Chapter 1

New Trends toward Nuclear Disarmament

Against the background of continuing concerns over nuclear proliferation, the September 11 terrorist attacks alarmed the global community of the potential threat of nuclear terrorism. Since then, the efforts to prevent the spread of nuclear weapons to non-state actors, such as terrorist organizations, have been recognized as an immediate agenda for global security. In the United States, the Obama administration has increasingly evidenced a sense of crisis with regard to the threat of nuclear proliferation and nuclear terrorism, and the president has stated that one of his ultimate goals is the elimination of nuclear weapons. In line with this, he has stated his administration's determination to make renewed efforts toward nuclear disarmament and take steps to prevent the spread of nuclear weapons, including a review of the role of nuclear weapons in supporting the national security of the United States.

The Strategic Arms Reduction Treaty I (START I) expired on December 5, 2009, and the United States and Russia have been engaged in negotiations on a START follow-on treaty. In July 2009 they reached an agreement to reduce the number of strategic nuclear delivery vehicles to somewhere between 500 and 1,100 and the number of deployed strategic warheads to somewhere between 1,500 and 1,675. Nevertheless, the negotiations were protracted by disagreement over the final numbers of both delivery vehicles and warheads, and over the verification procedures, and consequently the two sides were unable to reach final agreement prior to the expiration of START I. The formation of a START follow-on treaty would constitute a major step toward achieving subsequent reductions in strategic offensive forces, as well as toward laying down new limitations on non-deployed nuclear warheads and nonstrategic nuclear weapons.

Meanwhile, there is still no sign of real progress in those pending issues that must be resolved to enable further progress in the global move toward nuclear disarmament and in preventing the proliferation of nuclear weapons. These issues include the eventual coming into force of the Comprehensive Nuclear Test Ban Treaty (CTBT), and the prohibition of the production of weapons-grade nuclear material. In order to move forward with nuclear disarmament, it will be necessary to narrow down the role of nuclear weapons in ensuring national security. To make this possible, it will also be necessary for the international community, at the very least, to move further toward the complete elimination of chemical and biological weapons, and to draw up measures to maintain the balance of conventional military forces between countries that are in a competitive relationship.

Active commitment to the furtherance of nuclear disarmament is required not only from the nuclear-weapon states, but also from those that do not possess such weapons.

1. The Growing Momentum toward Nuclear Disarmament

(1) Nuclear Disarmament Proposals and President Obama's Prague Speech

In January 2007 four former high-level officials of the US government co-authored a short article in the *Wall Street Journal* entitled "A World Free of Nuclear Weapons." The four co-authors, all of whom had been directly involved in the creation of the United States' nuclear weapons policy, were former Secretary of State George Schulz, former Secretary of Defense William Perry, former Secretary of State Henry Kissinger, and former Senator Sam Nunn. In the article, they argued that the greatest threats faced today by the global community were the risk of nuclear terrorism and the emergence of new nuclear-armed states. They further argued that the only effective way to deal with such threats was to vigorously cooperate with other nuclear-armed states with the aim of realizing a world free of nuclear weapons. The authors put forward a number of specific proposals for urgent implementation, including a partial stand-down from the Cold War posture of nuclear alert, continued efforts toward nuclear disarmament, the dismantling of short-range nuclear weapons, and continued efforts to bring the CTBT into force. These proposals had a major impact, coming as they did from high-level government officials who had been intimately involved with the forging of the nuclear weapons policy of the United States, the country that has always been at the forefront in the development of nuclear weapons.

The publication of this article triggered a large number of discussions and proposals regarding the elimination of nuclear weapons from universities and think tanks around the world, as well as among former government figures and the current governments of certain countries. For example, in October 2007 the Hoover Institution at Stanford University published *Reykjavik Revisited: Steps Toward a World Free of Nuclear Weapons*, and in August 2008 the International Institute for Strategic Studies (IISS) in London published *Abolishing Nuclear Weapons*. In addition, the launch of a joint Japan-Australian initiative, the International Commission on Nuclear Non-proliferation and Disarmament

(ICNND), was announced in July 2008. In mid-December of 2009 the ICNND published *Eliminating Nuclear Threats: A Practical Agenda for Global Policymakers*. This report contained a number of concrete proposals for furthering nuclear disarmament and preventing the proliferation of nuclear weapons. These included the proposal that, by 2025 at the latest, all nuclear-armed states should make a clear statement of their official adoption of the policy of "no first use" (see Section 4) of nuclear weapons. Moreover, the Global Zero international initiative to promote the elimination of nuclear weapons has attracted such notable signatories as former Japanese Prime Minister Yasuo Fukuda, former US President Jimmy Carter, and former Soviet General Secretary Mikhail Gorbachev. The Global Zero campaign seeks to create an active worldwide debate on the elimination of nuclear weapons and to develop critical policy proposals to make this possible. At the government level, meanwhile, in February 2008 Norway organized an international conference on nuclear disarmament under the title "Achieving the Vision of a World Free of Nuclear Weapons," and in February 2009 the Foreign and Commonwealth Office of the United Kingdom published a report entitled *Lifting the Nuclear Shadow: Creating the Conditions for Abolishing Nuclear Weapons.*

Against this background, during the 2008 US presidential election campaign, Barack Obama had given strong hints that, if elected, he would adopt nuclear arms control and disarmament policies that would differ substantially from those followed by the Bush administration, including actively seeking ways to eliminate nuclear weapons, and ratification of the CTBT. The full picture did not become clear, however, until April 5, 2009, when President Obama, who had assumed office the previous January, made a speech in Prague. In this speech, while stressing that the United States would maintain a nuclear deterrent as long as other countries continued to possess nuclear weapons, President Obama said: "So today, I state clearly and with conviction America's commitment to seek the peace and security of a world without

nuclear weapons." With these words, he made it clear that he was determined to pursue the goal of the elimination of nuclear weapons. He also announced that, to promote this goal, he would take steps to reduce the role of nuclear weapons in the United States' security strategy. He also pledged to negotiate a new Strategic Arms Reduction Treaty with Russia, and said that his administration would immediately and aggressively pursue US ratification of the CTBT. Finally, he announced that the United States would seek a fissile material cutoff treaty (FMCT) that verifiably ends the production of fissile materials intended for use in state nuclear weapons (see "The Fissile Material Cutoff Treaty").

Regarding the prevention of nuclear proliferation, President Obama called for the strengthening of the monitoring and verification measures undertaken by the International Atomic Energy Agency (IAEA), and for stronger disincentives for countries that break the rules of the Nuclear Non-proliferation Treaty (NPT) or that seek to leave the treaty. He also called for the creation of a new international framework for civil nuclear cooperation, including a nuclear fuel bank. As a means of guarding against the threat of nuclear terrorism, President Obama announced a new international effort to secure all vulnerable nuclear material around the world within four years. To deal with the threat of a black market in nuclear weapons or material he called for steps to cut off the financing for this market, and he also called for efforts to turn the Global Initiative to Combat Nuclear Terrorism (begun by presidents George Bush and Vladimir Putin in 2006) into a durable international institution. Finally, President Obama called for the holding of a Global Summit on Nuclear Security. Subsequent to this speech, it was made clear that the summit were to be held on April 12–13, 2010.

