CHAPTER ONE

WHY NUCLEAR ARMS CONTROL SHOULD BE ON THE PRESIDENT'S AGENDA IN 2013

NUCLEAR ARMS REMAIN the ultimate weapon of mass destruction. As 2012 draws to a close, Iran and North Korea tend to dominate the headlines about nuclear arms issues. To be sure, the efforts to dissuade the regime in Tehran from achieving a nuclear weapons capability and to persuade North Korea and its new young autocrat to abandon its already established nuclear arms program are critical challenges facing the United States. They will rank high on the foreign policy agenda of the American president in 2013, be it Barack Obama or Mitt Romney, as will concerns about keeping nuclear weapons and fissile materials out of the hands of terrorist groups.

But the presidential in-box will also hold a number of issues related to more traditional nuclear arms control that must not be ignored. These issues, the subject of this book, set the basic international context for all discussions of nonproliferation. They address the 95-plus percent of all global nuclear weapons and weapons materials still held by the nuclear weapons states officially recognized by the nuclear Non-Proliferation Treaty—the United States, Russia, Britain, France, and China. They greatly influence the tens of billions of dollars still spent on nuclear arms annually by the major powers today—and the deterrent role those weapons still play in contemporary international politics. They are central to

relationships between some of the great powers, notably Russia and the United States but also China and the United States, and can affect the broader character of those states' strategic interactions. These issues are, in short, still crucial to matters of global war and peace today.

In April 2009, President Obama and President Dmitry Medvedev of Russia met in London, where they agreed to launch a negotiation on strategic offensive arms, continuing a practice of nuclear arms limitation and reduction negotiations between Washington and Moscow that dates back more than forty years. One year later, they met in Prague to sign the New Strategic Arms Reduction Treaty (New START). The Obama administration considered the treaty a primary accomplishment of its policy to "reset" relations with Russia as well as the most important achievement in bilateral arms control in two decades. The treaty entered into force in February 2011; when its limits take full effect in 2018, it will constrain U.S. and Russian strategic nuclear forces to levels not seen since the late 1950s.

The arms control dialogue between Washington and Moscow over the past three years has addressed other questions as well, such as the relationship between offense and defense, the impact of missile defense, and nonstrategic nuclear weapons. But the tempo of discussions slowed greatly in the second half of 2011 and 2012, in large part because of presidential elections in the two countries.

Vladimir Putin's return as Russia's president in March 2012 surprised few, but the Russian bureaucracy nevertheless adopted a cautious stance during the election period and transition. Russian officials traditionally tend to display little creativity until they have a clear signal of direction from the top.

The American presidential election also had an impact. The Obama administration downplayed the vision of a world free of nuclear weapons that the president had painted in 2009 and followed a more careful line on arms control. Given other priorities and, in a heated presidential election campaign, the White House

apparently wanted to avoid taking steps that would either complicate Obama's reelection drive or burden the future prospects for arms control. For their part, Russian officials quietly made clear as early as summer 2011 that they would not pursue new nuclear reduction negotiations with the United States until they knew who the American president would be in 2013, their experience being that Democratic and Republican administrations take very different approaches to arms control.

NUCLEAR QUESTIONS—AND THE ARMS CONTROL OPPORTUNITY

The U.S. president in 2013 will face an arms control opportunity. With good decisionmaking and a bit of luck on the negotiating front, he can help further reduce U.S. and Russian strategic arsenals while bringing nonstrategic and surplus warheads under controls for the first time. The two nuclear superpowers would still have 2,000 or more warheads each under the concepts we discuss—far more than the low hundreds likely required for even a fairly robust classic standard of deterrence—but far less than the 5,000 or so each has today. Associated steps could cap China's future arsenal and that of other powers too, at least through politically binding declarations, laying the basis for bringing those countries into the nuclear reduction process. This would be an unprecedented and highly useful accomplishment.

Taken together, these efforts might also make it easier for a future president to consider whether the global elimination of nuclear weapons would ever be possible or desirable. More immediately and more to the point, these efforts would improve nuclear safety considerably. The next president could, in the process, save substantial sums of money in nuclear accounts at a time when federal budget pressures are enormous. He might also reinvigorate the improvement in relations with Russia that occurred on President Obama's watch but that deteriorated somewhat more recently, while reducing the odds of future U.S.-China strategic nuclear competition. And he could lock in the very useful end to nuclear testing

among the major powers that has enabled the international community to apply pressure on proliferating states such as Iran and North Korea.

