects for ratification and implementation of START II, a matter of great strategic significance. Second, it would weaken the prospects for sustaining the NPT regime, another matter of great importance. It is clear from discussions at the NPT Review and Extension Conference in 1995 that non-nuclear states are looking for meaningful progress on the disarmament front from the declared nuclear states. If such progress is not forthcoming, non-nuclear states might recalibrate their dedication to the NPT regime. For these reasons, the advantages of Phase I reductions would seem to far outweigh their negligible risks from the standpoint of US national security.

Phase II Reductions

In sharp contrast to the reductions envisaged for Phase I of the disarmament process, Phase II reductions—to no more than several hundred nuclear weapons in the United States, Russia, China, France, and Britain—would probably be problematic. The transition from a bilateral to a multilateral framework would be difficult, and implementing Phase II reductions would involve major changes in several important aspects of US defense policy.

Strategic Conditions

If political relations between and among the five declared nuclear powers continued to evolve in benign directions, then many obstacles to Phase II reductions would dissolve: threat perceptions would diminish, nuclear deterrence would become a less central concern, and states would be more willing to enter into highly intrusive verification regimes. However, if political relations among the United States, Russia, and China, in particular, are at all adversarial, five problems would have to be addressed before Phase II agreements could be reached.

First, Russia would have to be persuaded to make deep cuts in its nuclear forces. This might not be easy to do. From Moscow's perspective, the strategic landscape will probably look bleak for years to come. With the collapse of Soviet power in Eastern Europe, Moscow lost what were, from a defensive standpoint, important buffer states. Making matters worse, the United States and its Western European allies have promised to bring an unspecified number of Moscow's former allies into NATO. Many leaders in Russia see these developments as threatening. Things are equally bad

on the eastern and southern fronts. China, which has a long history of troubled relations with Russia, has a booming economy, a modernizing military, and a burning desire to reassume its place as a dominant world power. The southern front poses more fractured but nonetheless worrying problems. Here, too, strategic buffers have been lost, and Russian leaders worry about an Islamic revival sweeping from Iran and Afghanistan into Azerbaijan, Tajikistan, Uzbekistan, and into Russia itself. Russian paranoia about neighboring powers is not a momentary anxiety; it is rooted in hundreds of years of Russian history, and it is compounded by strategic conditions that are not likely to improve significantly in the near term.

From Moscow's standpoint, strategic buffers have disappeared and threats have grown just as Russia's economy has collapsed and its conventional military capabilities, once formidable, have evaporated. The pathetic performance of Russia's military in Chechnya was not just embarrassing to Moscow—it was terrifying. Many Russian leaders see their country under siege on all fronts and virtually defenseless. Nuclear weapons are consequently seen as one of the main pillars—perhaps *the* main pillar—of Russian defense policy. These strategic concerns are reinforced by Russia's determination to continue to be seen as one of the world's superpowers. However, because Moscow's empire has collapsed, its conventional military capabilities have withered, and its economy has imploded, Russia remains a superpower in one and only one area: nuclear affairs. If these conditions persist, it will not be easy to convince Russian leaders to reduce their nuclear capabilities by an order of magnitude, which is what Phase II reductions would involve. The key might be convincing Moscow that failing to make deep cuts and institute a multilateral arms control framework could lead to an even more terrifying possibility—a China armed with thousands of the most sophisticated nuclear weapons a wealthy country can buy.

Second, China would have to be brought into the picture. This would also be difficult. Beijing has made occasional rhetorical commitments to the principle of nuclear disarmament, but it has consistently refused to engage in discussions about placing limitations on its own nuclear forces. Beijing's view is that the United States and Russia should reduce their forces to China's level before discussions about China's forces can begin. The key to breaking this deadlock might be convincing China's leaders that intransigence could lead to a breakdown of the NPT regime and, more specifically, nuclear proliferation in Asia. The latter, of course, would be an unwelcome development from the standpoint of Chinese national security.

If China participated in negotiations on Phase II reductions and limitations, it would probably insist on having nuclear parity with the United States and Russia. China has long railed against the "unequal treaties" that were imposed on it in the nineteenth century and the "century of humiliation" that followed; it would see any framework that did not give China nuclear parity with its counterparts as another unequal and therefore unacceptable treaty.²⁷ It is possible, of course, that

²⁷ For a discussion of Beijing's views, see Banning N. Garrett and Bonnie S. Glaser, "Chinese Perspectives on Nuclear Arms Control," *International Security* 20, no. 3 (Winter 1995–96): 43–78.

Beijing's views in this area will change over time; given the potential for turmoil in China, nothing can be ruled out. However, a radical transformation in Beijing's worldview is unlikely because this view has deep historical roots. In all probability, China's views on parity and disarmament will pose challenges that the nuclear disarmament process will have to work hard to overcome.