President Obama's strong stance on nuclear disarmament and nuclear nonproliferation is likely to exert a favorable influence on the NPT Review Conference scheduled to be held in May 2010. Signs of this were seen immediately after the Prague speech, in May 2009, with the holding of the Third Preparatory Committee for the 2010 NPT Review Conference. At the committee meeting a number of participants—not only representatives of Western countries, but also those of members of the Conference of Non-Aligned Countries—expressed their appreciation for President Obama's forward-looking attitude to nuclear disarmament. The overall atmosphere at the meeting represented a significant step forward in the direction of international cooperation. As a result, in contrast to the outcome of the preparatory meeting to the 2005 NPT Review Conference,

The Fissile Material Cutoff Treaty

Efforts to prohibit the production of weapons-grade fissile material began more than half a century ago with a United Nations resolution in 1957, but as the Cold War intensified, with an increase in the number of nuclear weapons on both sides, the realistic possibility of banning the production of weapons-grade fissile material receded into the distance. At the end of the Cold War, the United States and Russia began reducing their nuclear forces, and once again calls became heard for a ban on the production of weapons-grade fissile material. A resolution of the UN General Assembly calling for the start of multilateral talks on such a prohibition was adopted unanimously in 1993.

In 1995, a final document adopted by the NPT Review and Extension Conference called for the immediate start of talks on the FMCT leading to an early conclusion, and in response to these rising calls for a ban on the production of weapons-grade fissile material, the Geneva-based Conference on Disarmament in the summer of 1998 set up an ad hoc committee to prepare the way for such a cutoff treaty. In 1999, however, differences of opinion came to the fore between the member states of the Conference on Disarmament regarding issues on nuclear disarmament and the prohibition on the deployment of weapons in space, and it proved impossible to agree on a work program. These differences of opinion have prevented a resumption of negotiations on the FMCT since then.

Nevertheless, in response to the growing momentum toward nuclear disarmament set in motion by President Obama's Prague speech, on May 29, 2009 the Conference on Disarmament in Geneva adopted a work program (CD/1864) that included the start of negotiations on the FMCT. This work program, the conference's first such action in eleven years, included the issues apart from the FMCT itself—nuclear disarmament, the prevention of an arms race in outer space, and negative security assurances. However, the degree of importance attached to these four issues, which were agreed on under the work program, differs between one member country of the Conference on Disarmament and another. As a result, differences of opinion regarding details have surfaced between, on the one hand Pakistan, China, and Iran, and on the other hand the remaining members of the Conference on Disarmament. Consequently, the Geneva-based Conference on Disarmament was forced to abandon the attempt to start negotiations on the FMCT before the end of 2009. Most members of the Geneva-based Conference on Disarmament, including the United States and Japan, hoped to begin talks on the FMCT during the new session starting in January 2010, but as all resolutions of the Conference on Disarmament must be passed by a unanimous vote, it is unclear whether the resolution will be readopted.

The scope of the agenda of the FMCT has still not been determined, including whether or not it will cover the handling of existing stocks of weapons-grade fissile material. In fact, an agreement has still to be reached regarding the definition of the term "weapons-grade." However, it is inarguable that, for the purpose of promoting nuclear disarmament, it will be essential to prohibit of the production of new weapons-grade fissile material, which, after all, is the very core of a nuclear weapon.

Additionally, if the parties to the negotiations are to proceed on the assumption of a final goal of eliminating all nuclear weapons, concrete measures must be devised for the reduction of existing weapons-grade fissile material, and ultimately for its elimination. Moreover, prohibitions on the production of weapons-grade fissile material and measures to reduce the volume of such material held in stockpiles would lead to a lessening of the inequality of the NPT and contribute to stabilization of the NPT regime. In this way, although the realization of the FMCT would be difficult, the prohibition of the production of new weapons-grade fissile material and the imposition of restrictions on existing fissile material are seen as an absolute prerequisite for further progress toward nuclear disarmament and nuclear nonproliferation.

held the previous year, this time agreement was easily reached on the setting of the agenda for the 2010 conference, as well as other procedural issues. In addition, as if in response to President Obama's positive approach to nuclear disarmament, as a follow-on from the NPT Review Conference held in 2000, the NPT-acknowledged five nuclear-weapon states, including the United States, issued a joint statement immediately following the conclusion of the preparatory meeting in which they pledged an "enduring and unequivocal commitment to work towards nuclear disarmament."

As part of this initiative set in motion by President Obama, at the UNSC Summit Meeting held on September 24, 2009, a UNSC Resolution on Nuclear Non-proliferation and Nuclear Disarmament was unanimously passed. This resolution was aimed at the realization of a world without nuclear weapons, and contained a reaffirmation of the importance of the Nuclear Non-Proliferation Treaty. This was the sixth UNSC Summit Meeting, and the first to consider the themes of nuclear disarmament and nuclear nonproliferation. Viewed in this light, the passing of the resolution on nuclear nonproliferation and disarmament was clearly an event of historic importance.

(2) Japan's Position on the Issue of Nuclear Disarmament

Japan has been a long-term proponent of nuclear disarmament. Nevertheless, Japanese policymakers have recognized that unrealistic and radical proposals would be unproductive and would merely prompt criticism from the nuclear-armed states. They have also recognized that nuclear weapons act as a deterrent, thus plays a vital role in the security strategy. Japan has therefore pursued a

practical and incremental approach to nuclear disarmament.

On April 27, 2009, then-Foreign Minister Hirofumi Nakasone gave a further boost to the rising tide of enthusiasm worldwide for the cause of nuclear disarmament by unveiling a new Japanese approach to the issues of nuclear disarmament, nuclear nonproliferation, and the promotion of the peaceful use of nuclear energy under the title of "Conditions towards Zero—'11 Benchmarks for Global Nuclear Disarmament.'" Nakasone made a total of five proposals aimed at encouraging the nuclear-armed states to move further down the road to disarmament: (1) the United States and Russia should cooperate in displaying global leadership, (2) other nuclear-armed states such as China should also take steps toward nuclear disarmament, (3) levels of transparency with respect to nuclear arsenals should be raised to facilitate disarmament, (4) nuclear disarmament should be irreversible, and (5) further research should be undertaken into perfecting verification technology for the dismantling of nuclear warheads.