Because Russia remains the other nuclear superpower, many of the key nuclear questions in the next presidential term will focus on the U.S.-Russian nuclear relationship. The yield—or destructive power—of each strategic nuclear warhead in the U.S. inventory today is six to as much as thirty times that of the atomic bomb that devastated Hiroshima in 1945. New START allows the United States and Russia each to maintain up to 1,550 deployed strategic warheads and up to 700 deployed strategic delivery vehicles—intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and heavy bombers. With the dramatic changes that have taken place since the cold war, do the United States and Russia still need such large strategic forces? As the United States faces key modernization decisions, what kind of strategic forces does it want in the future? Should Washington attempt to negotiate further reductions in deployed warheads and delivery vehicles? If so, to what levels?

New START limits the number of deployed strategic warheads, that is, the warheads that physically sit atop deployed strategic ballistic missiles. But warheads that are held in reserve, referred to as nondeployed strategic warheads, and nonstrategic nuclear warheads fall under no constraints whatsoever. Indeed, New START limits only about 30 percent of the weapons in the current U.S. nuclear arsenal and a like or smaller percentage of the weapons in Russia's arsenal. American allies, particularly in Europe but also in Asia, would welcome reductions in Russian nonstrategic nuclear weapons. At the same time, some NATO allies question whether U.S. nonstrategic nuclear weapons must still be deployed in Europe to deter an attack on the Alliance. Should Washington try to constrain these weapons as well as the category of nondeployed strategic warheads? If so, how might arms control deal with these weapons?

Missile defense also will pose questions in 2013. U.S. policy going back to the early 1990s has been to defend the United States against *limited* ballistic missile attack. Moscow has expressed concerns that missile defense plans announced by the George W. Bush and Obama administrations could eventually degrade the Russian strategic nuclear deterrent. U.S. officials accept the interrelationship between offense and defense but argue that Russia currently has little ground for concern. The United States and NATO have suggested a cooperative NATO-Russian missile defense arrangement for Europe, but the Russians insist first on a legal guarantee that American missile defenses would not be directed against Russian strategic missiles. The Obama administration is unwilling to go there, understanding that the current Senate would refuse to consent to ratify anything that constrains missile defense. Will the sides be able to find a way around this impediment in 2013 and achieve a cooperative NATO-Russia arrangement? Or will missile defense pose a contentious issue on the agenda with Moscow that inhibits further nuclear reductions and undermines broader relations?

The nuclear questions go beyond the United States and Russia. Other issues that will face the president involve a wider spectrum of national actors.

The Comprehensive Nuclear Test Ban Treaty (CTBT) was signed by President Bill Clinton in 1996; the U.S. Senate debated it in 1999 but did not consent to ratification. China has not ratified the treaty either, although Britain, France, and Russia have. Going beyond previous bans on atmospheric testing and limits on the yield of weapons detonated underground, the CTBT would permanently prohibit all nuclear tests worldwide. The United States in any event has not conducted a nuclear test since 1992. Should the administration seek Senate consent to ratification of the treaty a second time? A verification system has been established that appears to make such a ban realistic; is that system sufficient to give the United States confidence that it could detect covert nuclear tests? Absent treaty ratification, does a continuation of the

moratorium on nuclear testing observed by the five original nuclear powers (plus Israel) for a couple of decades still make sense for the United States? Are any changes needed in the means by which the U.S. Department of Energy, at its major weapons laboratories and other nuclear facilities, ensures the safety, effectiveness, and reliability of the American nuclear arsenal?

The United States and Russia are no longer producing highly enriched uranium or separated plutonium for nuclear weapons purposes. India and Pakistan are producing more fissile material; North Korea and Israel may be doing so in smaller quantities; and there is a modest amount of reprocessing of plutonium from the spent fuel of energy reactors in places like Japan. But with the superpowers out of the business of producing fissile material for weapons, it makes sense to ask if an accord could be reached to formalize and generalize the idea of cutting off the production of fissile materials. If a formal multilateral treaty regime cannot be established, would it be feasible to promote a moratorium—ideally not just on fissile material for weapons, but on all forms of fissile material, even those previously intended for commercial or scientific purposes?

As U.S. and Russian nuclear weapons inventories come down, two questions naturally arise. First, at what point does the arms control process potentially place the world on a serious trajectory toward zero (or very few) nuclear weapons, rather than simply constituting a continuation and extrapolation of classic arms control? Second, at what point must other countries be brought into the process so as not to create the potential for new arms races between one or more medium powers and the traditional nuclear superpowers, as the latter reduce their weapons holdings?