Third, a way would have to be found to reconcile Russia's security concerns and its attachment to nuclear superpower status, on the one hand, with China's insistence on nuclear parity, on the other. One possibility would be to set limits of 500 weapons on US, Russian, and Chinese arsenals, and limits of 200 weapons on French and British forces.²⁸ This would allow Russia to maintain a special place in the nuclear hierarchy while treating China as an equal. A ceiling of 500 weapons might not obligate China to destroy any weapons, which would facilitate Beijing's entry into the disarmament process. However, a ceiling of 200 weapons would, in all probability, oblige France and Britain to reduce their arsenals; this would be a useful precedent in that China would be expected to make cuts of its own in Phase III.²⁹

Fourth, since the five declared nuclear powers have radically different kinds of nuclear capabilities, the full range of intercontinental, theater, battlefield, and reserve weapons would have to be incorporated into the disarmament equation. One way to cut this Gordian knot would be to place limits on the total numbers of *weapons* states would be allowed to have: strategic, tactical, and reserve weapons would all count against the total. Certain kinds of launchers (such as multiple-warhead ICBMs) might be banned for stability reasons, and other launcher limits would have to be devised to minimize break-out concerns, but elaborate five-party force structure formulas would not be needed. States could decide for themselves about the most appropriate mix of strategic and tactical weapons.

Fifth, formidable verification problems would have to be overcome. Some of these problems are technical. If nuclear arsenals were to be limited to 2,000 weapons each, a few hundred weapons one way or the other would have little impact on the nuclear balance; verification mechanisms would not have to be excruciatingly precise. However, if nuclear arsenals were to be reduced to no more than 500 weapons each, verification mechanisms would have to be much more precise—a margin of error of a few hundred weapons one way or the other would be unacceptable to many policymakers in many countries. These verification requirements would be compounded if Phase II limitations were extended to include tactical and reserve weapons, as they must; ceilings on weapons would be meaningless if they left out thousands of tactical and reserve weapons.³⁰

²⁸ Agreements might also be needed with Israel and India, which have the ability to deploy dozens and perhaps up to 100 nuclear weapons. See Michael E. Brown, "Other Nuclear and Near-Nuclear Possessors," in Peter Gizewski, *Minimum Nuclear Deterrence in a New World Order*, Aurora Paper No. 24 (Ontario: Canadian Centre for Global Security, 1994), 53–66.

²⁹ China is generally believed to have 250–450 nuclear weapons; France, 450–550; Britain, 200–500. See *Ibid.*

³⁰ Steve Fetter, *Verifying Nuclear Disarmament*, Occasional Paper no. 29 (Washington, DC: Henry L. Stimson Center, October 1996.)

Another technical problem is that, even if states are willing to be open about their nuclear capacities, they might not have an accurate accounting of how many nuclear weapons and how much fissile material has passed through their nuclear establishments. The former Soviet Union is particularly problematic in this regard. As one study of the Russian nuclear establishment has observed, “The material and accounting systems at Russia’s nuclear installations are almost universally inadequate.”³¹ One example suffices: the amount of highly enriched uranium recovered by the United States from Kazakstan during Project Sapphire comprised 104 percent of the declared inventory.

Consider the implications of a 4 percent error margin in Russian inventory accuracy: since Russia possesses on the order of 100,000 critical masses’ worth of fissile material, some 4,000 weapons’ worth of fissile material would be floating unaccounted for in the margins of Russia’s inventory accuracy. Even if Russia’s material control and accounting system were 99 percent accurate (a level of inventory accuracy almost never achieved even by Western corporations), this would leave 1,000 weapons’ worth of fissile material unaccounted for.³²

These accounting problems could probably be sidestepped in Phase I of the disarmament process because the United States would still retain a vast nuclear arsenal of its own. Excess Russian capabilities would not pose a perceived threat to the nuclear balance. However, these problems would have to be addressed and overcome by Phase II of the disarmament process. Otherwise, policymakers in the United States, China, France, and Britain would find it hard to accept the risks they would associate with radical reductions in their nuclear forces.

Other verification problems are political. The main obstacle that would have to be overcome is getting states to accept the highly intrusive verification protocols that would reduce the margin of error to dozens, rather than hundreds or thousands, of weapons. China, which has a deeply paranoid worldview that goes back over one hundred years and which is determined to prevent “foreign interference” in its domestic affairs, would probably find it hard to accept the kinds of verification arrangements that would have to accompany Phase II measures. China would not be alone, however; many policymakers in Russia and the United States would be reluctant to open up their nuclear establishments to intense outside scrutiny. For China, Russia, and the United States to accept extraordinarily intrusive verification measures, at least one of two conditions would have to be met: the five established nuclear powers would have to have good relations on most military, political, and economic issues; or, if relations were strained, they would have to fear the proliferation consequences of a failure to move ahead on the disarmament front. Even if relations were adversarial

³¹ Allison, Coté, Falkenrath, and Miller, *Avoiding Nuclear Anarchy*, 38.

³² *Ibid.*

in some respects, the possibility of a breakdown in the NPT regime could push the United States, Russia, and China to place strict limits on their nuclear forces.

Implications for US Defense Policy

If these obstacles could be overcome and Phase II reductions were implemented, US policymakers would find that major changes would be needed in three main elements of US defense policy: (1) nuclear doctrine and war plans; (2) the nuclear force structure; and (3) the mix of offensive and defensive forces.