Nakasone also listed various steps that the international community as a whole should take in order to promote nuclear disarmament and nuclear nonproliferation. These included the early entry into force of the CTBT, the early commencement of negotiations on the FMCT, the moratorium on the production of weapons-grade fissile material until the treaty is adopted, and the construction of a new framework of rules on ballistic missiles, which are the principal delivery vehicles for nuclear warheads. He also called for the universal application of the IAEA Safeguards Agreement and Additional Protocol, and for increased "nuclear security" through stricter management of nuclear materials and other radioactive materials that could be targeted by terrorists. At the same time, Nakasone insisted that the use of nuclear energy for peaceful purposes must be promoted.

On September 16, 2009 the new administration of Japanese Prime Minister Yukio Hatoyama was formed, centered on the Democratic Party. Soon after assuming office, Hatoyama attended a UNSC summit meeting, where he announced Japan's stance on nuclear disarmament. He reminded his fellow participants that Japan had long adhered to the Three Non-nuclear Principles (the country does not possess or manufacture nuclear weapons, and does not permit their introduction into its territory). He explained that by the adoption of these principles, Japan aimed to break the chain of the nuclear arms race. Hatoyama urged the nuclear-armed states to reduce their nuclear forces, take steps to put the CTBT into force as soon as possible, and enter into negotiations on the FMCT at

an early date. He made clear Japan's intention to actively pursue diplomacy aimed at promoting nuclear disarmament and nuclear nonproliferation, and to strongly oppose any new moves toward the proliferation of nuclear weapons.

Every year since 1994, Japan has submitted a draft resolution on nuclear disarmament to the UN General Assembly. The resolution submitted in the autumn of 2009, entitled "Renewed Determination Towards the Total Elimination of Nuclear Weapons," was adopted by the General Assembly on December 3, 2009 by 171 votes to two (India and North Korea) with eight abstentions (China, France, Iran, Israel, Myanmar, Pakistan, Cuba, and Bhutan). Eighty-seven countries were co-sponsors of the resolution, including the United States, which had cast a dissenting vote in 2008. The resolution contained eighteen clauses. It called on the signatories to the NPT to ensure that the 2010 NPT Review Conference led to a strengthening of the existing system for preventing the proliferation of nuclear weapons. The resolution also called for further progress in disarmament while respecting the principles of transparency, irreversibility and verifiability; urged the early enforcement of the CTBT and the continuation of the moratorium on nuclear testing; stressed the importance of an early start to negotiations on the FMCT and of countermeasures against the use of nuclear weapons for terrorist purposes; and encouraged a constructive role for the general public of the world's nations in the disarmament and nuclear nonproliferation movements.

2. Steps Toward Nuclear Disarmament Taken by Nuclear-Weapon States

(1) Voluntary Steps to Disarmament taken by the United States and Russia

Following the end of Cold War, the United States and Russia—the latter inheriting the nuclear weapons held by the former Soviet Union—embarked on a reduction in the number of nuclear weapons deployed. These measures were taken under the terms of START I and the Strategic Offensive Reduction Treaty (SORT), better known as the Moscow Treaty, which came into force in December 1994 and June 2003, respectively. In addition, the two sides removed a number of nuclear warheads from deployment on a voluntary basis. They also dismantled and decommissioned these warheads as well as a number of warheads in their stockpiles. For example, the United States' land-based tactical nuclear weapons

deployed in Western Europe and South Korea were decommissioned and dismantled by the administration of George H.W. Bush (1989–1993). Tactical and theater-level nuclear weapons deployed at sea were also removed, and certain percentages were also dismantled.

Although the administration of George W. Bush (2001–2009) did not take an active stance on nuclear arms control and disarmament, it achieved significant results by independent, voluntary measures to reduce nuclear weapons. According to the Nuclear Posture Review (NPR), which was submitted to Congress at the end of December 2001, the Bush administration launched a policy that would result in the reduction of operationally deployed strategic nuclear warheads to between 1,700 and 2,200 by the year 2012. This figure was spelled out in the Moscow Treaty, whereby Russia also undertook to meet the same target. In 2004, it was announced that the combined number of nuclear warheads operationally deployed in the reserve stockpile would be reduced by approximately 50 percent by 2012 compared with the figure at the start of the Bush administration in 2001. In fact, this target was reached five years ahead of schedule, in 2007. President Obama, who has announced his intention to pursue nuclear disarmament with the ultimate goal of realizing a world free of nuclear weapons, indicated as early as his election campaign that he would not authorize the production of new types of nuclear warhead. In line with this, in March 2009, soon after his assumption of office, President Obama called for the cessation of the development work on the Reliable Replacement Warhead (RRW) project. The RRW, which had attracted considerable criticism during the Bush administration, was seen as effectively a new nuclear weapons project.

Russia is also pursuing a voluntary nuclear arms reduction program. In October 2008 Anatoly Antonov, Russian ambassador to the United Nations, told the First Committee of the UN General Assembly that Russia had reduced its stockpile of strategic nuclear warheads by four-fifths and its nonstrategic nuclear capability by three-quarters since 1991. However, in a joint US-Russia statement of April 1, 2009, Russian President Dmitriy Medvedev announced that Russia was joining the United States in a program of nuclear arms reduction aimed at realizing a world without nuclear weapons. However, despite that declaration, Russia continues to strengthen its strategic offensive forces, including development of new versions of its Topol-M intercontinental ballistic missile (ICBM), Bulava submarine-launched ballistic missile (SLBM), and *Borey*-class ballistic missile nuclear submarine (SSBN).

(2) US-Russian Negotiations on a Follow-up Treaty to START I

In addition to the above-described voluntary and independent nuclear arms reduction measures by the United States and Russia, the two countries are also pursuing reductions in their strategic offensive capabilities through the parallel processes of START I and the Moscow Treaty.

START I sets a limit of 1,600 vehicles on the two countries' total deployment of strategic weapons delivery vehicles, including ICBMs, SLBMs, and heavy bomber aircraft. It also sets a limit of 6,000 for nuclear warheads and bombs carried by these vehicles. The method of counting the delivery vehicles and the deployed warheads is unique to START I. Unless the launch platforms (silos in the case of ICBMs, launching tubes in the case of SLBMs, and the entire aircraft in the case of heavy bombers) have been dismantled in accordance with the rules laid down under START I, it is assumed that each delivery vehicle carries a specific number of warheads. This counting method is employed even if the warheads have been removed from the delivery vehicle.

The Moscow Treaty, on the other hand, does not touch on the question of limits on delivery vehicles, and unlike START I, with regard to strategic nuclear warheads it considers only those that are actually installed in the delivery vehicles. The United States and Russia are obligated to reduce their number of operationally deployed nuclear warheads to 1,700–2,200 by December 31, 2012, the day up to which the treaty remains in force. However, the rules used for counting the actual warheads have not been specified. Moreover, whereas START I specifies a wide range of twelve categories on monitoring and inspection procedures, including on-site inspections, the Moscow Treaty does not have regulations for inspections, and the regulations contained in START I are therefore employed. However, as START I expired on December 5, 2009, it is feared that the United States and Russia will have no way of accurately verifying the other party's performance of its obligations under the Moscow Treaty.

