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U.S. Nuclear Weapons: Policy, Force Structure, and Arms Control Issues

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Summary

During the Cold War, the United States maintained nuclear weapons to deter, and if necessary, defeat the Soviet Union. These weapons were designed to deter nuclear attack on the United States, and nuclear, chemical, and conventional attacks on U.S. allies in Europe and Asia. The United States deployed a wide variety of nuclear weapons delivery vehicles and was prepared to destroy large numbers of military, industrial, and leadership targets in the Soviet Union. The United States agreed to restrict the deployment of strategic ballistic missile defenses in the 1972 Anti-ballistic Missile (ABM) Treaty. And, although the United States and Soviet Union participated in negotiations to reduce offensive nuclear weapons, these efforts did little to reduce the numbers of deployed weapons during the 1970s and 1980s.

After the demise of the Soviet Union in 1991, Russia remained a concern for U.S. national security because it still retained thousands of nuclear weapons, but other emerging threats from regional adversaries also prompted concerns. The Clinton Administration argued that nuclear weapons remained important to deter the full range of threats to the United States. So, even though the United States and Russia withdrew most of their deployed non-strategic nuclear weapons and pledged to reduce their strategic forces under the START I and START II treaties, the United States did little to alter the basic tenets of its nuclear strategy and doctrine.

In late 1997, the Clinton Administration issued a new Presidential Decision Directive (PDD-60) that outlined strategy and policy for U.S. nuclear weapons. This document stated that the United States would no longer seek to win a protracted nuclear war with Russia, but that it would only seek to deter such a conflict. At the same time, the United States would retain a range of options for the employment of nuclear weapons, and it would not forswear the first use of nuclear weapons if it were attacked with chemical, biological, or conventional weapons. The Clinton Administration has also sought to continue the START process to reduce strategic forces with Russia, and it has pledged to seek amendments to the ABM Treaty so that the United States can deploy a limited national ballistic missile defense system to protect against small-scale ballistic missile attacks.

Many analysts have offered alternatives to the Clinton Administration's approach to nuclear weapons policy. Some support an explicit threat to retaliate with nuclear weapons after a biological weapons attack; others argue that the United States should only threaten nuclear retaliation if it is attacked with nuclear weapons. Some argue that the United States should remain cautious about the arms reduction process with Russia, while others argue that the two nations should move quickly to reduce sharply the numbers of nuclear weapons in their forces and to reduce the alert rates for those weapons so that they could not be launched quickly. Some argue that the United States should accelerate the deployment of ballistic missile defenses, while others argue that such defenses will do little to protect the United States from emerging threats and could, instead, undermine reductions with Russia. The Bush Administration has undertaken a review of nuclear policy and these issues are likely to remain on the congressional agenda for the foreseeable future.

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U.S. Nuclear Weapons: Policy, Force Structure, and Arms Control Issues

Introduction

For more than a decade, since the 1989 collapse of the Berlin Wall and the 1991 demise of the Soviet Union, analysts inside and outside government have offered a wide range of views on how the United States should adjust its military establishment to accommodate the changing international security environment. These analysts sought to address not only the end of hostile U.S.-Soviet global rivalry, but also the emergence of new threats and regional challenges, particularly those related to the proliferation of weapons of mass destruction and ballistic missiles.

The U.S. Department of Defense conducted several far-reaching reviews, including the 1993 Bottom-Up Review, the 1994 Nuclear Posture Review, and the 1997 Quadrennial Defense Review, that contributed to the Clinton Administration's response to changes in the international security environment. These formal reviews, when combined with less prominent internal studies, resulted in numerous changes to the structure of U.S. nuclear forces and policy guiding their potential use.

Many other analysts have written and spoken of alternatives for the role that nuclear weapons should play in U.S. security policy, the numbers and types of weapons that the United States should retain, and the role that arms control and other cooperative efforts might play in reducing emerging threats to the United States. Some believe the United States should move faster to reduce sharply the number of nuclear weapons in its arsenal and to confine those weapons to a modest, limited role in U.S. national security policy. They also note that negotiated limits and cooperative activities, such as changes in operational practices for nuclear weapons, could reduce the risks that Russia's nuclear weapons might threaten the United States through an inadvertent or intentional attack during a crisis. Furthermore, some believe that formal arms control regimes and cooperation can help slow the proliferation of weapons of mass destruction and their means of delivery.

Others have argued that, although the United States and Russia should continue to reduce their nuclear weapons from high Cold War levels, it would not be in the U.S. national security interest to reduce to very low numbers or to depreciate the role of nuclear weapons in maintaining U.S. security. They believe that these weapons can help deter emerging threats to the United States, even if those threats no longer include the possibility of a global war with the Soviet Union. Furthermore, they argue that continued instability and uncertainty in Russia argue against drastic, unilateral changes in the U.S. nuclear force posture. Some also question whether there is a future for formal arms control arrangements with Russia because they believe the

United States can pursue an independent course while economic pressures reduce the size and role of Russia's nuclear stockpile. Many also believe that the United States should take unilateral actions, such as the deployment of wide-spread ballistic missile defenses (BMD), to protect itself from Russia, China, or other nations that might be armed with ballistic missiles and weapons of mass destruction.

This report reviews several aspects of U.S. nuclear weapons policy and force posture. It begins with an overview of U.S. nuclear posture during the Cold War and a summary of changes that have been adopted during the past several years. It then describes current U.S. plans, as of the beginning of 2001, and policies governing the possible use of nuclear weapons, the size and structure of the U.S. nuclear arsenal, and the way in which arms control agreements might alter that force structure in the near future. The report then reviews some proposals offered by outside analysts as alternatives to the Clinton Administration's approach. It does not, however, address possible changes that the Bush Administration might pursue in nuclear weapons and strategy because nuclear policy is still under review and the results have not been made public.

Background: U.S. Nuclear Posture During the Cold War

Threat Assessment

During the Cold War, the United States developed and maintained its nuclear arsenal so that it could deter, and if deterrence failed, defeat the Soviet Union. More generally, it sought "nuclear and conventional capabilities sufficient to convince any potential aggressor that the costs of aggression would exceed any potential gains that he might achieve."¹ Because the Soviet Union was the only country with a nuclear arsenal that could threaten the existence of the United States, U.S. policy reflected the view that "the most significant threat to U.S. security interests remains the global challenge posed by the Soviet Union."² Other countries, such as those in Soviet-dominated Eastern Europe, were included in U.S. nuclear war plans, but their presence reflected their relationship with the Soviet Union more than any independent threat they might pose to the United States or its allies.

¹U.S. Department of Defense. Annual Report to Congress. Fiscal Year 1985, by Caspar Weinberger, Secretary of Defense. February 1, 1984. Washington, 1984. p. 27.

²The White House. National Security Strategy of the United States. January 1988, Washington, 1988. p. 5.

Strategy, Doctrine, and Force Structure³

Strategy and Doctrine. During the 1950s and 1960s, the strategies known as “massive retaliation” and “assured destruction” envisioned a large-scale U.S. nuclear strike against a wide variety of targets in the Soviet Union, Eastern Europe, and China if the Soviet Union or its allies initiated a nuclear or large-scale conventional attack against the United States or its allies.⁴ The objective was to convince Soviet leaders that the Soviet Union would cease to exist as a functioning society if it initiated a conflict against the United States or its allies. But critics questioned the credibility of these policies, postulating that the Soviet Union would not believe the United States would launch a massive response against Soviet military and industrial targets, regardless of the size and nature of Soviet aggression, because the Soviet Union could also retaliate with nuclear weapons against U.S. cities. Hence, in the 1970s, the United States adopted a strategy of “flexible response,” and, subsequently, a “countervailing strategy.” These policies emphasized retaliatory strikes on Soviet military forces and war-making capabilities, as opposed to attacks on civilian and industrial targets. They also called for limited, focused attacks, instead of large-scale attacks on a greater number of sites. They were designed to give the President options and flexibility, with respect to the timing, scale and the targets of the attack, so that he could respond in a more selective manner after a Soviet attack.

U.S. nuclear weapons were designed to deter not only a direct nuclear attack on the United States, but also nuclear, chemical, or conventional attack and coercion aimed at the U.S. allies in Europe and Asia.⁵ The theory underlying this doctrine of “extended deterrence” was that if any level of aggression against U.S. allies could escalate into a nuclear conflict that might involve attacks on the Soviet Union, then the Soviet Union might be deterred from all levels of aggression. The United States and its allies did not insist that they would respond to any type of attack with nuclear weapons, but it sought to maintain the capability to do so and to control escalation if nuclear weapons were used. Consequently, the United States would not forswear the option of using nuclear weapons first in a conflict. Critics of this doctrine, however, questioned whether the Soviet Union would believe that the United States would use nuclear weapons to defend Europe, particularly when such a defense of Europe might result in a Soviet nuclear attack against U.S. territory.

³The following discussion summarizes material originally presented in two other CRS Reports. These are CRS Report 92-649F, *Strategic Nuclear Forces After START: The Relationship between Strategy, Doctrine, and Deep Reductions*, August 12 1992; and CRS Report 96-645F, *Nuclear Weapons in U.S. Defense Policy: Issues for Congress*, updated July 1, 1997.