For decades, US nuclear war plans have been guided by the precept that the United States must be able to: (1) attack the nuclear force structure of an adversary in a systematic way; and (2) destroy an adversary's society even after absorbing an attack designed to blunt US retaliatory capabilities. The levels of damage expected of attack options have been high in both of these areas. In the 1960s, for example, US war planners believed that the United States had to have the capability to kill up to 25 percent of the Soviet population and to destroy 50 percent of Soviet industrial capacity in a second strike. As a result, US nuclear war plans featured prompt, massive attacks on a wide range of nuclear, military, and economic targets. As noted above, this has not changed with the end of the Cold War. Nor would major changes in US nuclear doctrine and war plans be needed if strategic nuclear arsenals were reduced to 2,000 weapons per side, as called for by Phase I reductions.

However, US nuclear doctrine and nuclear war plans would have to be fundamentally transformed if Phase II reductions were to be implemented. More specifically, the United States would have to adopt a minimum deterrence strategy based on three new principles:

- First, the long-standing emphasis in US nuclear thinking on prevention, pre-emption, launch-on-warning, and prompt retaliation would have to be replaced by a commitment to riding out attacks and to delayed responses.
- Second, the prevailing emphasis on counter-nuclear targeting would have to be replaced by a broader conception of counterforce options. Although threats to attack cities in the early stages of a conflict are not credible, it does not follow that one must have a robust capability to obliterate an adversary's entire nuclear force structure; an ability to weaken an adversary's military structure and power projection capabilities would be sufficient to deter an attack. Shifting away from counter-nuclear targeting would not force a responder to attack cities indiscriminately, as some contend.³³ Instead, the responder's target list could feature conventional and naval forces, transportation and communication centers, and leadership targets.

³³ For a devastating critique of the idea that small nuclear arsenals can only engage in city-busting attacks, see Michael J. Mazarr, "Military Targets for a Minimum Deterrent: After the Cold War, How Much is Enough?" *Journal of Strategic Studies* 15, no. 2 (June 1992): 147–171.

- Third, although it might be useful to have the ability to inflict substantial amounts of damage on an adversary, one does not need “assured destruction” capabilities, as defined in the 1960s, unless one is dealing with a totalitarian power bent on aggression and conquest. In almost all conceivable cases, the prospect of a retaliatory strike consisting of a few dozen, let alone a few hundred, nuclear weapons would deter potential aggressors from international adventurism.

In short, the shift to a minimum deterrence strategy would involve abandoning prompt, massive, counter-nuclear options and emphasizing delayed, selective responses. This, in turn, would involve overturning decades of entrenched thinking and deeply held beliefs in the US defense establishment about how nuclear operations can best serve national security. Moving in this direction, in essence, would constitute a paradigm shift, and it would entail abandoning deeply entrenched strategic and organizational cultures. The Nuclear Posture Review, which reaffirmed the status quo on doctrinal matters even though the strategic landscape had been transformed in fundamental ways, demonstrated how powerful established belief systems and strategic and organizational cultures can be. The Nuclear Posture Review also demonstrated that radical changes in US nuclear doctrine are unlikely to be suggested by the nuclear establishment. Rather, they will have to be imposed by the political leadership, probably in the form of new Presidential Guidance on the employment of nuclear weapons.

Second, Phase II reductions would force US policymakers to abandon the strategic triad. In all probability, the ICBM leg of the triad would be the first on the chopping block. Sharp reductions in the number of weapons assigned to the other legs of the triad would also be necessary, however. In addition, if limitations on tactical and reserve weapons were part of the Phase II package, sharp cuts would have to be made in these areas as well. Table 3 outlines one set of force structure options.

To be implemented, changes of this magnitude would have to overcome considerable bureaucratic opposition. The US nuclear force structure has been based on a strategic triad since the early 1960s, and nuclear planning since then has been predicated on the assumption that having three types of nuclear delivery systems reinforces deterrence in important ways. Abandoning the triad, therefore, would involve overturning another set of deeply held beliefs in the US defense establishment about how nuclear forces can best serve national security. Moving in this direction would constitute another paradigm shift, one that would have profound bureaucratic and budgetary implications. If ICBMs were eliminated from the force structure, for example, a whole series of organizations devoted to the development, operation, and maintenance of these systems would fall by the wayside, and both Air Force and contractor budgets would be adversely affected. The Nuclear Posture Review, which considered abandoning the triad but ended up re-embracing it, suggests that the bureaucratic and strategic attachment to the status quo is powerful indeed. The Nuclear Posture Review demonstrated that radical changes in the US nuclear force structure, like radical changes in US nuclear doctrine, are unlikely to be generated by the military establishment. Rather, they will have to be imposed by the political leadership in the White House and the Office of the Secretary of Defense.