THE U.S. INTEREST IN NUCLEAR ARMS CONTROL

The president in 2013 will face a very busy agenda, with many issues, both domestic and foreign, competing for his attention. Why pursue further nuclear arms control when the cold war is more than twenty years in the past? Arms control is not and should

not be considered an end in itself. It is a tool that, properly applied, can strengthen and enhance the security of the United States and America's allies. We believe that several reasons argue for going beyond the New START Treaty to pursue additional nuclear arms reduction steps that will make the United States and the American people safer and more secure.

First, the size of the Russian nuclear arsenal, even once New START's limits are fully met, will mean that Russia still retains the capability to physically destroy the United States several times over. No other country can do that. Much has changed since the end of the cold war and collapse of the Soviet Union, and the U.S.-Soviet nuclear showdown of the 1960s, 1970s, and 1980s is happily a thing of the past. A major Russian nuclear attack probably will not be placed high on the president's list of concerns. But, as a general proposition, we believe that the fewer the number of nuclear weapons that can strike the United States, the better America's security. Nuclear arms control offers a vehicle to achieve that.

Second, a stable nuclear balance is one in which neither side has a strong incentive to strike first in a crisis. The Russian military has begun developing a new heavy ICBM to carry multiple warheads. If Russia proceeds to deploy such a missile, it would sustain the threat to U.S. ICBMs in their silos that is now declining as older Russian SS-18 and SS-19 ICBMs are retired. In a crisis, a new heavy ICBM would pose an attractive target for U.S. attack, given the possibility of destroying many warheads by destroying one heavy ICBM. That development would not be healthy for strategic stability, even today. Further negotiated nuclear arms reductions that lowered the 1,550 limit on deployed strategic warheads could encourage Moscow not to go forward with a new heavy ICBM.

Third, with the exception of intermediate-range missiles, arms control has thus far left untouched nonstrategic nuclear weapons on both sides. Russia today maintains a sizable numerical advantage over the United States in these weapons. Although they generally lack the range to strike America, they pose a concern to U.S.

allies in Europe and Asia. NATO leaders have called for steps to reduce the Russian nonstrategic arsenal, as did the Senate during the debate on ratification of New START. Arms control offers a path to achieve that goal.

Fourth, a major benefit of arms control is increased transparency regarding the other side's military forces. New START, for example, requires a detailed data exchange, semiannual data updates, and notifications of changes regarding a side's strategic forces. The treaty also allows each side to conduct up to eighteen short-notice, on-site inspections a year of the other's strategic systems to check the data provided. This kind of transparency provides the U.S. intelligence community and military with a far better understanding of Russian strategic forces than would be possible with just national technical means—the euphemism for things such as surveillance satellites—by themselves. That allows the Defense Department to avoid worst-case assumptions and make smarter decisions regarding how to equip, staff, and operate U.S. strategic forces.

Fifth, strategic nuclear forces are expensive, and the United States is approaching the point when it must recapitalize all three legs of the strategic triad. In the coming years, the Defense Department will have to make decisions on a new ballistic missile submarine, a new ICBM, and a new heavy bomber. The new submarines may cost as much as $6 billion to $7 billion each, not counting the ballistic missiles, and the Pentagon seeks to cap the cost of a new heavy bomber at $550 million apiece. All of this comes at a time when growing concern about the federal budget deficit places enormous pressure on the U.S. defense budget. Arms control agreements that reduce the number of new strategic systems that must be built can free up scarce defense resources for operations that the U.S. military is far more likely to engage in than thermonuclear war.

Sixth, arms control and U.S. nuclear force reductions can bolster America's nonproliferation credentials. The United States and Russia between them maintain well over 90 percent of the nuclear weapons in the world. An active U.S. effort to reduce those

stockpiles—an objective to which the United States is committed under the Non-Proliferation Treaty—will give Washington greater credibility in seeking to discourage nuclear proliferation. One should be realistic. A new U.S.-Russian nuclear arms treaty will not persuade Tehran or Pyongyang to alter course on nuclear weapons; Washington and its partners must pursue other strategies to achieve those goals. A new treaty—or other measures that produce further reductions in U.S. (and Russian) nuclear arsenals—would nonetheless strengthen the ability of U.S. diplomacy to secure third-country support to apply pressure against proliferation elsewhere, including against country X, the country after Iran that may consider attempting to acquire nuclear weapons.

Seventh, fewer nuclear weapons in the U.S. and Russian arsenals could reduce the risk that a weapon might be stolen or otherwise fall into the hands of a rogue state or nonstate actor.