⁴For a more detailed discussion of U.S. nuclear strategy and doctrine see Ball, Desmond. The Development of the SIOP, 1960-1983, in Desmond Ball and Jeffrey Richelson, *Strategic Nuclear Targeting*, Cornell University Press, 1986, pp. 57-83; and Ball, Desmond and Robert C. Toth. Revising the SIOP: Taking War-Fighting to Dangerous Extremes. *International Security*, v. 14. Spring 1990.

⁵The White House. *National Security Strategy of the United States*. January 1988, Washington, 1988. p. 13.

Targeting. In 1990, General John Chain, the Commander in Chief of the Strategic Command, outlined U.S. targeting strategy for nuclear weapons in testimony before Congress. He stated that “the task is to be able to deter any possessor of nuclear weapons from attacking the United States by having a postured retaliatory force significant enough to destroy what the attacker holds most dear... Against this macro mission, target categories are designated. Within these target categories, a finite list of targets are designated; and against those targets, weapons are allocated.” These target categories reportedly included Soviet strategic nuclear forces, other military forces, military and political leadership, and industrial facilities.⁶ The United States sought the capability to destroy thousands of sites in these target categories, even if the Soviet Union destroyed many U.S. weapons in a first strike, which created requirements for many thousands of nuclear weapons in the U.S. arsenal.

Force Structure. During the Cold War, the U.S. nuclear arsenal contained many types of delivery vehicles for nuclear weapons, including short-range missiles and artillery for use on the battlefield, medium-range missiles and aircraft that could strike targets beyond the theater of battle, short- and medium-range systems based on surface ships, long-range missiles based on U.S. territory and submarines, and heavy bombers that could threaten Soviet targets from their bases in the United States. The long-range missiles and heavy bombers are known as strategic nuclear weapons; the short- and medium-range systems are considered non-strategic nuclear weapons and have been referred to as battlefield, tactical, and theater nuclear weapons.

Non-strategic Nuclear Weapons. At one time in the early 1970s, the United States deployed thousands of non-strategic nuclear weapons at bases in Europe, Japan, and South Korea, but it had begun to reduce these forces by the late 1970s, in part because NATO officials believed they could maintain deterrence with fewer, but more modern, weapons.⁷ Modernization programs continued to enhance the capabilities of U.S. non-strategic nuclear weapons throughout the 1980s, particularly through the deployment of ground-launched cruise missiles and intermediate-range ballistic missiles in Europe. However, by the end of that decade, as the Warsaw Pact dissolved, the United States had canceled or scaled back all planned modernization programs and pursued arms control efforts that would sharply reduce the number of weapons deployed at bases in Europe and Asia.

Strategic Nuclear Weapons. Since the early 1960s the United States has maintained a “triad” of strategic nuclear delivery vehicles, which consists of land-based intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs) and long-range heavy bombers. As the forces and doctrine developed

⁶Statement by John T. Chain, Jr. Commander in Chief, Strategic Air Command and Director, Strategic Target Planning, before the House Armed Services Committee. March 6, 1990. Prepared Text, p. 5.

⁷The numbers of operational U.S. non-strategic nuclear warheads declined from more than 7,000 in the mid-1970s to below 6,000 in the 1980s, to fewer than 1,000 by the middle of the 1990s. See *Toward a Nuclear Peace: The Future of Nuclear Weapons in U.S. Foreign and Defense Policy*. Report of the CSIS Nuclear Strategy Study Group, Washington, D.C. Center for Strategic and International Studies, 1993. p. 27.

during the 1960s and 1970s, many analysts noted that these different basing modes would enhance deterrence and discourage a Soviet first strike because they complicated Soviet attack planning and ensured the survivability of a significant portion of the U.S. force in the event of a Soviet first strike.⁸ The different characteristics of each weapon system might also strengthen the credibility of U.S. targeting strategy. For example, ICBMs eventually had the accuracy and prompt responsiveness needed to attack hardened targets such as Soviet command posts and ICBM silos, SLBMs had the survivability needed to complicate Soviet efforts to launch a disarming first strike and to retaliate if such an attack were attempted, and heavy bombers could be dispersed quickly and launched to enhance their survivability, and they could be recalled to their bases if a crisis did not escalate into conflict.

As with non-strategic nuclear weapons, modernization programs continued to enhance the capabilities of U.S. strategic nuclear weapons throughout the Cold War era. These programs culminated with the deployment of Peacekeeper (MX) ICBMs and Trident submarines and Trident II (D-5) SLBMs in the mid-1980s and 1990s and with the deployment of the B-2 (Stealth) bomber in the 1990s. The United States also continued to add to the numbers of its deployed strategic nuclear weapons through the end of the 1980s. However, by the early 1990s, the numbers of warheads deployed on U.S. strategic nuclear forces began to decline.

Ballistic Missile Defenses

The United States has pursued research and development on anti-ballistic missile (ABM) systems since the early 1950s. In the mid-1960s it developed the Sentinel system, which would have used ground-based, nuclear-armed interceptor missiles to protect a number of major U.S. urban centers against Soviet attack. In 1969, the Nixon Administration renamed the system “Safeguard,” and changed its focus to deployment around ICBM fields to ensure that these missiles could survive a first strike and retaliate against the Soviet Union. Congress almost stopped the program in 1969, when the Senate voted 50-50 to approve an amendment halting construction. Safeguard continued, however, when Vice President Spiro Agnew broke the tie with a vote for the program.

Negotiations with the Soviet Union on the Anti-ballistic Missile (ABM) Treaty began in November 1969. The two sides eventually agreed that each nation could deploy two ABM sites, one around its capital and one around an ICBM field. When it became clear that neither nation would complete a second site, the two sides agreed, in a 1974 Protocol, that each would have only one ABM site. The United States completed its ABM site around ICBM fields near Grand Forks, North Dakota. It operated for a short time in 1974 and 1975, then was shut down because it was not considered to be cost-effective, in other words, the costs of operating the system, even in peacetime, were thought to be high relative to the limited protection it offered. The facilities at that location, however, continue to count under the ABM Treaty because they have not been completely dismantled according to a post-Treaty

⁸U.S. Department of Defense. *Annual Report to Congress, Fiscal Year 1989*, by Frank Carlucci, Secretary of Defense. February 18, 1988. Washington, 1988. p. 54.

agreement reached with the Soviet Union. Russia continues to operate and modernize its ABM site around Moscow.

U.S. research and development into ABM systems, especially for ICBM protection, continued, albeit at lower budget levels through the late 1970s, before rising again during the Carter Administration. The Reagan Administration further increased this funding after President Reagan announced an expansive effort, known as the Strategic Defense Initiative (SDI), to develop non-nuclear ballistic missile defenses that would protect the United States against a full-scale attack from the Soviet Union. The program's supporters envisioned a large-scale defensive system with thousands of land-, sea-, air-, and space-based sensors and interceptors. However, as cost estimates and technical challenges increased, the Reagan Administration announced that it would begin with more limited deployment of land-based and space-based sensors and interceptors that would seek to disrupt and deter an incoming attack, instead of providing complete protection. The Bush Administration further scaled back the goals for SDI, stating that the United States would seek to deploy a defensive system that could protect against small-scale missile attacks from the Soviet Union or other U.S. adversaries.

Both the Reagan and Bush Administrations recognized that their ballistic missile defense programs would eventually conflict with the 1972 ABM Treaty. Neither Administration officially proposed that the United States withdraw from that Treaty, but both initiated discussions with the Soviet Union (and Russia) in an effort to modify or replace the ABM Treaty with an agreement that would permit the more wide-spread deployment of ballistic missile defenses. Neither succeeded, and, at the end of the Bush Administration, the 1972 ABM Treaty continued to affect planning for the deployment of defenses against long-range strategic ballistic missiles.

Arms Control

During the Cold War, U.S. and Soviet arms control negotiations were often seen as a barometer of U.S.-Soviet relations; at times they were one of the few venues for regular meetings between the two sides. The United States and Soviet Union signed three strategic nuclear arms control agreements during the 1970s. These included the 1972 Anti-Ballistic Missile (ABM) Treaty and Interim Agreement on Offensive Forces (known as SALT I, for Strategic Arms Limitation Talks) and the 1979 Strategic Arms Limitation Treaty (SALT II), which was never ratified. Many supporters hoped that the ABM Treaty would help contain the arms race in offensive weapons because, without widespread defenses, neither side would need to expand its offensive force structure to saturate or overcome the defenses of the other side. The complementary Interim Agreement on Offensive Arms sought to freeze the number of offensive missile launchers on each side, until the parties could complete a formal treaty that would achieve this objective. The SALT II Treaty would have imposed small reductions in the numbers of missile launchers, but it never entered into force.⁹

⁹After the Soviet Union invaded Afghanistan in 1980, President Carter withdrew the Treaty from Senate Consideration. However, it is likely that the Senate would have failed to consent to the Treaty's ratification anyway, because many Members had raised concerns about the

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Furthermore, because the Interim Agreement and SALT II Treaties only limited the numbers of missile launchers and heavy bombers, both sides could increase the number of warheads carried on their offensive forces by deploying missiles with multiple warheads (MIRVed missiles) instead of single-warhead missiles. Consequently, although many analysts believed that arms control could help stabilize the nuclear balance between the United States and Soviet Union, most agreed that it had done little to slow the arms race between the two powers by the end of the 1970s.