On its expiration, START I may be extended for a further period of five years, and there is no limit on the number of such extensions, but neither the Bush nor Putin administrations desired to extend the agreement, and instead agreed to conclude a new follow-on agreement. In the background to this decision was the fact that START I reflected the confrontational relationship of the two sides during the Cold War, as a result of which it specified a wide-ranging set of rules governing monitoring and inspection. In addition, meeting the requirements of START I

entailed considerable time and financial cost. It was thus felt by both sides that the treaty did not meet the needs of the new political circumstances that have prevailed since the end of the Cold War. In addition, the Russian side recognized that the treaty included regulations that would hinder them in their plans to alter Topol-M ICBMs to give them multiple independently targetable reentry vehicle (MIRV) capabilities.

The two governments subsequently held intermittent talks on a follow-on agreement to START I, but no progress was achieved. The Bush administration wanted to follow rules similar to those set by the Moscow Treaty for nuclear capabilities, while at the same time adopting a "declaratory" document of transparency and confidence-building measures that would employ certain of the monitoring and inspection regulations used in START I. The Putin administration, meanwhile, wished to conclude a new treaty based on the START I framework.

In May 2008 Dmitriy Medvedev was inaugurated as the president of Russia, but this did not lead to any change in Russia's stance with respect to the negotiating stance for a START follow-on treaty. In the United States, Barack Obama, during his election campaign, suggested that the two sides should implement reductions in strategic and nonstrategic nuclear forces, both deployed and non-deployed. He also indicated his desire to reach an agreement with Russia to employ certain of the rules of START I regulating monitoring and inspections in the follow-on treaty.

The first summit meeting between the United States and Russia since the start of the Obama administration was held in London on April 1, 2009. In the joint statement made after the meeting, the two sides announced their intention to reach a legally binding agreement to make gradual reductions in their strategic offensive capabilities, to immediately begin talks on a follow-on agreement to START I as the first step in this process, and to conduct negotiations with the aim of issuing an interim report before a summit meeting in July. With respect to the issue of missile defense, the two sides agreed to hold further discussions on the relation between offensive and defensive capability, with reference to the views of the two sides regarding missile defense systems that the United States was considering deploying in Europe. This joint statement did not touch on the questions of the two countries' nonstrategic nuclear capabilities or non-deployed nuclear warheads. The issue of operationally deployed strategic offensive forces is expected to be at the focus of subsequent talks.

After four rounds of negotiations beginning in April 2009, a summit meeting

was held between Presidents Barack Obama and Dmitriy Medvedev in Moscow from July 6 to 8. The meeting featured the signing of a "Joint Understanding" containing ten elements that constitute a framework of a START follow-on treaty as follows:

(1) Final figures will be decided at subsequent talks, but for seven years following the coming into force of the follow-on agreement, the United States and Russia will limit strategic weapon delivery vehicles to between 500 and 1,100 vehicles, and the warheads carried by these vehicles will be limited to between 1,500 and 1,675.

(2) The counting rule to be applied to the above-mentioned delivery vehicles and warheads.

(3) The definitions, data exchanges, notifications and eliminations, as well as monitoring and inspection procedures to be adopted will be simplified by comparison with START I and less expensive. This clause also contains provisions regulating measures to ensure transparency and confidence-building.

(4) The composition and structure of strategic offensive military capabilities will be at the discretion of each party.

(5) The interrelationship between strategic offensive weapons and strategic defensive weapons.

(6) The impact on strategic stability of ICBMs and SLBMs carrying non-nuclear (conventional) warheads.

(7) A provision on basing strategic offensive weapons exclusively on the national territories of each state.

(8) A body is to be set up to handle problems encountered in the implementation of the agreement.

(9) The follow-on treaty cannot be applied to existing cooperative relations between a signatory party and third parties regarding strategic offensive capabilities.

(10) The follow-on treaty will remain in force for 10 years unless superseded by another strategic offensive arms reduction treaty.

One issue that is expected to be particularly in dispute during the talks on the START I follow-on treaty is the number of delivery vehicles, as suggested by a wide gap (500–1,100) between the minimum and maximum figures for allowable delivery vehicle deployment. Under the counting rules employed for START I, the number of vehicles as of July 1, 2009 was 1,188 for the United States and 809 for Russia, but it is estimated that the number of delivery vehicles actually deployed and fitted with strategic nuclear warheads was approximately 800 for the United States, and approximately 620 for Russia. Although both countries possess a large number of delivery vehicles without nuclear warheads, in the case of the United States these include 96 Trident submarine-launched ballistic missiles as well as B-1 bombers, which the United States uses for the delivery of conventional weapons and which it has no plans to decommission. Consequently, in the follow-up treaty, if delivery vehicles with this kind of non-nuclear mission are to be regulated under the treaty as was the case with START I, it will be difficult for the United States to reduce the number of delivery vehicles substantially from 1,100. In the case of Russia, however, such delivery vehicles are being gradually reduced for financial reasons. Because of this, as well as the fear that the United States has the capability to reload a large number of delivery vehicles, Russia is expected to seek an agreement that sets the number of delivery vehicles at as low a level as possible. If the United States and Russia comes to a compromise on this issue, an agreement could be reached on a figure below 1,100. This certainly appears to be a possibility, considering that an agreement was reached in the Joint Understanding on the impact on strategic stability of strategic ballistic missiles carrying conventional weapons.

The two sides have reached an agreement on limiting the number of warheads to 1,500–1,675, but the calculation base has not been clarified and the determination of the counting rules has been left to future talks. It is fairly unlikely that counting rules similar to those employed under START I will be adopted. Based on the START I counting rule, the number of warheads possessed by the United States as of July 1, 2009 was 5,916 and those held by Russia was 3,897. To bring these figures down into the 1,500–1,675 range would require a major reduction or streamlining of the delivery vehicles, and the United States is unlikely to agree to this.

One issue of concern as a possible obstacle to the progress of negotiations over the START I follow-on treaty is the United States plans for the deployment of a missile defense system in Europe targeted at long-range ballistic missiles. In the

joint statement by the United States and Russia following the April 2009 summit meeting in London, the two sides announced their agreement to hold further discussions on the interrelationship between offensive capabilities and defense capabilities. However, the Obama administration maintained that the missile defense systems scheduled for deployment in Poland and the Czech Republic were not intended for use against Russian offensive forces. They therefore opposed the inclusion of these missile systems in the agenda for discussions on the START I follow-on treaty. Although the Joint Understanding included definitions of the interrelationship between strategic offensive and strategic defensive forces under the START I follow-on treaty, and although it was agreed that further discussions on this issue would be held at a separate forum from the main talks on the START I follow-on treaty, Russia continued to request the cancellation of the US plan for deploying missile defense systems in Europe.