Table 3. A Phase II Force Structure Option

	Phase I	Phase II
Trident D-5 SLBMs	1,008 (14 subs x 24 missiles x 3 warheads)	240 (10 x 24 x 1)
Minuteman III ICBMs	200 (200 missiles x 1 warhead)	0
B-52H/ALCM	432 (36 bombers x 12 weapons)	0
B-2	320 (20 bombers x 16 weapons)	128 (16 x 8)
Strategic Weapons	1,960	368
Tactical Weapons	1,000 (maximum limit)	100
Reserve Weapons	1,000 (maximum limit)	0

Third, Phase II reductions would probably intensify the debate over strategic defenses in US policy circles. Advocates of ballistic missile defenses would argue that offensive force levels had been brought down to a point where area defenses could have a real impact. Opponents counter that ballistic missile defenses would contribute little to US national security while undercutting the prospects for nuclear disarmament. If Phase II reductions were implemented, the dangers posed by unauthorized attacks and accidental launches would be significantly reduced; far fewer offensive systems would be deployed, and the considerable effort that would undoubtedly be devoted to command, control, safety, and security issues would address problems at the source. As a result, the requirement for ballistic missile defenses of broad areas would recede if Phase II reductions were instituted.

In addition, as noted above, deployment of ballistic missile defenses designed to guard against attacks from rogue states would address only one dimension of the problem posed by rogue states—namely, overt delivery. Surreptitious delivery, which would probably be the preferred mode of attack, would elude such systems, posing insurmountable problems for the United States for the foreseeable future. Deployment of thin area defenses would not discourage rogue states from acquiring weapons of mass destruction, as some supporters of defensive deployments contend; such defenses would only discourage rogue states from investing in long-range ballistic missiles. Thus, deployment of thin area defenses would not contribute significantly to US national security.

In all probability, moreover, Phase II reductions would be rejected by China if they included provisions for deployment of even the thinnest of area defenses. Although advocates of defensive deployments might argue that thin defenses would only be directed against threats from rogue states,

any defense capable of shooting down a handful of ballistic missiles launched by a rogue state would pose a threat to China, whose intercontinental forces consist of some 26 highly vulnerable missiles. Because of the profound asymmetries that exist and will undoubtedly continue to exist in US and Chinese intercontinental capabilities, it is hard to imagine Beijing agreeing to an arms control framework that would allow the United States to deploy ballistic missile defenses even if political relations between the two powers were comparatively benign. This structural asymmetry is reinforced by Beijing's conviction that China and the United States will be great power rivals for decades to come, due to the former's rise and the latter's determination to maintain its place at the top of the international hierarchy. China's leaders are convinced that the United States has already embarked on a campaign to "contain" China, and that this state of affairs will continue for the foreseeable future. Even if political relations between the United States and China were cordial, US deployment of even thin area defenses would pose a threat to China's limited intercontinental capabilities and would be seen by Beijing as provocative.³⁴ A US decision to deploy ballistic missile defenses would therefore undercut efforts to engage China on disarmament questions.³⁵

Cooperative deployment schemes would not solve this problem because of the structural asymmetries in US and Chinese strategic nuclear capabilities. These asymmetries will persist unless China builds up its own intercontinental nuclear capabilities. If China embarks on such a buildup, however, it is unlikely that political relations between Washington and Beijing will be close.

Although major changes would be required in US defense policy if Phase II reductions were implemented, two important problems would remain more manageable.

First, unless Russia and China formed an entente, great pressure would not be placed on US conventional forces. Threats would be few, allies would presumably be plentiful, and US officials would most likely continue to devote the resources needed to maintain US conventional and technological advantages.

Second, Phase II reductions would not pose serious problems for extended deterrence. For the reasons just noted, threats to US allies would probably be few, allied conventional forces would

³⁴ The Steering Committee of the Stimson Center project argues: "During Phase II, if not before, the United States and the other nuclear states might also wish to deploy defensive systems capable of providing reasonably high confidence of defending successfully against small attacks." The Committee goes on to suggest that the United States and Russia might work with China, France, and Britain in a cooperative fashion to develop and deploy defensive systems. In my opinion, the deployment of defensive systems capable of providing "reasonably high confidence of defending successfully against small attacks" would constitute a threat to Chinese deterrent capabilities that would drive Beijing out of the disarmament process. Given Beijing's fervent belief that the United States is determined to contain China, it is hard to see China's leaders putting any faith in a joint venture in which the United States held almost all of the technological cards. See Steering Committee, *An Evolving US Nuclear Posture*, 29.

³⁵ Point defenses of one or two nuclear weapon storage facilities might not trigger the same reaction, but they would still pose break-out problems that would make China uneasy. To be effective such defenses would have to include both ballistic missile and air defenses, as well as defenses against commando units and saboteurs.

presumably continue to be robust, and the US nuclear arsenal would still be in place as a backstop against aggression by a nuclear power. The United States would have to make concerted efforts to reassure its allies in Europe, Asia, and elsewhere that it could still be counted on as a guarantor of security, but this would be a manageable proposition. In Europe, the key would be reassuring Germany; this should be easy as long as NATO remains intact and has a collective defense function.³⁶ In Asia, continued attention would have to be paid to Washington's bilateral security relations with Japan and South Korea, which would live in China's ever-growing shadow and which would not, in all probability, have dependable multilateral security institutions to fall back on. For these reasons, the hardest extended deterrence problems in coming decades will be found in Asia, not Europe. These problems should be manageable, however, as long as the United States maintains strong political ties with Japan and South Korea, and as long as it maintains robust conventional and naval forces in the region.