However, as the Cold War drew to a close in the late 1980s, the United States and Soviet Union began to sign arms control agreements that would reduce their force levels.¹⁰ The 1987 Intermediate-Range Nuclear Forces Treaty eliminated all U.S. and Soviet shorter-range, medium-range, and intermediate-range ballistic and cruise missiles. The first Strategic Arms Reduction Treaty (START I), which was signed in July 1991, limits each side to 6,000 accountable warheads on, at most, 1,600 strategic offensive delivery vehicles (ICBMs, SLBMs and heavy bombers). This would reduce the numbers of warheads deployed on U.S. and Soviet strategic offensive forces by about one-third from their highest levels during the Cold War. After the Soviet Union disbanded, Ukraine, Kazakhstan, Belarus and Russia became parties to START I, and all except Russia agreed to eliminate all of the nuclear weapons on their territories. This treaty entered into force in December 1994, and implementation will continue through 2001. Finally, after the demise of the Soviet Union, the United States and Russia signed the START II Treaty in January 1993. This treaty would limit each side to 3,500 warheads on strategic offensive forces. While the U.S. Senate approved ratification of START II in January 1996, it has not yet entered into force because the Russian parliament has not yet acted on the treaty.

U.S. Nuclear Posture after the Cold War

Both the first Bush and Clinton Administrations modified somewhat the U.S. nuclear posture in response to the collapse of the Warsaw Pact, demise of the Soviet Union, and changing international security environment. These changes recognized not only the reduced risks of a global conflict with the Soviet Union or Russia, but also the increased risks posed by other nations that might acquire weapons of mass destruction and ballistic missiles. This section summarizes some of the changes that have occurred in the past ten years.

Threat Assessment

In its 1995 National Security Strategy report, the Clinton Administration states that “the dissolution of the Soviet empire has radically transformed the security environment facing the United States and our allies. The primary security imperative

⁹(...continued)

provisions in the Treaty and Soviet behavior around the world.

¹⁰For details on the provisions in these treaties see *Arms Control and Nonproliferation Activities: A Catalog of Recent Events*. (name redacted), Coordinator. CRS Report 30033. January 4, 1999.

of the past half century — containing communist expansion while preventing nuclear war — is gone.”¹¹ The Administration did, however, determine that Russia remained a concern for U.S. national security “not because its intentions are hostile, but because it controls the only nuclear arsenal that can physically threaten the survivability of U.S. nuclear forces. A significant shift in the Russian government into the hands of arch-conservatives could restore the strategic nuclear threat to the United States literally overnight.” In 1997, the Administration noted that “Russia maintains a large and modern arsenal of strategic and nonstrategic nuclear weapons.” It further argued that this arsenal would remain formidable even if START II entered into force and produced reductions to 3,500 warheads on each side.¹²

Additionally, the Clinton Administration identified other pressing threats to U.S. national security. In its National Security Strategy Report for 1998, the Administration noted that “a number of states still have the capabilities and the desire to threaten our vital interests...” and, that, “in many cases, these states are also actively improving their offensive capabilities, including efforts to obtain or retain nuclear, biological, or chemical weapons, and in some cases, long-range delivery systems.” The report went on to declare that “weapons of mass destruction pose the greatest potential threat to global stability and security. Proliferation of advanced weapons and technologies threatens to provide rogue states, terrorists, and international crime organizations the means to inflict terrible damage on the United States, its allies, and U.S. citizens and troops abroad.”¹³ Russia also remained a focus of concern with this type of threat as a potential supplier of materials, technologies, and know-how that other nations might use in their efforts to produce their own nuclear, chemical, and biological weapons and long-range missiles.

Strategy, Doctrine and Force Structure

Strategy and Doctrine. Throughout the 1990s, the Clinton Administration argued that nuclear weapons remained important to deter the range of threats faced by the United States. Secretary of Defense Perry outlined this view in his Annual Report for 1995, noting that “recent international upheavals have not changed the calculation that nuclear weapons remain an essential part of American military power. Concepts of deterrence ... continue to be central to the U.S. nuclear posture. Thus, the United States will continue to threaten retaliation, including nuclear retaliation, to deter aggression against the United States, U.S. forces, and allies.”¹⁴ More recently, the Clinton Administration argued that “the United States must continue to maintain a robust triad of strategic forces sufficient to deter any hostile foreign leadership with access to nuclear forces and to convince it that seeking a nuclear

¹¹A *National Security Strategy of Engagement and Enlargement*. The White House, February 1995. Washington, D.C. p. 1.

¹²U.S. Department of Defense. *Annual Report to the President and Congress*. William S. Cohen, Secretary of Defense. April 1997. Washington, D.C., p. 11.

¹³A *National Security Strategy for a New Century*. The White House, October 1998. Washington, D.C. p. 6.

¹⁴U.S. Department of Defense. *Annual Report to the President and Congress*, by Secretary of Defense William Perry. Washington D.C., February 1995. p. 84.

advantage would be futile.” This is because “nuclear weapons serve as a hedge against an uncertain future, a guarantee of our security commitments to allies and a disincentive to those who would contemplate developing or otherwise acquiring their own nuclear weapons.”¹⁵

The Clinton Administration did, however, issue new guidelines for U.S. nuclear strategy in late 1997. These guidelines stated that “our military planning for the possible employment of nuclear weapons is focused on deterring a nuclear war rather than attempting to fight and win a protracted nuclear exchange.” But, the United States would continue “to emphasize the survivability of the nuclear systems and infrastructure necessary to endure a preemptive attack and still respond at overwhelming levels.”¹⁶ Details about these changes, and reactions from analysts outside government, are discussed in more detail below.

NATO has also altered its nuclear strategy to reflect the demise of the Soviet Union and Warsaw Pact. In 1991, NATO declared that it no longer maintains nuclear weapons to deter or defeat a conventional attack launched by Soviet and Warsaw Pact forces because “the threat of a simultaneous, full-scale attack on all of NATO’s European fronts has effectively been removed.”¹⁷ And according to NATO documents, nuclear weapons play a far smaller role in Alliance strategy than they did during the Cold War. Nevertheless, the NATO allies have reaffirmed the importance of nuclear weapons for deterrence. The “New Strategic Concept” signed in April 1999 states that “to protect peace and to prevent war or any kind of coercion, the Alliance will maintain for the foreseeable future an appropriate mix of nuclear and conventional forces. Nuclear weapons make a unique contribution in rendering the risks of aggression against the Alliance incalculable and unacceptable.” Furthermore, nuclear weapons ensure “uncertainty in the mind of any aggressor about the nature of the Allies’ response to military aggression. They demonstrate that aggression of any kind is not a rational option.”¹⁸

Targeting Strategy. In the past decade, the Department of Defense has conducted several studies that reviewed U.S. nuclear targeting strategy and weapons employment policy. According to published reports, these reviews have revised and greatly reduced the length of the target list, but the basic tenets remain the same. According to the Washington Post, “the United States primary nuclear war plan still targets Russia and provides the President an option for counterattack within 30 minutes of confirmed enemy launch.”¹⁹ The Clinton Administration reportedly

¹⁵A *National Security Strategy for a New Century*. The White House, October 1998. Washington, D.C. p. 12.

¹⁶Ibid. p. 12.

¹⁷North Atlantic Treaty Organization. *The Alliance’s Strategic Concept*. Brussels, Belgium, NATO Office of Information and Press, 1991. Para. 8.

¹⁸The Alliance’s Strategic Concept, Approved by the Heads of State and Government participating in the meeting of the North Atlantic Council in Washington D.C. on 23rd and 24th April 1999.

¹⁹“Secretary Cheney and General Powell and their aides threw thousands of targets out of the
(continued...) ”

compiled the results of the early studies when it altered the official guidance for nuclear targeting strategy and employment policy in Presidential Decision Directive (PDD)60. Clinton Administration officials noted that the change in strategy from seeking to win a protracted nuclear war to seeking to deter nuclear war would permit the United States to reduce its forces to 2,000-2500 deployed warheads, the levels under consideration for a START III Treaty. But they also noted that this did not indicate any change in the structure of U.S. nuclear war plans or in the variety of options available to the President for a U.S. retaliatory strike.

Force Structure. During the 1990s, the United States has reduced both the numbers and types of weapons in its nuclear arsenal. Some of these changes reflect the imposition of negotiated arms control limits; others reflect changes in U.S. objectives and nuclear force posture. The latter is particularly true for changes that have occurred in U.S. non-strategic nuclear forces.