The Russians objected to the construction by the United States of missile defense bases in Poland and the Czech Republic, which had been within the sphere of influence of the Soviet Union, and they argued that if they were to acquiesce in this deployment, there was a danger that such forces would be gradually built up to the point where they posed a major threat to Russia's strategic nuclear deterrent. For this reason, they insisted that Russia could not agree to significant levels of nuclear disarmament as long as the United States continued to plan the deployment of such missile systems in Europe. They further warned the United States that failure to accept Russia's position on the issue of the missile defense systems would force them to deploy Iskander short-range missiles in Kaliningrad Oblast, the Russian enclave located between Poland and Lithuania on the Baltic coast.

The Obama administration has pursued a comprehensive review of missile defense programs, including the plans for deployment of a missile defense system in Europe, in parallel with the Nuclear Posture Review. On September 17, 2009, President Obama announced the intention to scrap plans for missile defense sites in Europe, in favor of plans to intercept medium- and short-range missile by Advanced Standard Missile-3 (SM-3) carried by US Navy warships. He also announced future plans to deploy advanced SM-3 land-based missiles. This decision is believed to have been based on the perception that the threat posed by long-range ballistic missiles launched by Iran was outweighed by that posed by short- to medium-range missiles, as well as the fact that the SM-3 has a proven

interception capability. Russian President Dmitriy Medvedev welcomed this switch in policy by the Obama administration, and this was seen by most observers as having removed one of the principal obstacles to an agreement on a START I follow-on treaty.

This does not mean, however, that the talks will no longer be overshadowed by the issue of plans by the United States for the deployment of missile defense systems. This is because, first of all, the concept of second-strike capability still remains at the core of nuclear deterrence within the US-Russian strategic relationship. If the talks are to ensure the maintenance of strategic stability, they cannot but take account of strategic defense forces such as missile defense systems within the wider issue of limiting strategic offensive forces. This was made clear at the SALT I talks, whereby The Interim Agreement on the Limitation of Strategic Offensive Arms and the Treaty on the Limitation of Anti-Ballistic Missile Systems were concluded in May 1972. Consequently, even if talks are to be held separately from the negotiations over the START I follow-on treaty, the missile defense issue will inevitably cast a shadow over the follow-on treaty talks, whose main focus will be the reduction of strategic offensive forces. The United States and Russia are holding discussions aimed at finding common ground to enable the establishment of a "Joint Data Exchange Center" relating to missile launches, and at creating a framework for cooperation on the issue of missile defense systems, but the prospects for these talks are unclear.

Now that the talks on the follow-on treaty have reached the concluding phase, attention is focused on the methods to be employed for monitoring and inspections. As indicated in the Joint Understanding, the provisions for inspections under the follow-on treaty will be simplified by comparison with those employed under START I, but a divergence of opinions has emerged between the United States, which believes that accurate monitoring and inspection will assume even greater importance in line with the reduction in the numbers of delivery vehicles and warheads deployed, and Russia, which wishes to simplify the provisions for monitoring and inspection as much as possible. Persistent differences of opinion between the two sides regarding the handling of telemetry at the time of test-firing of ballistic missiles are also reported. It was partly for these reasons that the two sides failed to reach an agreement on a follow-on treaty before the expiration of the START I treaty, despite the wishes of their respective leaders. On December 4, 2009 the heads of state of the United States and Russia issued a "bridging statement"

ahead of the expiration of START I, in which they announced that talks on a follow-on treaty would continue to be held in the spirit of START I, and that they would continue to observe the provisions of START I until a follow-on treaty was signed.

At the Moscow summit held in July 2009, in addition to the agreement on a framework for talks on a START I follow-on treaty, an agreement was also reached on the establishment of a "US-Russian Bilateral Presidential Commission," and this is a significant step. This commission will discuss a wide range of political and security-related issues, including nuclear security and the peaceful uses of nuclear energy, arms control and international security, and foreign policy and counterterrorism. It will also act as a forum for exchanges of opinion on such issues as drug trafficking, economic relations, energy and the environment, agriculture, science and technology, and cooperation in space. If this discussion forum performs its function effectively, a significant and across-the-board improvement in cooperation between the United States and Russia can be expected. This, in turn, should have a beneficial knock-on effect on overall US-Russian relations and thus facilitate further nuclear disarmament agreements between the two countries over the longer term after the conclusion of the follow-on treaty.

Table 1.1. US-Soviet/Russian nuclear arms control agreements (as of December 31, 2009)

	SALT I	SALT II	START I	START II	START III (framework)	SORT (Moscow Treaty)	START I follow-on treaty (framework)
Deployed Warhead Limit	—	—	6,000	3,000–3,500	2,000–2,500	1,700–2,200	1,500–1,675
Deployed Delivery Vehicle Limit	Total of ICBMs and SLBMs US: 1,710 USSR: 2,347	Total of ICBMs, SLBMs, and heavy bombers for each side: 2,250	1,600	—	—	—	500–1,100
Status	Expired	Never entered into force	Expired	Never entered into force	Never negotiated	In force	Currently under negotiation
Date Signed	May 26, 1972	June 18, 1979	July 31, 1991	Jan. 3, 1993	—	May 24, 2002	—
Date Entered Into Force	Oct. 3, 1972	—	Dec. 5, 1994	—	—	June 1, 2003	—
Implementation Deadline	—	Dec. 31, 1981	Dec. 5, 2001	Dec. 31, 2007	Dec. 31, 2007	Dec. 31, 2012	—
Expiration Date	Oct. 3, 1977	Dec. 31, 1985	Dec. 5, 2009	Dec. 5, 2009	—	Dec. 31, 2012	—

Source: Arms Control Association, "U.S.-Soviet/Russian Nuclear Arms Control Agreements at a Glance," December 2009

(3) Approaches to Nuclear Arms of the United Kingdom, France, and China

In July 1998, the British government announced in *The Strategic Defence Review* that it planned to rely solely on SSBNs, and the SLBMs with which they are equipped, for the country's nuclear arms capability, and that all nonstrategic nuclear weapons would be dismantled and decommissioned. Then, in a paper entitled *The Future of the United Kingdom's Nuclear Deterrent*, published in December 2006, the UK government declared its intention of reducing operational nuclear warheads to a maximum of 160. This reduction program was completed by the start of 2009, and as a result, the United Kingdom's total nuclear destructive capability is said to have been reduced by approximately 75 percent compared with the level at the conclusion of the Cold War.

As made clear by the UK government in *The Strategic Defence Review* published in 1998, the country had chosen to employ only SLBMs launched from SSBNs as its nuclear weapon delivery vehicles. The UK possesses four *Vanguard*-class SSBNs, but at the UNSC Summit Meeting held in September 2009 to discuss nuclear disarmament and nonproliferation, Prime Minister Gordon Brown announced that he was considering reducing the nuclear missile-carrying submarine fleet from four to three submarines. The decision is thought to have been based on the calculation that Britain would be able to maintain a nuclear deterrent in spite of the reduction to three SSBNs and the country's worsening financial situation.