Assessment of Risks

Although Phase II reductions would involve several major changes in US defense policy, they would pose only moderate and manageable risks to US national security. Assuming that a robust verification regime could be devised and implemented, strategically significant cheating and break-out problems could be contained. Force levels would be high enough to ensure that proliferators could not acquire comparable capabilities in short order.

The most contentious issue that would have to be confronted at this stage of the disarmament process (if it had not already been confronted already) is the question of ballistic missile defenses. The possible advantages of defenses would have to be weighed against potential risks, in particular, the risk that US deployment of even thin area defenses will drive China out of the disarmament process and make an agreement on Phase II reductions impossible to reach. As discussed above, foregoing deployment of ballistic missile defenses might be the price the United States will have to pay to bring about Phase II reductions. Even though this would leave the United States vulnerable to ballistic missile attack, there is a case to be made that, on balance, the advantages of Phase II reductions would nonetheless outweigh their costs and risks.

Implementing Phase II reductions and adopting minimum deterrence strategies would enhance both international and national security in several important respects. First, reducing nuclear forces would reduce first-strike incentives, because a state would have to use almost all of its

³⁶ I disagree with the Steering Committee's contention that, in Phase II, "the NATO alliance in all likelihood would have to evolve gradually from a relatively small but tightly integrated military organization into a broader and looser structure incorporating most, if not all, European and North American countries." I believe that the security guarantees provided by the United States to Germany, in particular, will be needed as long as Russia is a nuclear power and a potential threat to German security. Transformation of the NATO alliance into a collective security organization would undercut the US commitment to German security and give Germany an incentive to acquire nuclear capabilities of its own. This would not be good for European integration, European security, or the disarmament process. See *Ibid.*, 26.

available weapons if it wanted to attack an adversary's nuclear forces. An attacker foolish enough to do this would have little left as a strategic reserve. Second, reducing nuclear forces to these levels would necessitate a shift to a different targeting strategy, as outlined above. Taking strategic nuclear counterforce out of the deterrence equation would stabilize the strategic balance; pre-emptive instabilities would be dampened. Third, deploying smaller nuclear forces would reduce the probability of an unauthorized attack being launched by renegade military commanders. Although the key to maintaining effective command and control over nuclear forces is maintaining the political and institutional integrity of the relevant organizations, smaller forces are inherently easier to control than larger forces. Fourth, reducing nuclear forces to these low levels would make accidents less likely. Fifth, implementing Phase II reductions would reinforce and strengthen the nuclear non-proliferation regime, which is an important US national security interest. Assuming that the verification problems discussed above can be solved, the benefits of Phase II reductions would outweigh their costs and risks for the United States.

Phase III Reductions

Phase III reductions—to no more than several dozen weapons in any one state—would have to contend with several new complications. However, since major changes in US nuclear doctrine and the triad would have been instituted during the previous phase, Phase III reductions would involve comparatively minor changes in the main elements of US defense policy.

Strategic Conditions

As with Phase II reductions, if political relations between and among the major powers evolved in benign directions, then many obstacles to Phase III reductions would become more manageable: security concerns would ease, nuclear weapons would become less important, and states would be more willing to accept highly intrusive verification arrangements. Even under these conditions, three problems would have to be addressed before Phase III reductions could be put into place.

First, the five declared nuclear weapon states—the United States, Russia, China, France, and Britain—would have to agree to reduce their nuclear arsenals by roughly an order of magnitude. This might be difficult for the United States and Russia, which had tens of thousands of nuclear weapons during the Cold War, and for China, which might be agreeing to reduce its nuclear arsenal for the first time. Even if relations between and among these three states were good and threat perceptions were low, taking this step would probably make some policymakers pause. France and Britain, one suspects, would be more at ease with the idea of having minimum deterrent capabilities than the other three powers.

Second, Israel, India, and Pakistan would have to be incorporated into the disarmament process. This might be difficult in all three cases. For decades, all three have worried about being attacked by larger, more powerful neighboring states; in each case, nuclear weapons have been seen

as the great equalizers in the regional balance of power and the foundation of national deterrent capabilities. If genuine peace were to be established in South Asia and the Middle East, these security concerns would of course ease; if, however, antagonistic relations were to persist, ways would have to be found to address attendant security problems. The willingness of the threshold states to participate in a multilateral disarmament process would depend on developments in domestic and regional politics.

If a way is found to bring these states into the disarmament process, Israel and India, which at that time could have the capability to deploy approximately 100 weapons, would probably have to agree to reduce their nuclear capabilities. India, which has protested bitterly about the discriminatory nature of the NPT regime, might insist on numerical parity with the United States, Russia, and China for political reasons. Israel, India, and Pakistan would all have to accept intrusive verification measures.