Nuclear arms control has to be done in a smart way. It has to ensure that, as long as nuclear weapons exist, the United States maintains a secure, reliable, robust, resilient, and effective deterrent capable of preventing a nuclear attack on the United States, its allies, and partners, not just by Russia but by other potential nuclear adversaries. And arms control has to fit into the country's broader foreign and national security policies. With these caveats, it offers the president a potentially useful tool for strengthening U.S. security.

Let us address nuclear deterrence for a moment. We believe that, as long as nuclear weapons exist, the United States will require an effective nuclear deterrent. Nuclear deterrence played a key role during the cold war in preventing all-out conflict between the United States and Soviet Union, countries that opposed each other politically, ideologically, and militarily. Nuclear deterrence worked—with one major caveat: at several points, the world got lucky. For example, a Soviet attack on West Berlin, a different decision by President John Kennedy during the Cuban missile crisis, or a misreading of faulty computer alerts, such as the 1995 Russian misassessment

of a Norwegian non-military rocket launch, could have plunged the world into a catastrophic thermonuclear nightmare.

Will we always be so lucky? That question, and concern about the growing number of states with nuclear weapons, some of whose governments are fragile and not necessarily predictable, leads us to conclude that working toward reducing and ultimately eliminating all nuclear weapons is a sensible goal. A world truly free of nuclear weapons could leave the United States—with friendly neighbors in Canada and Mexico, the protection offered by the Atlantic and Pacific Oceans, and the world's most powerful conventional forces—in a strong position. Washington would still need capabilities to extend deterrence to allies, but the end of nuclear weapons would not mean the end of deterrence, just the end of the nuclear component of it. U.S. conventional forces could threaten powerful punishment against a potential adversary.

We are realistic about this. Lots of things must happen: all nuclear weapons states must join in the reductions process; new verification methodologies must be developed and agreed; and, most important, progress must be made in resolving the underlying conflicts that motivate states to have nuclear weapons. Means of reconstituting an arsenal in extremis need to be explored, too. While it is far too soon to know if nuclear zero will someday be feasible, it is not too soon to take interim steps that could help clarify the choices. Carefully designed nuclear arms control steps can move us in that direction and improve U.S. security, even if the ultimate objective remains elusive.

As for nuclear deterrence in the meantime, we support the idea of making the circumstances in which the United States might resort to use of nuclear weapons more predictable and circumscribed. Ideally, the overarching purpose of nuclear weapons should be to deter a *nuclear* attack on the United States, its allies, and friends.

CHOICES FOR THE PRESIDENT

President Obama's views on nuclear arms control are well known. In an April 2009 speech in Prague, he laid out a vision of a world

free of nuclear weapons and called for reducing the role and number of nuclear arms in U.S. security policy. At the same time, he made clear that, as long as nuclear weapons exist, the United States would maintain a reliable and effective nuclear deterrent. In April 2010, the administration issued its nuclear posture review, which codified the policy of seeking to reduce the number and role of nuclear weapons and specified an objective of creating conditions in which the sole purpose of U.S. nuclear weapons would be to deter nuclear attack on the United States, its allies, and partners.

Shortly after signing the New START Treaty with Medvedev, Obama called for further negotiated reductions with Russia. In addition to deployed strategic warheads, he suggested that future negotiations address nondeployed strategic warheads and nonstrategic nuclear weapons—raising the possibility that, for the first time, the United States and Russia might negotiate on the full range of weapons in their nuclear arsenals. He has also expressed support for ratification of the CTBT. If Obama is reelected, there is every reason to expect that his administration will pursue further steps in the area of nuclear arms control.

The GOP challenger, Mitt Romney, has taken a generally negative view of nuclear arms control and criticized New START in particular. His views reflect a broader skepticism among many Republicans about the value of negotiated limits on nuclear weapons, which the 2010 Senate debate over New START displayed vividly. A Romney presidency would likely bring to office that kind of wariness toward arms control. Several reasons, however, might move a Republican administration to consider efforts in this area.

First, the intense pressure on the defense budget may affect the resources available for strategic modernization. No one in the Defense Department believes that the current force of 400-plus Minuteman ICBMs will be replaced on a one-for-one basis. When Congress in 2011 asked the Pentagon to report on possible future ballistic missile submarine plans, it asked for options for a force of eight, ten, and twelve submarines, not the fourteen currently maintained by

the U.S. Navy. Political pressure for reduced defense spending very likely will mean fewer resources and a smaller U.S. strategic force in the future. That could raise the value of an arms control agreement capping the Russian strategic force at a lower level.