Non-strategic Nuclear Forces. On September 27, 1991, President George Bush announced that the United States would withdraw all land-based tactical nuclear weapons (those that could travel less than 300 miles) from overseas bases and all sea-based tactical nuclear weapons from U.S. surface ships, submarines, and naval aircraft.²⁰ These initiatives affected more than 2,500 nuclear warheads that had been deployed on shorter range delivery systems.²¹ Furthermore, in late 1991, NATO decided to reduce by about half the number of weapons for nuclear-capable aircraft based in Europe, which led to the withdrawal of an additional 700 U.S. air-delivered nuclear weapons. The United States currently maintains an estimated 1,000 warheads for its active stockpile of nonstrategic nuclear weapons.²² This number includes around 500 air-delivered weapons that may still be stored at bases in Europe. The remainder are air-delivered weapons and around 350 nuclear-armed sea-launched cruise missiles that are stored at facilities in the United States.

Strategic Nuclear Forces. The United States continues to maintain a triad of strategic nuclear forces, with warheads deployed on land-based ICBMs, submarine-launched SLBMs, and heavy bombers. According to the Department of Defense, this

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SIOP (single integrated operational plan), helping to reduce it from its Cold War peak of more than 40,000 to about 10,000 by 1991.” In addition “General Butler reviewed each target one-by-one tossing many out ... one day he eliminated 1,000 targets in newly liberated Eastern Europe...” By 1994, General Butler had helped to pare the SIOP to 2,500 targets. See Ottaway, David B. and Steve Coll. Trying to Unplug the War Machine. Washington Post, April 12, 1995. p. A28.

²⁰These steps were not contingent on reciprocal actions by the Soviet Union, but, on October 5, 1991, Soviet President Gorbachev announced a similar set of initiatives.

²¹The United States maintained the capability to return sea-based nuclear weapons to aircraft carriers and submarines. In 1994, the Department of Defense Nuclear Posture Review recommended that the United States no longer maintain that capability on aircraft carriers, although it still could return nuclear-armed cruise missiles to attack submarines.

²²NRDC Nuclear Notebook. U.S. Nuclear Weapons Stockpile, July 1998. *Bulletin of the Atomic Scientists*, v. 54, July/August 1998. p. 70.

mix of forces offers the United States a range of capabilities and flexibility in nuclear planning, complicates an adversary's attack planning, and hedges against unexpected problems in any single delivery system. During the past 10 years, the number of warheads deployed on these strategic nuclear forces has declined from a Cold War high of around 12,000 warheads to fewer than 9,000 warheads. Most of this reduction has occurred through the implementation of the first Strategic Arms Reduction Treaty (START I). At the same time though, the improving relationship between the United States and Soviet Union in the late 1980s eased pressures to pursue some strategic force modernization programs, while declining defense budgets in the United States in the early 1990s contributed to decisions to scale back nuclear programs.

The United States is currently reducing its forces to START I levels. As the table below demonstrates, these reductions will leave the United States with 18 Trident submarines with 24 8-warhead missiles on each submarine; 500 Minuteman III ICBMs, with up to 3 warheads on each missile; 50 Peacekeeper (MX) missiles, with 10 warheads on each missile; between 71 and 94 B-52H bombers, with up to 20 cruise missiles on each bomber; and 21 B-2 bombers with up to 16 bombs on each aircraft.

**Table 1: Prospective U.S. Strategic Forces under
START I and START II²³**

	July 2000 (Actual)		START I (December 2001)		START II (December 2007)	
	Launcher s	Warhead s	Launcher s	Warhead s	Launcher s	Warheads
Minuteman III ICBMs	608	1,824	500	944	500	500
Peacekeeper (MX) ICBMs	50	500	50	500	0	0
Poseidon Submarines	32	320	0	0	0	0
Trident Submarines with Trident I (C-4) missiles	192	1,536	192	1,536	0	0
Trident Submarines with Trident II (D-5) missiles	240	1,920	240	1,920	336	1,680
B-52 H Bombers	204	1,620	94	940	71	940
B-1B Bombers	91	91	91	91	0	0
B-2 Bombers	20	20	21	21	21	336
Totals	1,437	7,830	1,888	5,952	928	3,456

Congress has mandated that the United States maintain its forces at START I levels the START II Treaty enters into force, or until the new Bush Administration completes a Nuclear Posture Review that indicates forces can be reduced.²⁴ The table also shows the forces that the Department of Defense has indicated the United States would retain under this Treaty. But budget pressures may lead to an earlier round of

²³The numbers on this table reflect “counting rules” in the START Treaties. These rules attribute a specified number of warheads to each type of delivery vehicle. In some cases, the warheads attributed by counting rules do not equal the actual number of warheads carried by a specified missile or bomber. The START rules also count the warheads on delivery vehicles until the delivery vehicles are dismantled according to provisions in the Treaty, even if the warheads have been removed and the delivery vehicles have been deactivated. As a result, these data may not represent the actual number of operational warheads in the U.S. strategic arsenal.

²⁴The U.S. Senate approved ratification of START II in January 1996 and the Russian parliament did so in April, 2000, but the Treaty has not yet entered into force.

reductions in U.S. strategic nuclear forces. The Navy would like to retire 4 of the Trident submarines so that it does not have to bear the costs of refueling their reactors and modifying them to carry the newer Trident II (D-5) ballistic missiles.

Ballistic Missile Defenses

The Clinton Administration restructured the BMD programs it inherited from the Bush Administration to emphasize theater missile defense development and deployment efforts, and to focus national missile defense (NMD) efforts on technology development. According to Secretary of Defense Les Aspin, these changes reflected an assessment that the regional ballistic missile threat already existed, while a ballistic missile threat to the United States, other than the long-standing threats from Russia and China, might emerge only in the future. In 1996, the Clinton Administration adopted a new policy, the 3+3 strategy, to guide NMD development and potential deployment. Under this strategy, the United States would develop an NMD system that would be designed to defend the United States against attacks from small numbers of long-range ballistic missiles launched by hostile nations, or, perhaps, from an accidental or unauthorized launch of Russian or Chinese missiles. The 3+3 strategy envisioned continued development of NMD technologies during the first 3 years (1997-2000), followed by a deployment decision (in 2000) if the system were technologically feasible **and** warranted by prospective threats. If a decision to deploy an NMD system were made, the plan then was to deploy it within the second three year period (2000-2003). The Administration stated that development and deployment would be conducted within the limits of the ABM Treaty.

The Administration modified its 3+3 strategy in January 1999. First, it added \$6.6 billion for NMD to the FY 1999-2005 FYDP and brought total NMD funding for the FYDP to \$10.5 billion. The Administration emphasized that an NMD deployment decision still would not be made until June 2000, but that now there was money in the FYDP to protect and pursue the deployment option in the event a deployment decision was made. In addition, the Administration announced that it had restructured the NMD program for a possible deployment date of 2005, rather than 2003. This change was made, according to the Pentagon, to reduce the amount of risk in the program and to maximize its success. According to BMDO, the new schedule allowed a more manageable test program and would defer key decisions until actual NMD tests were completed. In addition, the Administration acknowledged that it would have to approach the Russians with proposals for amendments to the ABM Treaty that would permit the deployment of an effective, although limited, NMD system. However, after a test failure in July 2000, President Clinton announced, on September 1, 2000, that he would not authorize the deployment of an NMD system and would, instead, leave the decision to his successor.

On May 1, 2001, President Bush underscored his Administration's commitment to deploy a more robust missile defense system than the one considered by the Clinton Administration. The President stated that the world had changed, that the United States faced new threats, and that it could no longer rely on the Cold War-era doctrine of nuclear deterrence to safeguard its national security. He stated that "we need new concepts of deterrence that rely on both offensive and defensive forces." He did not outline a specific missile defense architecture, but he indicated that "we can draw on already established technologies that might involve land-based and sea-

based capabilities to intercept missiles in mid-course or after they re-enter the atmosphere.”

Arms Control

The Clinton Administration sought to advance the arms control process that it inherited from previous Administrations. For example, it negotiated the Protocol that named Ukraine, Belarus, Kazakhstan and Russia as parties to START I, and a trilateral agreement with Russia and Ukraine that led to Ukraine’s agreement to return the nuclear warheads on its territory to Russia. These efforts resulted in the December 1994 ratification of START I. The Clinton Administration has also pressed for the ratification of START II, which was signed in the waning days of the Bush Administration. The U.S. Senate gave its advice and consent to START II ratification in January 1996. The Russian parliament approved the Treaty on April 14, 2000, but it Russia will not exchange the Instruments of Ratification until the United States approves several agreements signed in 1997. These include a Protocol to START II, signed in September 1997, that would extend the elimination period in the Treaty. The two sides also established a framework for START III, which they would begin negotiations on after START II entered into force. These efforts sought to address some of the concerns expressed in the Russian parliament about START II in the hope that they would ease ratification.²⁵ The Clinton Administration did not, however, proposed any steps that would reduce U.S. and Russian strategic nuclear forces below START II levels in the absence of a formal treaty. President Bush has stated that he would explore this alternative in his Administration. Therefore, it is likely that the Bush Administration would not pursue the arms control agenda described here.