With regard to France, as part of a military restructuring undertaken by President Jacques Chirac in February 1996, the government announced plans to scrap all land-based ballistic missiles (IRBMs and Hadès short-range ballistic missiles) and to reduce its SSBN force from five vessels to four. In March 2008 President Nicolas Sarkozy announced plans to reduce the numbers of nuclear-armed combat aircraft, air-to-surface cruise missiles, and nuclear warheads by one-third each. If implemented, this would bring the number of nuclear warheads possessed by France down to a maximum of 300, or roughly half the level during the Cold War.

The French authorities outlined a seven-point nuclear disarmament program in the national defense white paper published in June 2008. These points were as follows: (1) the universal ratification of the CTBT, (2) the fully transparent dismantling of all nuclear testing facilities, (3) the immediate start of talks on the proposed FMCT, (4) the immediate commencement of a moratorium on the

production of fissile material, (5) measures by nuclear-weapon states (NWS) to raise the transparency of information concerning their nuclear forces so as to assist the aims of the NPT, (6) the start of negotiations on a treaty banning surface-to-surface short- and intermediate-range missiles, and (7) pledges by all countries to observe the provisions of the Hague Code of Conduct against Ballistic Missile Proliferation (HCOC).

As in the case of the United Kingdom, however, the French government has made it clear that it intends to maintain its nuclear deterrent capability. In June 2008 President Sarkozy stated that "nuclear deterrence is the nation's life insurance in an uncertain world," and that it "guarantees our independence and freedom of action." The defense white paper published at around the same time contains the statement: "Nuclear deterrence remains an important concept in ensuring national security," and in an endorsement of this statement, France is embarking on the modernization of its nuclear forces. For example, it is constructing a new class of SSBN, developing the new M51 SLBM, and also developing new classes of air-to-surface cruise missiles to be carried by fighter-bombers and aircraft operating from aircraft carriers.

Unlike the other nuclear weapons states recognized under the NPT, China has thus far not taken any specific steps to implement nuclear disarmament. In fact, as pointed out by the British Foreign Office, most observers believe that China—along with India and Pakistan—is pursuing a policy of strengthening its nuclear weapons capability. However, China has for many years followed an unconditional policy of "no first use of nuclear weapons" (see Section 4), and it continues to maintain a stance of support for nuclear disarmament, including urging other countries to reach an agreement on the prohibition and elimination of nuclear weapons via internationally accepted legal measures.

At a session of the First Committee of the UN General Assembly in October 2009, the Chinese delegation made the following policy recommendations:

First, all nuclear-armed states have a duty to take steps in all sincerity toward nuclear disarmament, and in the course of such efforts, they must aim to maintain the global strategic balance and support strategic stability. Furthermore, the United States and Russia, which possess the largest numbers of nuclear weapons among the countries of the world, must take the lead in disarmament initiatives.

Second, nuclear-armed states must reduce the role of nuclear weapons in their national security strategies. In particular, they must renounce nuclear deterrence by means of nuclear "first use." Moreover, the international community should as

soon as possible devise means within the scope of international law to provide non-nuclear states with security from the use of nuclear weapons against them. In addition, nuclear-armed states should conclude a treaty or an agreement in which they undertake to renounce the "first use" of nuclear weapons.

Third, the community of nations must work to realize the early entry into force of the CTBT and the early commencement of talks on the FMCT.

Fourth, to realize the ultimate goal of complete nuclear disarmament, the international community must draw up an action plan for gradual implementation, including the conclusion of an international treaty that completely prohibits the possession of nuclear weapons.

Despite such repeated calls for the elimination of nuclear weapons, however, China has still not ratified the CTBT, which it signed thirteen years ago, and it is the only one of the five nuclear-weapon states recognized under the NPT that has not officially announced a moratorium on the production of weapons-grade fissile material.

3. Moves to Enforce the CTBT

The Partial Test Ban Treaty, which went into effect in October 1963, banned nuclear weapon tests in the atmosphere, outer space, and under water. However, as the treaty did not prohibit nuclear weapons testing underground, nuclear-weapon states simply transferred all their testing efforts underground, and there was no decrease in the frequency of nuclear detonations by nuclear-armed countries. In response to these circumstances, certain countries, particularly members of the non-aligned movement, continued to call for a complete prohibition on the testing of nuclear devices at the meetings of the NPT Review Conference, which were held once every five years.

Some of the nuclear weapons tests carried out by the principal nuclear-armed states at that time—the United States and the Soviet Union—were for the purpose of confirming the safety and reliability of existing warheads, but the majority were carried out as part of the process of developing new warheads and helping to further increase the destructive power of nuclear weapons. A comprehensive ban on nuclear weapons testing would make it difficult for these countries to develop new warheads or improve the performance of existing warheads, and would be an effective means of slowing down the arms race. For these reasons, many of the non-nuclear states party to the NPT called for a complete ban on

nuclear weapons testing, viewing it as a starting point for the nuclear-armed states in fulfilling their undertaking under Article 6 of the NPT to pursue negotiations on measures to bring the nuclear arms race to an end.

In the latter half of 1980s nuclear-armed states, including the United States and the Soviet Union, began to move toward the exercise of self-restraint in nuclear weapons testing. These moves led in December 1993 to a resolution adopted unanimously by the UN General Assembly calling for the start of negotiations for the CTBT. There were no opposing voices from the nuclear-weapon states, and the resolution was passed by unanimous vote, the first time this had happened.

Full-scale talks aimed at drafting the CTBT began at the Geneva Conference on Disarmament in January 1994. Owing to opposition from India, it proved impossible to reach a consensus on adoption of the test ban treaty text drawn up at the conference. Against the backdrop of strong calls from the international community for the establishment of the CTBT, a draft treaty was presented to the UN General Assembly and adopted in September 1996 by an overwhelming majority. Only three states—India, Bhutan, and Libya—opposed the treaty.

As of September 2009, 181 states have signed the CTBT, of which 150 have ratified it, but the CTBT has not yet entered into force and there is no real prospect of it coming into force in the near future. In order for this to happen, the forty-four states listed in Annex 2 of the treaty (the states whose ratification is required for the entry into force of the CTBT) must all sign and ratify the treaty. Three of these forty-four states—India, Pakistan, and North Korea—have not yet signed the CTBT. Meanwhile, six countries—the United States, China, Indonesia, Egypt, Iran, and Israel—have signed the treaty but not yet ratified it.