Third, the non-proliferation regime would have to be stronger and more dependable than ever. Established nuclear powers would be uneasy about reducing their arsenals to minuscule levels if there was a significant danger of new nuclear powers appearing on the scene. Verification mechanisms would therefore have to be exceedingly intrusive and dependable. If nuclear arsenals are to be reduced to only a few dozen weapons each, then the tolerable margin of error will be very small indeed. Secret caches of only a few dozen weapons could be strategically significant. Fissile material inventories would have to be honed to an unprecedented degree, especially in the former Soviet Union.

Implications for US Defense Policy

As one peers farther into the future, it becomes increasingly difficult to comment intelligently on the contours of US defense policy. That said, if one assumes that a Russian–Chinese entente will not develop, a Phase III world would be a comparatively benign one from the standpoint of US defense planners: threats would be few and mainly regional in character, and allies would presumably be plentiful.

Since many changes would have already taken place in the main elements of US defense policy, Phase III reductions would not require an overhaul of either US strategic thinking or force structures. First, at the broad level of military strategy, the process of de-emphasizing nuclear weapons and de-coupling nuclear operations from conventional operations would continue. Nuclear weapons would be pushed increasingly into the background.

Second, US nuclear doctrine would continue to evolve in the direction of delayed responses and highly selective attack options. With nuclear arsenals limited to a few dozen weapons, massive strikes would become things of the past; options to use nuclear weapons as demonstrations of resolve might get more emphasis in operational plans.

Third, although Phase III reductions would involve deep cuts in the US nuclear force structure, the thorny question of abandoning the triad would have already been addressed. Phase III reductions would not force US policymakers to choose between submarine-based and bomber-based capabilities, as Table 4 demonstrates, but the issue of abandoning yet another leg of the triad would probably be raised at this point. If it had not done so already, the issue of eliminating all tactical nuclear weapons would probably find its way onto the agenda at this stage as well; since US strategic weapons could be used for extended deterrence purposes, it might not be necessary to keep tactical nuclear weapons deployed in Western Europe, for example, assuming that they had not been withdrawn during an earlier phase of the disarmament process.

Table 4. A Phase III Force Structure Option

	Phase II	Phase III
Trident D-5 SLBMs	240 (10 subs x 24 missiles x 1 warhead)	24 (3 x 8 x 1)
Minuteman III ICBMs	0	0
B-52H/ALCM	0	0
B-2	128 (16 bombers x 8 weapons)	24 (12 x 2)
Strategic Weapons	368	48
Tactical Weapons	100	0
Reserve Weapons	0	0

Fourth, Phase III reductions would once again place the issue of strategic defenses high on the US defense policy agenda. Advocates of ballistic missile defenses would argue that, with nuclear arsenals reduced to these very low levels, effective defenses against nuclear attack could surely be deployed. A proper defensive shield, however, would also have to defend against air-breathing systems (SLCMs launched from submarines or cargo ships, for example), as well as surreptitious delivery. Defending an open, democratic society against the latter will always be exceedingly difficult. Providing a comprehensive, effective defense against nuclear attack would therefore be problematic. At the same time, moves to deploy ballistic missile defenses might once again pose risks to the disarmament process, given that some powers would be in a better position than others to deploy defenses. Those who were in a weak position to deploy defenses would see such deployments as threatening, and they would be tempted to counter with offensive deployments of their own. Cooperative deployment schemes would be risky for those who lagged technologically because of asymmetries in break-out capabilities.

Advocates of defensive deployments would argue, correctly, that there would be good reasons for deploying defenses against threats from rogue states. The problem is that, if the established nuclear powers have arsenals that are counted in tens rather than hundreds or thousands, defenses that would be effective against rogue states would also pose a threat to the retaliatory capabilities of others. And, since some states would inevitably have more effective offensive and defensive systems than others, strategic asymmetries would be created. One can easily imagine that the United States, for example, might have formidable first-strike capabilities against other states. This might be attractive from the standpoint of policymakers in Washington, but the prospect of moving in this direction would inevitably force policymakers in other capitals to scuttle the disarmament process. The political leadership in Washington would have to choose between ballistic missile defenses and disarmament as the best long-term guarantor of US national security.

Fifth and last, extended deterrence would still be a manageable problem. US nuclear capabilities would provide a backstop against aggression by a nuclear power, and allied conventional capabilities would presumably be formidable. As discussed above, deterrence and reassurances would be easier to extend in Europe than in Asia as long as NATO continued to provide a multilateral framework of security guarantees and reliable, powerful continental allies. In both Europe and Asia, the keys to extended deterrence would be the preservation of credible alliance commitments between the United States and its partners, and the continued deployment of US conventional and naval forces in the region. Nuclear forces would play an ever-diminishing role in the extended deterrence equation.