The Clinton Administration also pursued negotiations with Russia to modify and clarify the 1972 ABM Treaty. In 1997, these negotiations produced a Memorandum of Understanding on Succession, which named Russia, Ukraine, Belarus, and Kazakhstan as successors to the Soviet Union for the ABM Treaty; and two Agreed Statements on Demarcation to set out a dividing line between strategic ballistic missile defense systems, which are limited by the ABM Treaty, and theater ballistic missile defense systems, which are not limited by the ABM Treaty.²⁶ The Administration has agreed to submit these documents to the Senate as amendments to the ABM Treaty, but it will not do so until the Russian parliament approves the ratification of START II. The Clinton Administration has also conducted discussions with the Russians about possible amendments to the ABM Treaty that would be needed for the United States to deploy a national missile defense system. The Bush Administration may not pursue these discussions, as the President has said that the United States must move beyond the limits in the ABM Treaty to deploy effective missile defenses.

²⁵For details see U.S. Library of Congress, Congressional Research Service. *START II Debate in the Russian Duma: Issues and Prospects*. (name redacted). Updated August 27, 1998.

²⁶For details see U.S. Library of Congress, Congressional Research Service. *Anti-Ballistic Missile Treaty Demarcation and Succession Agreements: Background and Issues*. (name redacted). May 22, 1998.

During the 1990s, the United States also provided Russia and other former Soviet republics with assistance in storing, transporting, and dismantling many of the nuclear weapons and facilities inherited from the Soviet Union. Many of these efforts occur under the auspices of the Department of Defense's Nunn-Lugar Cooperative Threat Reduction (CTR) Program.²⁷ Congress created this program in late 1991, in response to concerns about the potential loss of control over weapons as the Soviet Union disintegrated, and it has authorized around \$400 million per year for this effort. A parallel effort run by the Department of Energy seeks to buy nuclear materials in the former Soviet Union and to dissuade scientists and engineers who worked in the Soviet nuclear complex from selling their knowledge and skills to other nations seeking nuclear weapons. Although these efforts are not enunciated in formal treaties between the United States and Russia, many observers consider them to be an integral part of the arms control and threat reduction process.

Alternative Futures for U.S. Nuclear Force Posture

When discussing and debating the future of U.S. nuclear weapons, many government officials and outside analysts offer similar views on the threats that the United States is likely to face in the coming years. They do not, however, agree on the role that nuclear weapons or other measures, such as missile defense or arms control, should play in responding to that threat.

Threat Assessment

Russia. The Clinton Administration stated that Russia no longer poses a global threat to the United States and U.S. interests, but it remained concerned that Russia might one day return to such a posture. For example, in testimony before the Senate Armed Services Committee, Assistant Secretary of Defense Edward Warner argued that a "stable transition in Russia is by no means assured" and that the United States "must hedge against the possibility that Russia, which continues to maintain a formidable nuclear arsenal consisting of thousands of deliverable strategic and tactical warheads, could reemerge at some time in the future as a threat to the West."²⁸

Many analysts agree that the United States should continue to view Russia's nuclear arsenal as a threat to the United States. Conservative analysts tend to focus on the potential for a renewed threat from weapons in a conflict with the United States or other nations. A recent report published by the National Defense University (NDU) argued that the main threat from Russia stems from the fact that it still possesses thousands of nuclear weapons. Furthermore, the authors note that Russia has increased its reliance on nuclear weapons to compensate for weaknesses in its

²⁷For details see U.S. Library of Congress, Congressional Research Service. *Nunn-Lugar Cooperative Threat Reduction Programs: Issues for Congress*. (name redacted). Updated November 23, 1998.

²⁸Statement of the Honorable Edward L. Warner, III. Assistant Secretary of Defense for Strategy and Threat Reduction, Before the Senate Armed Services Subcommittee on Strategic Forces. April 14, 1999.

conventional forces.²⁹ Many analysts from both conservative and liberal organizations have also focused on the threat that these weapons might pose if Russia were to lose control over them, either because of political instability or because of weaknesses in Russia's nuclear weapons command and control system. Furthermore, most agree that weaknesses in Russia's early warning system for ballistic missile attack could lead to a situation in which Russian leaders launched a retaliatory strike in response to ambiguous or incomplete information.³⁰ Many also note that Russia poses a significant threat as a source of technology and materials for other nations seeking their own ballistic missiles or weapons of mass destruction.

China. The Clinton Administration did not consider China to pose a direct threat to the United States as a regional or global adversary. Nevertheless, in his testimony before the Senate Armed Services Committee, Assistant Secretary Warner noted that although China has a much smaller nuclear force than Russia's, it is still formidable. He also stated that "China continues to make steady efforts to modernize those forces" and that the United States cannot be sure that it would not need nuclear weapons to deter China in the future.

Many conservative analysts have expressed stronger concerns about the potential threat from China. For example, the NDU report argues that "China has the resources and skills to expand its nuclear capability and to pose a greater threat to the U.S. in the future." Furthermore, China may want to deter U.S. intervention in regional crises in Asia, while the United States may want to deter Chinese military action in those crises.³¹ The authors of this report argue that both nations might find nuclear weapons to be useful under these circumstances. Others, however, believe that, although China may challenge the United States in regional crises in Asia, nuclear weapons will not play a large role in that strategy. They argue that China's nuclear arsenal will remain far smaller than the U.S. arsenal, so U.S. nuclear forces could deter Chinese nuclear threats. Furthermore, they argue that the United States should seek to include China in arms reduction negotiations if the United States were to reduce its forces to levels close to those deployed by China.

Weapons Proliferation. The Clinton Administration stated that "weapons of mass destruction pose the greatest potential threat to global stability and security" and that the proliferation of these advanced weapons and technologies "threatens to provide rogue states, terrorists, and international crime organizations the means to inflict terrible damage on the United States, its allies, and U.S. citizens and troops

²⁹*U.S. Nuclear Policy in the 21st Century. A Fresh Look at National Strategy and Requirements.* Center for Counterproliferation Research, National Defense University and Center for Global Security Research, Lawrence Livermore National Laboratory. Final Report. September 1998. pp. 2.16-2.17.

³⁰For a description of the weaknesses in Russia's early warning network of satellites and radar systems, see U.S. Congressional Budget Office, *Improving Russia's Access to Early-Warning Information: Preliminary Results*. Letter to the Honorable Tom Daschle. September 3, 1998. p. 6. See, also, Simon Saradzhyan. *Lack of Cash, Old Satellites Take Toll on Russia Systems.* *Defense News*, May 10, 1999. p. 12.

³¹*U.S. Nuclear Policy in the 21st Century. A Fresh Look at National Strategy and Requirements.* p. 2.17.

abroad.”³² Analysts across the political spectrum tend to agree that the United States is likely to face challenges from regional adversaries, such as Iran, Iraq, and North Korea, who may be armed with these weapons. They disagree, however, on the role that U.S. nuclear weapons should play in deterring or responding to this threat.

Strategy, Doctrine and Force Structure

Strategy and Doctrine. Clinton Administration officials stated that nuclear weapons would continue to play an important role in U.S. national security strategy, even though that role has diminished since the end of the Cold War. Specifically, in press accounts that followed the completion of PDD-60 in late 1997, Robert Bell, the Director for Defense Policy and Arms Control at the National Security Council (NSC), stated that “it would be a mistake to think that nuclear weapons no longer matter. Such weapons are still needed to deter aggression and coercion by threatening a response that would be certain and overwhelming and devastating.”³³

Deterrence and Russia. As noted above, PDD-60 scaled back the U.S. objectives for nuclear deterrence with Russia. Instead of maintaining a force posture that would allow it to fight and win a nuclear war with Russia, the United States would maintain a force posture to deter conflict with Russia. In practice, this change probably meant that the United States would not seek to cause as much damage against as wide a range of targets as it had planned on attacking in previous war plans. This change reflected a new international security environment and helped to reduce the required number of nuclear weapons in the U.S. arsenal. Administration officials noted that this change was intended, in part, to accommodate the lower force levels projected for a START III treaty.³⁴

Many analysts outside government praised the emphasis on deterrence in U.S. nuclear strategy. They noted that the goal of fighting and winning a nuclear war had never been credible and that the lesser objectives were more in line with political reality since the demise of the Soviet Union.³⁵ However, some liberal analysts had hoped for more fundamental changes, arguing that, with the end of the Cold War, the United States could pursue a relationship with Russia “in which nuclear deterrence and mutual assured destruction would no longer play a central role.”³⁶ In contrast, some conservative analysts did not like the change in focus away from protracted war

³²A *National Security Strategy for a New Century*. The White House, October 1998. Washington, D.C. p. 6.

³³Smith, R. Jeffrey. Clinton Directive Changes Strategy on Nuclear Arms; Centering on Deterrence, Officials Drop Terms for Long Atomic War. *Washington Post*, December 7, 1997. p. A1.

³⁴Cerniello, Craig. Clinton Issues New Guidelines on U.S. Nuclear Weapons Doctrine. *Arms Control Today*. November/December 1997.