It is essential for the United States to ratify the CTBT in order to set in motion the process leading to the coming into force of the treaty. President Bill Clinton played an important role in bringing the CTBT talks to fruition. The CTBT was opened for signature in September 1996, and President Clinton was one of the first heads of state to sign it. However, in October 1999, in a vote on ratification in the US Senate, the measure failed to garner the requisite two-thirds of votes, with forty-eight senators voting for ratification and fifty-one against. The principal reasons for this failure were doubts about the reliability of methods of monitoring underground nuclear explosions, and reservations about the ability of the United States to maintain the safety and reliability of its nuclear warheads without carrying out test detonations.

The administration of George W. Bush continued to comply with the moratorium on nuclear testing that the United States had been implementing since September 1992, but expressed clear opposition to the CTBT.

By contrast, as early as the election campaign Barack Obama had clearly stated his plans to take active measures to promote the ratification of the CTBT. Following his inauguration as president, he indicated his intention to seek the early ratification of the CTBT by the United States and to work to bring the treaty into force, as clearly expressed in his Prague speech in April 2009. Within the United States, however, there is a divergence of opinion regarding the CTBT, and it appears to be rather difficult to obtain the necessary two-thirds vote (minimum of sixty-seven votes) for ratification of the treaty in the Senate. It is certainly true that there has been a considerable improvement in the technological ability to detect nuclear detonations compared with the situation in 1999, and there is less distrust regarding verification capabilities. Nevertheless, there is another argument against ratification. This is the question of how the United States would ensure the safety and reliability of its nuclear warheads without nuclear explosive testing. There is still no sign of agreement on this issue. Some people believe that despite the use of advanced scientific and technological know-how to maintain the reliability and extend the life of nuclear warheads, as in the Stockpile Stewardship Program implemented by the United States since 1994, the repetition of such measures over many years will inevitably give rise to doubts about their safety and reliability. The opinion persists that it is impossible to obtain definite evidence as to the safety or reliability of warheads without nuclear testing.

Meanwhile, even assuming that the United States manages to resolve these issues and ratify the CTBT, this would not necessarily lead directly to the treaty coming into force. While China and Indonesia are more likely to ratify the treaty if the United States does so, many other countries are not expected to change their stance on the treaty, as they each have various unique security issues to consider. For instance, if China followed the United States in ratifying the CTBT, this would put pressure on India to follow suit, but in view of the nuclear arms development policy currently being pursued by India, it is difficult to imagine the country signing the CTBT at an early date. India is following a strategy of refusing to sign the CTBT but at the same time not putting any obstacles in the way of the treaty coming into force. In this light, it seems likely that India will not sign the CTBT until the other states whose ratification is required for the entry into force of the

treaty have already signed and ratified it.

Should the Obama administration pursue the ratification of the treaty, even though there still remains uncertainty over the effectuation of the CTBT? The reason for the rise of the current movement toward nuclear disarmament and nonproliferation, with the ultimate goal of the complete elimination of nuclear weapons, lies in the growing fear that, with the situation as it is now, the world will be unable to deal with the threats of nuclear terrorism and proliferation. The first step toward finding a solution to the present threats would be the reduction of the nuclear forces of the United States and Russia, and active moves by the United States to pave the way for the CTBT to come into force. The coming into force of the CTBT would represent a significant move toward creating a climate enabling the nuclear-armed states to discharge their obligation of nuclear disarmament, as called for under Article 6 of the NPT. In view of this significance of the CTBT, if the United States were to ratify the treaty and put efforts into helping it come into force, the international community would be more likely to trust and support the various policies being put forward by the Obama administration for the prevention of the proliferation of nuclear weapons. Even if the ratification of the CTBT by the United States did not lead directly to the treaty coming into force, it might encourage China to ratify the treaty. This, in turn, could lead to the eventual ratification of the CTBT by all five of the NPT-acknowledged nuclear-weapon states, which are also permanent members of the UNSC. Thus, it would lead to the creation of an environment wherein the five NPT-acknowledged nuclear-weapon states (the permanent members of the UNSC) could come together to put forward policy proposals on the CTBT and other issues relating to nuclear proliferation.

4. The Impact of Nuclear Disarmament on International Security

(1) Disarmament and the "Nuclear Umbrella"

When one of two states that have concluded a military alliance extends the deterrent effect derived from its military power to defend the other state, this is generally referred to as "extended deterrence." This can be further subdivided into extended nuclear deterrence and extended conventional deterrence. The former is commonly known as a "nuclear umbrella."

The "nuclear umbrella" refers to a guarantee by a nuclear-weapon state that, in

the event of an allied state or friendly state being faced with the threat of a military attack, the nuclear-weapon state will threaten the enemy country with the retaliatory use of nuclear weapons, and, if necessary, threaten to escalate to the exchange of nuclear weapons. The credibility of the nuclear umbrella depends on the credibility of the threat of retaliation using nuclear weapons, and to maintain this credibility, a nuclear-weapon state must not only possess and deploy an invulnerable nuclear force, but must also put in place an escalation control capability that will force potential aggressors to take the threat of nuclear retaliation seriously. Such capabilities must be underpinned by a superior damage-limiting capability made possible by a strong counterforce capability against the potential aggressor (the ability to effectively destroy the enemy's nuclear strike force) and an effective strategic defense force. This is because, if the damage-limiting capability of the country providing the nuclear umbrella is superior to that of the aggressor, its threat to embark on a nuclear retaliation and nuclear exchanges will be all the more credible and its deterrent effect all the stronger.

If we compare the strategic nuclear capabilities of the United States, which extends its nuclear umbrella over Japan, with those of China and Russia—nuclear-armed states with territories close to Japan—there is no doubt that the damage-limiting capability, including counterforce capability, of the United States is overwhelmingly greater than that of China and superior to that of Russia. Consequently, even if the United States pursues nuclear disarmament in parallel with Russia through such means as a START I follow-on treaty, the credibility of the US nuclear umbrella vis-à-vis Russia, is not likely to be damaged.

Meanwhile, China is in the midst of efforts to strengthen its nuclear forces with the aim of securing a reliable second strike capability against the United States, through such methods as deploying the road-mobile and survivable DF-31A intercontinental ballistic missile. Although the United States is taking steps together with Russia to reduce strategic nuclear weapons, the disparity between the damage-limiting capabilities of the United States and China is not likely to be significantly narrowed. Thus, seen solely from the standpoint of nuclear weapons capability, there is no reason to suppose that US policymakers will hesitate to indicate their intention to employ nuclear retaliation in the event that allies of the United States are threatened with nuclear weapons.

Further progress in nuclear disarmament by the United States, if accompanied with a decrease in the role of the United States nuclear weapons, may diminish the

relative weight of the nuclear umbrella in the overall extended deterrence. In such circumstances, the US allies will inevitably feel less confident in the US nuclear umbrella. Much less confident in the case of Japan whose immediate neighbors are China that shows no signs of slowing down in its plans to bolster its nuclear forces and North Korea which is pushing ahead with the development of nuclear weapons.