Assessment of Risks

The main risks Phase III reductions would pose to the United States would stem from potential verification problems: verification mechanisms would have to be strong enough to prevent established nuclear powers from hiding caches of nuclear weapons or fissile material; Israel, India, and Pakistan would have to accept highly intrusive verification protocols; reliable safeguards against potential proliferators would have to be instituted; and fissile material inventories would have to be sharpened to unprecedented degrees. Assuming that these verification problems could be overcome—and they would have to be overcome before leaders would agree to deep cuts in their nuclear arsenals—Phase III reductions would pose risks comparable to those posed by Phase II of the disarmament process: moderate but manageable.

From the standpoint of US national security, the benefits of Phase III reductions would include: the growing inability of potential adversaries to obliterate the country; the growing ability of nuclear powers to maintain effective command and control over their nuclear arsenals, thereby reducing the dangers posed by unauthorized attacks and accidental launches; and an increasingly robust nuclear non-proliferation regime. The main costs and risks posed by going down this path, as discussed above, would derive from constraints on ballistic missile defenses aimed at rogue states. The benefits of Phase III reductions would seem to far outweigh these costs and risks.

Phase IV: Complete Nuclear Disarmament

Is complete nuclear disarmament possible? Is it desirable? Many would argue that it is both.³⁷ The emergence of good, durable relations between and among the great powers could dampen threat perceptions and reduce the strategic value of nuclear arsenals to very low levels. By the same token, a growing appreciation of the economic sources of national power could reduce both the strategic and political value of possessing nuclear capabilities. Those who favor moving in this direction argue that the process of implementing phased nuclear reductions over years and decades would reinforce these trends and make the leap across the disarmament threshold less daunting.³⁸

It is argued, moreover, that a disarmament regime could be devised whereby nuclear arsenals would be eliminated and fissile materials would be placed under international control.³⁹ In such a disarmed world, a robust verification system would provide early warning of potential violations, thereby giving the international community opportunities to take preventive actions. If early warning was not forthcoming or if prevention efforts failed, a system of safeguards would be in place to punish violators and restore the status quo. Political, economic, and even military sanctions could be imposed on rogue states. If necessary, other states could be authorized, under international control, to reconstitute their own nuclear weapon capabilities and bring pressure to bear on nuclear outlaws. As a result, the benefits of illegally acquiring nuclear weapons would be limited and short-term, while the costs of violating the disarmament regime would be high and long-term. This would discourage would-be violators from engaging in nuclear rearmament in the first place, and provide the international community with effective responses if they nonetheless engaged in proscribed behavior. Developing safeguard regimes and collective security systems of this type, it is said, would not necessarily involve eliminating the system of sovereign states that currently exists; it would simply change the way states work together to maintain international peace and security.

Would going down this path be desirable? Advocates of nuclear disarmament maintain that eliminating nuclear weapons would reduce the probability of a nuclear war taking place to zero. States would not be able to start nuclear wars, and unauthorized nuclear attacks and accidental launches would no longer be a concern. The consequences of an all-out war would be significantly reduced. Less money would be spent on military activities.⁴⁰ Non-proliferation efforts would be strengthened because the disarmament regime would be non-discriminatory. From the standpoint of national security, states would be more secure because they would not face the prospect of being devastated by a nuclear attack. The United States, for example, would be virtually invulnerable for

³⁷ See note 3.

³⁸ See Steering Committee, *An Evolving US Nuclear Posture*, 35–36.

³⁹ Ibid.

⁴⁰ This point is conditional. States could compensate for declining nuclear capabilities by building up conventional forces. They would not be able to do this, of course, if conventional disarmament measures were also part of the disarmament equation.

the first time since 1954, when the Soviet Union first unveiled an intercontinental-range bomber capable of carrying nuclear weapons.

Realists argue that complete nuclear disarmament would be difficult to bring about and problematic in the event. One obstacle to complete disarmament is strategic. Many states have legitimate security concerns based on decades, even centuries, of unpleasant history. Geostrategic realities change slowly, as do threat perceptions and strategic cultures. Many states believe they will need nuclear weapons for national defense for the foreseeable future: Britain and France believe they need to retain nuclear weapons as a hedge against the possibility of a hard-line regime in Moscow launching a conventional arms build-up they might be unable to match; Russia worries about large numbers of Chinese soldiers pouring across the Russian–Chinese border; India feels that it needs nuclear weapons to offset Chinese conventional superiority; Pakistan feels that it needs nuclear weapons to offset Indian conventional superiority; and Israel feels that it needs nuclear weapons to offset Arab conventional superiority.⁴¹

States will be disinclined to scrap their nuclear arsenals as long as formidable threats to national security are seen to exist. These threat perceptions will not go away as long as some states are capable of aggressing against others. In other words, threat perceptions will lead some states to embrace nuclear weapons as long as military security has to be provided at the national rather than international level. Collective security organizations are not yet ready or able to guarantee national security, as many in Bosnia have recently discovered.

A second obstacle is political. Many people in many countries believe that having nuclear weapons enhances a state's influence, position, and status in international affairs. Many in Russia, for example, believe that keeping large numbers of nuclear weapons is important because this is the only way Russia can still claim to be a superpower. Many people in India believe that developing a nuclear arsenal (or maintaining a nuclear option) is a way of being taken seriously as a world power; Indian commentators often argue that Britain and France are treated as great powers mainly because they are nuclear powers.