³⁵See, for example, Keeney, Spurgeon M. Focus: One Step Forward. *Arms Control Today*, November/December 1997.

³⁶*Reformation and Resistance: Nongovernmental Organizations and the Future of Nuclear Weapons*, by Cathleen S. Fisher. The Henry L. Stimson Center, Report no. 29. May 1999. p. 15.

fighting because they believed it would signal U.S. weakness at a time of growing global uncertainty. Furthermore, some felt it sent the wrong message to Russia at a time when Russia has been increasing its reliance on nuclear weapons to offset weaknesses in its conventional forces.³⁷

Deterrence and Weapons of Mass Destruction. Many press reports about PDD-60 highlighted the document's provisions covering the use of U.S. nuclear weapons to deter nations, other than Russia, with weapons of mass destruction. Most reporters viewed this as an "expansion" of the role of U.S. nuclear weapons. However, the United States has always maintained the option to use nuclear weapons in response to attacks with conventional, chemical, or biological weapons. During the Cold War, this option was generally directed towards the Soviet Union and Warsaw Pact nations, and reflected NATO's strategy of flexible response. On the other hand, the United States has made the political commitment, through its negative security assurance issued in conjunction with the Nuclear Non-proliferation Treaty (NPT), not to threaten or attack with nuclear weapons non-nuclear weapons states that are parties to the NPT. Nonetheless, the United States has explicitly refused to adopt a strict "no-first use" policy for nuclear weapons, and PDD-60 apparently continued this policy. Robert Bell reportedly stated that PDD-60 reaffirmed the U.S. negative security assurance, but he also said that the United States reserved the right to use nuclear weapons first "if a state is not a state in good standing under the Nuclear-Nonproliferation Treaty (NPT) or an equivalent international convention."³⁸ And he reportedly stated that PDD-60 repeated earlier Administration statements that any nation might forfeit its protections under the negative security assurance if it attacked the United States or U.S. forces with weapons of mass destruction (WMD).³⁹

Several Clinton Administration officials addressed this issue. Former Secretary of Defense William Perry stated that the United States would not specify how it would respond to WMD use, but an aggressor could be certain that the U.S. response would be "both overwhelming and devastating." Assistant Secretary of Defense Edward Warner testified that "the U.S. capability to deliver an overwhelming, rapid, and devastating military response with the full range of military capabilities will remain the cornerstone of our strategy for deterring rogue nation ballistic missile and WMD proliferation threats. The very existence of U.S. strategic and theater nuclear forces, backed by highly capable conventional forces, should certainly give pause to any rogue leader contemplating the use of WMD against the United States, its overseas deployed forces, or its allies."⁴⁰ Hence, the United States will neither forswear the use

³⁷Landay, Jonathan S. U.S. Downsizes its Nuclear-Weapon Ambitions. *Christian Science Monitor*. December 24, 1997.

³⁸Cerniello, Craig. Clinton Issues New Guidelines on U.S. Nuclear Weapons Doctrine. *Arms Control Today*. November/December 1997.

³⁹Smith, R. Jeffrey. Clinton Directive Changes Strategy on Nuclear Arms; Centering on Deterrence, Officials Drop Terms for Long Atomic War. *Washington Post*, December 7, 1997. p. A1.

⁴⁰Statement of the Honorable Edward L. Warner, III. Assistant Secretary of Defense for Strategy and Threat Reduction, Before the Senate Armed Services Subcommittee on Strategic (continued...)

of nuclear weapons in response to conventional, chemical, or biological attack; nor will it specify that it would use nuclear weapons under these circumstances.

This policy of “studied ambiguity” about the possible first use of nuclear weapons has brought comments and criticisms from many analysts. Some have offered general support for the policy, as long as the United States maintains a credible nuclear deterrent so that it could respond to WMD attacks with nuclear weapons if it chose to do so. For example, the NDU study notes that the current policy attempts to make clear that no state can plan on the use of chemical or biological weapons without having to take into account the possibility of a nuclear response. This would not only deter WMD use during a crisis, but might also deter the acquisition of chemical or biological weapons because a nation would not want to risk a U.S. nuclear response if it ever used its stocks. The NDU study noted, however, that, in some cases, this ambiguity might be viewed as a lack of commitment by the United States and may need to be replaced by greater clarity in the deterrent threat.⁴¹ Others have also argued that the United States should explicitly threaten nuclear retaliation for WMD use, and particularly biological weapons attacks, since these can produce casualties on the same scale as nuclear weapons.⁴² One such analyst, David C. Gompert, has stated that the current ambiguity “dulls deterrence.” He believes that the United States should warn explicitly both that it might respond with nuclear weapons to WMD attacks against U.S. interests, and that it would not use nuclear weapons except in response to WMD attacks. This policy would make it clear to rogue states that biological weapons cannot be used and possessing them could endanger their possessors because they could cause a nuclear response.⁴³

Many other analysts argue the exact opposite position. They believe that the United States should restrict nuclear weapons to the core objective of deterring nuclear attack on the United States and explicitly forswear the use of nuclear weapons for any other reason. According to this school of thought, if the United States threatens to retaliate for conventional, chemical, or biological attacks with nuclear weapons, it is increasing the value of nuclear weapons and demonstrating that they have military utility. This would undermine nuclear non-proliferation efforts and encourage other countries to acquire their own nuclear weapons to deter chemical or biological weapons.⁴⁴ Some also argue that such a policy is not credible because no

⁴⁰(...continued)

Forces. April 14, 1999.

⁴¹*U.S. Nuclear Policy in the 21st Century. A Fresh Look at National Strategy and Requirements.* p. 2.41.

⁴²David C. Ochmanek and Richard Sokolsky have argued that “while ambiguity often serves a useful purpose, deterrence would be better served if rogue states contemplating the use of [chemical or biological weapons] had more reason to fear a nuclear strike.” See Ochmanek and Sokolsky. *Employ Nuclear Deterrence. Vague U.S. Policy Dilutes Stance Against CBW Threat.* *Defense News.* Vol. 13, Jan. 12, 1998. p. 21.

⁴³Gompert, David C. *Rethinking the Role of Nuclear Weapons.* National Defense University, Strategic Forum No. 141, May 1998.

⁴⁴See Coalition to Reduce Nuclear Dangers. *Letter to the President.* January 26, 1999. See (continued...)

President would authorize the use of U.S. nuclear weapons unless he was faced with a nuclear attack on U.S. territory. Furthermore, many analysts have argued that the United States does not need nuclear weapons to deter chemical or biological weapons attacks because its conventional capabilities far exceed those of any other nation and it could promise severe retaliation with those weapons alone.⁴⁵

Some analysts who support the use of nuclear weapons to deter chemical and biological weapons have disputed several points raised by those who argue against this policy. They note, first, that U.S. conventional forces might not be sufficient to deter chemical or biological attacks during a conflict because these forces might already be fully engaged with the adversary. The threat to use chemical or biological weapons would be an effort to blunt the magnitude of U.S. conventional capabilities, and it would take the threat of further escalation to nuclear weapons to deter such an attack.⁴⁶ These analysts also dispute the contention that U.S. policy will influence other nations to seek their own nuclear weapons. They note that “there is little evidence U.S. nuclear weapons, or policies regarding their potential use, have influenced the decisions of those countries that have pursued weapons of mass destruction.” Instead, nations look to their own security environments and regional positions to determine their military and force structure requirements.⁴⁷

Targeting Strategy and Employment Policy. According to press reports and Clinton Administration statements, PDD-60 did not alter the basic structure of U.S. nuclear targeting and employment policy. The United States has retained the options in its war plan (known as the SIOP, the Single Integrated Operational Plan) to launch nuclear strikes against a range of military targets, nuclear forces, and civilian leadership sites in Russia. Furthermore, according to Robert Bell, PDD-60 did not alter the requirement that target planners offer the President various nuclear attack options, from limited attacks involving small numbers of weapons to major attacks involving thousands of warheads.⁴⁸ The Clinton Administration continues to believe that the flexibility offered by this range of options enhances deterrence by providing

⁴⁴(...continued)

also, Perkovich, George. Carnegie Endowment for International Peace, Nonproliferation Project, Proliferation Brief, December 10, 1998.

⁴⁵Darryl G. Kimball has written “today, with the United States overwhelming conventional military superiority and ability to project its forces around the world, the only military purpose of maintaining these nuclear stockpiles is to deter the use of nuclear weapons by another country.” See Ending Nuclear Terror. Darryl G. Kimball, Executive Director, Coalition to Reduce Nuclear Dangers. *National Debate*. Winter 1998. See, also, Commentary: Post-Cold War Demands New Ways to Deal with Warheads on Nuclear Arms: We can’t wait for START II Treaty to do some good. *Los Angeles Times*, January 11, 1999. P. B-5.

⁴⁶Gompert, David C. Rethinking the Role of Nuclear Weapons. National Defense University, Strategic Forum No. 141, May 1998.

⁴⁷Employ Nuclear Deterrence. Vague U.S. Policy Dilutes Stance Against CBW Threat *Defense News*, Vol 13, Jan 12, 1998. P. 21.