One means of alleviating this anxiety is to hold frequent talks between the United States and Japan regarding nuclear deterrence policy. By holding such talks, mutual understanding between Japanese and United States policymakers on the issue of the nuclear umbrella would be promoted, and new policies could be put forward and adopted. At the same time, relations between Japan and the United States must be conducted in such a way that potential aggressor states do not misunderstand the commitment of the United States to the defense of Japan. Unlike direct deterrence, which simply prevents attacks upon a state possessing deterrent capabilities, the so-called nuclear umbrella involves the extension of a state's nuclear deterrence to defend an ally, and thus the will of the provider state is always the focus of attention. It follows from the above that, at the very least, it will be vital to conduct relations between Japan and the United States in such a way as to avoid giving potential aggressor states the impression that the United States would not employ nuclear weapons in defense of Japan.

In judging the credibility of the US nuclear umbrella protecting Japan, hostile states will not simply take into account such material factors as the balance of nuclear power: they will also give considerable weight to a wide range of non-military factors such as the state of political relations, the degree of cooperation between the two in the fields of economy and trade, and, last but not least, cultural ties and personal relationships. Therefore, the development of an even closer relationship between the United States and Japan in the political field and with respect to security cooperation, as well as a stronger interdependence in the areas of the economy and trade, would increase the significance of Japan-US relations for the US side and strengthen the credibility of the United States' nuclear commitment to Japan in the eyes of potential aggressor states. The Japan-US relationship suffers from weaker ethnic, cultural, and historical ties between the two countries compared with the relationship between the United States and Europe. It is important for the Japanese side to recognize the difference in the level of empathy that the US public feels for Japan compared with European

countries, and to make efforts to compensate for this factor.

The threats with which Japan is faced are very diverse compared with the Cold War era, and it is becoming increasingly important for a viable deterrence to strengthen a wide variety of conventional military capabilities. In addition, it is essential to maintain an appropriate conventional military balance, particularly in air and naval power, between US-Japanese combined forces and those of potential adversaries. Such conventional military capabilities are becoming increasingly important as the relative weight of extended nuclear deterrence within the overall extended deterrence decreases.

(2) The Issue of "First Use" and "No First Use" of Nuclear Weapons

To promote nuclear disarmament and nuclear nonproliferation, it is first necessary to limit the role of nuclear weapons. For this reason, the opinion has been widely voiced in recent years that countries should renounce the policy of first use of nuclear weapons and publicly declare their commitment to no first use. The "first use" of nuclear weapons refers to the use of such weapons against an adversary in a battle, even though the adversary itself has not employed nuclear weapons. Conversely, "no first use" implies that a country will not initiate the use of such weapons but may use nuclear weapons to retaliate against a nuclear attack. In other words, a declaration of "no first use" is a pledge not to use nuclear weapons unless one is attacked with such weapons. It follows that a nation that has pledged no first use will employ its nuclear forces solely for deterrence against nuclear attack, and not for deterrence against attack with biological, chemical, or conventional weapons.

In this way, for a country that has declared a no-first-use policy, the role of nuclear weapons is limited to the deterrence of nuclear attack by another country. This limited role therefore offers an opportunity for a reduction of nuclear forces. That is to say, if all nuclear-armed states issued a declaration of no first use, thereby narrowing down the role of their nuclear forces to the deterrence of nuclear attack by other nuclear-armed states, these countries could undertake a reduction of their nuclear forces in a parallel without significant adverse impact on their security. Such a situation would make it considerably easier to promote the cause of nuclear disarmament.

However, in view of the current security environment, it would seem unrealistic from a strategic viewpoint to expect the widespread adoption of the no-first-use

policy. Firstly, it would restrict the targets of nuclear retaliatory strikes to the perpetrators of nuclear attacks, excluding states that employ biological and chemical weapons. This would, in effect, raise the military effectiveness of biological and chemical weapons, which are halfway toward the goal of abolition, and it carries the danger of promoting their proliferation.

Secondly, it is uncertain whether conventional weapons alone can effectively deter large-scale biological or chemical weapons attacks. Some observers maintain that the destructive power of conventional weapons is growing rapidly, and that the threat of the use of such weapons would be a sufficient deterrent against even a large–scale biological or chemical weapons attack. Such capabilities, however, are possessed by only a handful of countries. A case in point is the fact that India declared a no-first-use policy in its nuclear weapons doctrine announced in September 1999, but in January 2003 indicated that the use of nuclear weapons would be considered in response to an attack with either biological or chemical weapons. Thus India effectively reserves the option for first use of nuclear weapons.

Thirdly, the adoption of a no-first-use policy would restrict the use of nuclear weapons as a retaliatory measure, which would greatly narrow the scope of a state's nuclear umbrella for the defense of its allies. Under a nuclear no-first-use policy, hostile states would be deterred by the threat of nuclear retaliation from making a nuclear attack against an ally, but would not be deterred from biological, chemical, or conventional weapons attacks. Moreover, even if a state makes a commitment to no first use of nuclear weapons, no technology exists to verify the country's true intentions, and the credibility of such a commitment would always remain in doubt. Consequently, the movement toward nuclear disarmament may not proceed as smoothly as hoped by proponents of no first use.

Thus, an examination of the security environment today indicates that the concept of no first use of nuclear weapons may be ahead of its time. This is indicated by the fact that the nuclear-armed states, with the exception of China, have all adopted a de facto first-use policy, irrespective of whether they have made a clear declaration.

Conversely the adoption of a no-first-use declaration does not mean that a state loses its deterrent against biological or chemical weapons attack. This is because there is no means of guaranteeing that a state will actually put its no-first-use policy into practice, and a potential aggressor cannot confidently assume that there will be no nuclear retaliation. Nuclear weapons possess an unprecedented

degree of power to take life and destroy property, and the simple act of deploying such weapons, without specifying their operational form, constitutes a significant deterrent, a concept that has been called "existential deterrence."

In the event that a country is faced with a biological or chemical weapons attack, which can cause massive loss of life, or an attack employing conventional forces that threatens the very existence of the state, the aggressor, too, must always beware the danger of a retaliatory nuclear strike, irrespective of any declaration of no first use.

As we have seen, at the present time, when the use of biological or chemical weapons remains a real danger, the focus of attention should be placed not so much on debating the rights and wrongs of first-use or no-first-use policies, but rather on the question of whether it is possible to create a security environment that would enable states to adopt a no-first-use policy. Naturally, this would involve an all-out effort to promote nuclear nonproliferation and realize the elimination of biological and chemical weapons. At the same time, it will be important to give thought to maintaining a stable balance of conventional forces between countries involved in a competitive relationship and across regions of the globe where an arms race is unfolding. With or without pledges of no first use, the construction of such a stable security environment would be likely to promote nuclear disarmament.