Second, there is strong support in Congress for reducing the Russian numerical advantage in nonstrategic nuclear weapons. Indeed, the Senate resolution of ratification for New START called on the president to initiate within one year negotiations with Russia aimed at cutting that disparity. Romney himself criticized the treaty for not addressing nonstrategic nuclear weapons. Although most analysts anticipate some reduction in the number of Russian nonstrategic nuclear arms, because they are being replaced at a less than one-for-one rate, Moscow can still maintain a sizable advantage. Arms control could address that imbalance.

Third, a Republican administration might face a need to pursue arms control for alliance management purposes. NATO allies today are divided over whether deterrence requires the deployment of U.S. B61 nuclear gravity bombs in Europe. Some allies, such as Belgium, Germany, the Netherlands, and Norway, do not regard those weapons as necessary given the end of the cold war and the sweeping changes in the European geopolitical environment of the past twenty years. Those countries nevertheless are working with Washington and other allies that support the presence of American nuclear bombs to maintain a consensus position on NATO's nuclear posture. Keeping them on board—and away from unilateral action—has been easier because they recognize the Obama administration's desire to negotiate a reduction in nonstrategic nuclear weapons with Russia. Keeping allies on board would likely become more difficult if they concluded that Washington was not interested in negotiating reductions.

The need for Washington to pursue arms control in order to maintain consensus on NATO's nuclear position has an antecedent. When Ronald Reagan took office in January 1981, he wanted to redress what he considered to be dangerous trends in the nuclear

balance against the United States. He was not especially interested in early negotiations with the Soviets on reducing nuclear arms. Yet by the end of the year, his negotiating team sat in Geneva to begin talks on reducing intermediate-range nuclear forces because the need to maintain the support of NATO allies for the 1979 "dual-track" decision demanded it.

Likewise, while NATO allies support U.S. missile defense plans for Europe, most also support the idea of a cooperative NATO-Russia missile defense arrangement. But allies do not want to see missile defense become a new point of contention with Russia and thus want Washington to explore a reasonable cooperative arrangement.

We are completing this book in the summer of 2012, six months before the next president is inaugurated. Even after the election is decided, however, the questions posed in these chapters will remain relevant. In our judgment, President Obama supports further nuclear arms reductions, and, if reelected, his administration would probably address many of the issues raised in the following chapters. It would do so while having to deal with Republicans in Congress who likely would remain skeptical about nuclear arms control. If Governor Romney is elected, he might find that arms control or alliance considerations lead him to address at least some of the same issues. And he might find that Democrats plus those in Congress pushing for deep budget cuts, including in the defense budget, would want to see continued arms control efforts.

THIS BOOK'S SCOPE

This book explores some of the key questions that the president in 2013 must consider regarding nuclear arms control. Our goal is to lay out the issues squarely, in a way that will inform the debate about future arms control questions, regardless of whether the next American president is named Obama or Romney, and to offer our recommendations on the next steps on nuclear arms reductions.

The book begins by examining past and current nuclear policy—the context in which any future negotiations will be set. It then

focuses on possible steps to reduce and control strategic nuclear forces beyond those in New START and looks at ways to handle the nonstrategic nuclear weapons and missile defense issues. The book next discusses issues associated with the Comprehensive Nuclear Test Ban Treaty, questions surrounding a possible ban on the production of fissile material, and the potential for the multilateralization of the nuclear arms reduction process. The final chapter recaps our recommendations and describes how decisions and actions taken by the U.S. administration in 2013–17 could shape a safer and more secure world and perhaps open the prospect for a broader nuclear arms reductions process.

Our focus is first and foremost on decisions, treaties, and certain informal arms control steps that directly impinge upon American nuclear forces. To maintain that focus, we have purposefully chosen to omit some issues. The complex questions of how to handle today's major nuclear proliferation challenges—Iran and North Korea—are left to other analyses. Crisis management in regard to specific countries is not our focus, nor are the broader Nuclear Non-Proliferation Treaty and international export control regimes in sensitive nuclear-related technologies. Likewise, we do not address the nightmare scenario of a terrorist group gaining access to nuclear weapons or fissile materials. We have also chosen not to address the challenges of conventional arms control, particularly the fate of the Conventional Armed Forces in Europe Treaty regime, even though many analysts believe that decisions regarding nonstrategic nuclear weapons are linked to those relating to the conventional force balance. For example, many Russians suggest that, given Russia's conventional force disadvantages compared with the United States, NATO, or China, it must rely more on nonstrategic nuclear weapons. We note this possible linkage, but resolution of the many questions related to conventional arms control is beyond the scope of this book.