⁴⁸Smith, R. Jeffrey. Clinton Directive Changes Strategy on Nuclear Arms; Centering on Deterrence, Officials Drop Terms for Long Atomic War. *Washington Post*, December 7, 1997. p. A1.

the United States with more credible responses to a range of crises and attack scenarios.

Clinton Administration statements and press reports also indicate that PDD-60 did not alter the U.S. policy of maintaining the capability to launch its nuclear weapons after receiving indications that an attack on the United States was underway, but before incoming warheads detonate.⁴⁹ However, Administration officials have stated that the United States does not rely on this ability to launch promptly as its only option; it could also wait until detonations had occurred, then launch its retaliatory strike at a later time. According to Robert Bell, “we direct our military forces to continue to posture themselves in such a way as to not rely on launch on warning — to be able to absorb a nuclear strike and still have enough force surviving to constitute credible deterrence. Our policy is to confirm that we are under nuclear attack with actual detonations before retaliating.”⁵⁰

This element of U.S. nuclear weapons employment policy has caused some confusion and misinterpretations. Some conservative analysts understood Robert Bell’s statement to mean that PDD-60 had eliminated the option for the President to launch nuclear weapons before an attack had reached U.S. soil and that the United States would only retaliate after a significant portion of its forces, and possibly its command and control structure, had been destroyed or seriously degraded. But this interpretation was not correct. According to Robert Bell, PDD-60 did not change the U.S. policy with respect to launch on warning, so some of the options available in U.S. plans included weapons that would be available if the United States launched its forces before any were destroyed, and some included only those weapons that would survive if the United States absorbed a first strike from an adversary before initiating its response. And the decision on whether to launch U.S. weapons promptly or to wait for detonations on U.S. soil would be left to the national command authority at the time of the crisis.

Many other analysts criticized PDD-60 precisely because it did not eliminate options for the United States to launch its nuclear weapons on warning of an attack, before detonations actually occur. Some argue that the United States does not need to maintain these options because it has a sufficient number of warheads on ballistic missile submarines that could survive and retaliate after an initial attack.⁵¹ Others have argued that the continued high level of nuclear readiness threatens to lead to the use of nuclear weapons by technical failure, human error, or unauthorized launch.⁵² Furthermore, some believe that such a posture is highly destabilizing because it leads

⁴⁹Smith, R. Jeffrey. Clinton Directive Changes Strategy on Nuclear Arms; Centering on Deterrence, Officials Drop Terms for Long Atomic War. *Washington Post*, December 7, 1997. p. A1.

⁵⁰Cerniello, Craig. Clinton Issues New Guidelines on U.S. Nuclear Weapons Doctrine. *Arms Control Today*. November/December 1997.

⁵¹Commentary: Post-Cold War Demands New Ways to Deal with Warheads on Nuclear Arms: We can’t wait for START II Treaty to do some good. *Los Angeles Times*, January 11, 1999. P. B-5.

⁵²Kimball, Daryl G. Ending Nuclear Terror. *National Debate*, Winter 1998.

both the United States and Russia to maintain their nuclear weapons on very high states of alert. But, they argue, with growing weaknesses in Russia's early warning network of satellites and sensors, these high states of alert could lead to false warnings of attack and high risks of inadvertent nuclear strikes. Hence, if both nations postured their forces so that they could not be launched promptly on warning of an attack, then the risk of nuclear war "by accident" would diminish sharply.

Force Structure. As was noted above, the United States is currently reducing the number of warheads deployed on its strategic offensive nuclear forces to comply with the 1991 START I Treaty. It has also identified the numbers and types of delivery vehicles it would deploy under the 1993 START II Treaty. However, because that Treaty has not yet entered into force, Congress has mandated that the Administration retain forces at START I levels. In recent DOD Authorization Bills, it has precluded the use of DOD funds to begin the dismantlement of weapons systems that would bring the United States below START I force levels. This means that DOD cannot begin to dismantle the 50 Peacekeeper ICBMs or 4 Trident submarines that would be removed from the fleet when the United States moves from START I to START II force levels.

For several years, the Clinton Administration did not object to this legislation. Many in Congress and the Pentagon agreed that, by keeping its forces at START I levels, the United States could provide the Russian parliament with an incentive to approve START II. Most experts agree that Russia cannot afford to maintain its forces even at START I levels, and that it will have fewer than 2,000 deployed warheads in the coming years, regardless of arms control limits. Many officials in both the United States and Russia have noted that Russia can only retain parity with the United States if the United States also reduces its forces. Hence, because U.S. law mandates that the United States cannot reduce its forces until START II enters into force, many believed it would provide the Duma with an incentive to approve START II (and move to deeper reductions in a prospective START III Treaty).

The Administration did, however, request that Congress eliminate this mandate in the FY2000 Defense Authorization Bill because of budgetary implications. In testimony before the Senate Armed Services Committee, Assistant Secretary of Defense Edward Warner noted that DOD had added \$51 million to its budget in FY2000 to continue Peacekeeper operations and to protect the option of refueling the extra 4 Trident submarines and fitting them with the new Trident II missiles. DOD would need an additional \$100 million per year for the next 3 years, and \$170 million per year after 2003, to maintain and operate the Peacekeeper missiles. Furthermore, DOD would need an additional \$5-6 billion, between fiscal years 2000 and 2005, to refuel the 4 extra Trident submarines, to refit them so that they could carry the newer Trident II missiles, and to purchase additional missiles for these 4 submarines.⁵³ Consequently, the Administration asked Congress to eliminate the language requiring the United States to maintain 18 Trident submarines. Because all 14 remaining submarines would carry the new Trident II missiles, DOD officials argue that the

⁵³Statement of the Honorable Edward L. Warner, III. Assistant Secretary of Defense for Strategy and Threat Reduction, before the Senate Armed Services Subcommittee on Strategic Forces. April 14, 1999.

smaller fleet would be a more modern and capable force. Furthermore, Secretary of Defense Cohen has stated that, even with fewer Trident submarines, the United States could still deploy close to the 6,000 warheads permitted under START I.⁵⁴

Several members of Congress supported the Administration's effort to eliminate the congressional mandate on strategic nuclear weapons. For example, Senator Carl Levin noted that "We should not spend the billion plus dollars a year that will be needed to maintain START I levels unless there is a military need to do so."⁵⁵ Senator Robert Smith, the chairman of the Subcommittee on Strategic Forces, also noted that there might be more "affordable ways to maintain a modern and robust strategic triad." However, he stated that he "firmly believes we should not unilaterally implement START II."⁵⁶ Senator Robert Kerrey sponsored an amendment to the FY2000 Defense Authorization Bill that would have eliminated any language mandating a specific nuclear weapons force structure, but it failed to pass. Instead, the Senate approved language that would permit the United States to reduce its Trident fleet from 18 to 14 submarines. The House approved more restrictive language, but accepted a compromise similar to the Senate language in the Conference Report on the FY2000 Defense Authorization Bill.

The Clinton Administration sought, again, to have Congress remove the restrictive language from the FY2001 Defense Authorization Bill. Congress, again, refused to lift the restrictions. The Senate, in its version of the bill, did provide that the next President could reduce U.S. forces below START I levels after conducting a new Nuclear Posture Review to determine how many weapons the United States needed in its arsenal. The Conference Committee, however, removed this provision from the final legislation. Congress is likely to address this provision again in the FY2001 Defense Authorization bill. Because President Bush has stated that he would like to reduce U.S. nuclear forces to the lowest levels possible without formal arms control agreements and because the Administration is unlikely to press for START II to enter into force, many expect that the House and Senate will agree to remove the prohibition.

Some conservative analysts believe that the United States should maintain all 18 Trident submarines for the indefinite future because these are the most survivable and flexible element of the U.S. triad.⁵⁷ Because the older Trident I missiles are nearing

⁵⁴U.S. Senate Committee on Armed Services. Hearing on Defense Budget Issues. Testimony of Secretary of Defense William Cohen. February 3, 1999.

⁵⁵U.S. Senate Committee on Armed Services. Hearing on Defense Budget Issues. February 3, 1999.

⁵⁶U.S. Senate Armed Services Subcommittee on Strategic Forces. Hearing on Strategic Offensive Forces. April 14, 1999.

⁵⁷Frank Gaffney has called the Trident submarines "the last vestige of a robust nuclear deterrent posture." He stated that "we should modernize and keep them on station as long as possible. The last thing I would cut is these boats that represent a credible, survivable force against people who may not be deterred." See, Pincus Walter. Questions Raised on Trident Subs. Cost and Size of Strategic Nuclear Deterrent are Issues. *Washington Post*, January 3,

(continued...)

the end of their service lives, this force structure would require additional funding to modify 8, rather than 4, submarines so that all could carry the newer Trident II missile. Some liberal analysts, however, believe that Congress should not mandate any particular force level and that the United States should reduce its Trident fleet to 14 or fewer submarines in the near future. They argue that the United States can maintain deterrence with just a few submarines on station and that current plans for sea-based warheads are excessive in the post-Cold War era.⁵⁸

Forces into the Future. According to press reports, PDD-60 concluded that, even as the United States reduces its forces to START III levels of 2,000-2,500 warheads, it will maintain a triad of ICBMs, SLBMs, and heavy bombers. The Clinton Administration believed that such a force mix would enhance deterrence by complicating an adversary's attack and defense planning, and that such a mix can help hedge against system failures in other "legs" of the triad.