The political value of nuclear weapons would be reduced if the United States, Russia, China, France, and Britain reduced their nuclear arsenals to very low levels through the phased disarmament process outlined by the Stimson Center's Project on Eliminating Weapons of Mass Destruction. This would not eliminate political incentives to have or acquire nuclear weapons, but it would dampen them. Another option would be to make Japan and Germany permanent members of the UN Security Council, demonstrating that one does not need to be a nuclear power to be taken seriously as a world power. In fact, the international community could let it be known that any state that crosses the nuclear threshold and acquires nuclear weapons will be denied a seat on the Security Council. India

⁴¹ With the collapse of the Soviet conventional threat to Western Europe, the United States does not have to contend with significant conventional threats to its security and would be hard-pressed to justify possession of nuclear weapons on these grounds.

could be offered a permanent seat if it gives up its nuclear option and opens up all of its nuclear facilities to international inspections.

A third obstacle to complete nuclear disarmament is technical. Tremendous amounts of weapon-grade fissile material have been produced in many countries since 1945, and untold numbers of bombs and warheads have been produced, dismantled, recycled, and redeployed. International inspectors might not be able to determine how much fissile material now exists, how many bombs and warheads exist, and where this material and these weapons are. Some believe that a completely accurate, global inventory of fissile material and nuclear weaponry can no longer be taken. States will be able to cheat—and they will be under great pressure to cheat, because they will expect others to do so—if an agreement on complete nuclear disarmament is put into effect, and possession of even a small number of nuclear weapons would be strategically significant in an otherwise nuclear-free world. Others believe that a vigorous system of inspections and controls might eventually address this problem. However, such a verification system would involve infringements on state sovereignty that many national leaders might find difficult to accept.

If these obstacles could be overcome, would complete nuclear disarmament be desirable? Realists argue that nuclear disarmament will be risky as long as people organize themselves into political entities called states, as long as states can arm themselves with conventional weapons, as long as states are capable of aggressing against others, and as long as military security has to be provided at the national rather than international level. That is, nuclear disarmament will be dangerous until the system of states that currently exists is replaced by a system dominated by multilateral cooperation, collective security mechanisms, or a central authority capable of maintaining international order.

Realists would contend that nuclear disarmament would not eliminate the nuclear threat from world politics, it would only transform the threat—probably for the worse. If states were still capable of arming themselves with conventional weapons and going to war, many would be tempted to build and use nuclear weapons if things were to go badly on the battlefield. Two (or more) combatants could engage in a nuclear arms race, a race that would unfold under the worst possible circumstances—when tensions and emotions are high and restraints are few. Once they acquired nuclear capabilities, warring states would have strong incentives to use them, either in preventive attacks against the nuclear facilities of others or on the battlefield. If powerful states—say, Russia and China—were the combatants in question, outsiders, even if banded together under the umbrella of the United Nations, would probably be unable to stop this renuclearization process from unfolding. Ironically, the probability of nuclear weapons being used in a denuclearized world could be quite high—higher perhaps than in a world in which a few powers possessed small nuclear forces.

It would not be enough, therefore, to eliminate nuclear arsenals from the face of the Earth. It would not be enough to eliminate nuclear infrastructures and civilian nuclear facilities. It would not be enough to eliminate conventional armaments. As long as people organize themselves into states and as long as these states have the capacity to wage war, conventional rearmament can lead

to nuclear rearmament. For the foreseeable future, the world will have to live with nuclear risks of one kind or another. The risks associated with a denuclearized world could be particularly grave.

US policymakers would also find that complete nuclear disarmament would involve another major shift in US defense policy. The problem of extending deterrence to close allies, which could be side-stepped as long as the United States retained at least a small nuclear arsenal, would have to be confronted. (See Table 5.) Extending deterrence would depend on the maintenance of formidable

Table 5. US Nuclear Force Structure Options: Phased Reductions

	Currently Projected	Phase I	Phase II	Phase III	Phase IV
Trident D-5 SLBMs	1,680	1,008	240	24	0
ICBMs	500	200	0	0	0
B-52/ALCM	960	432	0	0	0
B-2	320	320	128	24	0
Strategic Weapons	3,460	1,960	368	48	0
Tactical Weapons	1,500	1,000 (limit)	100	0	0
Reserve Weapons	?	1,000 (limit)	0	0	0

conventional forces and power projection capabilities, but this might be an uncertain proposition in the long run—especially in Asia. If China’s economy continues to boom, there is no guarantee that the United States will have the world’s most powerful conventional forces 50 or 100 years from now. This could have implications, not just for the balance of power in Asia, but for the international balance of power and the ability of the United States to safeguard its national interests in the long run.

In addition, complete nuclear disarmament would involve exceptionally stringent verification regimes that would impinge on sovereignty in ways that many Americans would find objectionable. Even with these regimes in place internationally, nuclear disarmament could pose great risks to US