The Clinton Administration also pledged to address perceived problems with the personnel and infrastructure needed to maintain and modernize the U.S. nuclear arsenal. In late 1998, the Defense Science Board Task Force on Nuclear Deterrence reportedly urged the Clinton Administration "to improve U.S. nuclear forces for decades to come in face of Russia's large arsenal and a growing Chinese strategic force." The panel outlined concerns about the numbers of personnel with nuclear weapons expertise who were leaving government and the military, the closure of production facilities, a reduction in nuclear-related military exercises, and the absence of new weapons production. Furthermore, it noted that the Department of Defense had no long-term planning mechanism or management plan for how it would maintain those forces into the future.⁵⁹ Deputy Secretary of Defense John Hamre reportedly responded to this report by setting up the Nuclear Mission Management Plan, which would outline requirements for the U.S. nuclear weapons stockpile; the necessary contractor industrial base and support infrastructure; and the critical skills and training needed by personnel responsible for nuclear weapons policy and operations. The plan will also outline the programs that the services and the defense agencies will use to sustain and modernize U.S. nuclear forces. In testimony before the Senate Subcommittee on Strategic Forces, Admiral Richard Mies, the Commander in Chief of the Strategic Command (STRATCOM), noted that DOD was working to maintain an infrastructure that could support U.S. strategic nuclear forces into the future and to ensure that the services had the personnel with the training, support, and commitment needed to meet the unique standards of performance required by nuclear weapons.⁶⁰

⁵⁷(...continued)

1999, p. 22.

⁵⁸Retired Admiral Eugene Carroll characterized the mandate for 18 submarines as totally irrational. He has stated that 5 submarines on permanent patrol could "eradicate the world." Ibid. P. 22.

⁵⁹Gertz, Bill. Pentagon: Nuclear Upgrade Needed for Deterrence. *Washington Times*, December 4, 1998. p. 1.

⁶⁰This could prove to be a challenge as a smaller force structure eliminates personnel positions (continued...)

Some analysts support plans to maintain the U.S. nuclear triad, noting that the triad can continue to offer a hedge against technical problems, to offer a variety of basing modes to complicate attack, and to allow the United States to tailor its deterrent threats to meet the circumstances. Furthermore, they believe that the triad provides the United States with the flexibility needed to respond to changing postures of nuclear adversaries and to a variety of threats from regional adversaries. However, some have been critical of DOD's efforts to sustain and modernize that force. They have noted that there is little senior-level involvement in DOD in planning for nuclear forces and no center of expertise for nuclear policy issues.⁶¹ They have argued for more funding and planning so that the United States will have the people and resources it needs to maintain its nuclear arsenal for the foreseeable future.

Some analysts, however, believe that the Clinton Administration's insistence on maintaining a triad of delivery systems demonstrated an attachment to "Cold War" thinking and planning. They note that the requirement for such diverse systems derives from the U.S. plans to attack a wide range of targets in Russia if a conflict occurred. Yet, they believe that this method of planning for deterrence is both excessive and unnecessary given current political and economic conditions in Russia. They note that many of the military and industrial facilities that the United States would attack are already close to collapse, and that a far smaller nuclear force could undermine the already shaky foundation of Russia's economy. Furthermore, they contend that if the United States insists on maintaining a large and diverse force of nuclear weapons, Russia will do the same, which only adds to the threat that the United States might face. In addition, many liberal analysts believe that this "old" style of thinking about nuclear weapons exists because many of the same analysts and experts who planned for the use of nuclear weapons during the Cold War remain in positions of authority in DOD now. They believe that U.S. nuclear policy will not change until DOD loses more of this "old" expertise.

Ballistic Missile Defenses

As noted above, the Clinton Administration outlined its strategy for the development and deployment of national missile defenses (NMD) in January 1999, but decided in September 2000 to delay a decision on deployment until the next Administration. In January 1999, the Administration emphasized that it had restructured the NMD program for a possible deployment date of 2005, rather than 2003; this has now slipped until 2006 or 2007. Secretary Cohen acknowledged that the threat from long-range ballistic missiles in rogue nations appeared to be developing more quickly than the Administration had anticipated, but he also stated that this would not be the only factor in the Administration's decision on whether to deploy an NMD system. Other factors include the status of the technology that would be used in the NMD system, the expected costs of the system, and the status of arms

⁶⁰(...continued)

so that new members of the service look to careers in other areas of the U.S. military. See the testimony of Admiral Richard Mies, in U.S. Senate, Committee on Armed Services, Subcommittee on Strategic Forces. Hearing on Strategic Nuclear Forces. April 14, 1999.

⁶¹*U.S. Nuclear Policy in the 21st Century. A Fresh Look at National Strategy and Requirements.*

control negotiations with Russia that would be needed to modify the 1972 ABM Treaty.

The Clinton Administration acknowledged that the United States and Russia would have to amend the ABM Treaty to permit the deployment of an effective U.S. NMD system. The United States reportedly planned to seek amendments to the ABM Treaty in two phases. In the first phase, the United States would ask Russia to amend the Treaty's ban on nationwide defenses and to alter the Treaty's limit of one site located around an ICBM field or the nation's capital. These changes are designed to permit the United States to deploy a single ABM site in Alaska to protect the entire nation from missile launches originating in North Korea, China, or other rogue nations. In the second phase, the United States would seek Russia's agreement to deploy additional sites and more than 200 interceptor missiles. It would also seek changes to the Treaty's restrictions on sensors and space-based ABM components, along with possible changes in the ban on sea-based ABM components.⁶² Russia, however, has been unwilling to discuss any changes to the ABM Treaty and apparently believed that it could dissuade the Clinton Administration if it did not agree to amend the Treaty.

Many in Congress disagreed with the Clinton Administration's NMD strategy. Some argued that the threat from uncertainties in Russia and missiles in rogue nations exists now. Some also argued that the United States may have too little warning of new threats to respond with the deployment of a missile defense system. And some argued that the Clinton Administration has placed the ABM Treaty above U.S. national security, maintaining it at all costs in spite of the demise of the Soviet Union. Consequently, many have been particularly critical of the Administration's NMD deployment schedule, believing a system could and should be fielded much sooner than 2005. In June 1999, Congress passed legislation (H.R. 4) that states it is the policy of the United States to deploy national missile defenses as soon as the technology is ready. The Clinton Administration and Democrats in Congress dropped their opposition to this bill after the Senate added amendments stating that it is U.S. policy to continue to negotiate with Russia on reductions in offensive nuclear weapons and that NMD programs remained subject to annual authorization and appropriations for funding. The Clinton Administration interpreted these amendments to mean that Congress supports negotiations with Russia on offensive force reductions to the extent that it would not want NMD deployment plans to interfere with these reductions and that the United States has not made a final decision on NMD deployment because Congress must still approve the funds for this effort on an annual basis.

Many conservative analysts agree with those in Congress, and those in the new Bush Administration, who believe that the United States should move to NMD deployment quickly, even if it means abandoning the ABM Treaty or upsetting offensive force negotiations with Russia. They argue that the United States may not be able to rely on nuclear deterrence to dissuade some adversaries from attacking the United States with long-range ballistic missiles and that the United States should place

⁶²Graham, Bradley. U.S. to go Slowly on Treaty; Quick ABM Overhaul Rejected by Clinton. *Washington Post*. September 8, 1999. p. A13.

more emphasis on “deterrence by denial through defense.”⁶³ They argue that some nations may see missiles armed with weapons of mass destruction as an “asymmetrical threat” to the United States and that they might try to employ blackmail or threats to convince the United States to stand aside during a regional conflict. If it could defend against long-range missile attacks, the United States could stand up to these threats. Others argue that deterrence, even with Russia, is unproven and could fail because nations may not understand that the United States would retaliate with overwhelming force, or nuclear weapons, if they attacked U.S. territory with ballistic missiles. Therefore, the United States should be prepared to deal with adversaries who do not recognize or do not fear the potential of a retaliatory strike from the United States.

Some Members of Congress and liberal analysts argue that the United States does not need a national missile defense to address the threat of missile attack from rogue nations. Some believe that the United States will not be able to develop and deploy a cost-effective NMD because of daunting technical challenges and certain high costs that would be associated with such a complex system. Others argue that rogue nations with weapons of mass destruction could attack the United States with lower cost, and less obvious means than ballistic missiles, or that they could deploy countermeasures or penetration aids to defeat U.S. missile defenses. These analysts note that a BMD system would do nothing to stop cargo ships or other unconventional or simpler means of delivery. Furthermore, some argue that efforts to amend the ABM Treaty with Russia could further erode support in Russia for the START II Treaty and could provide Russia with an incentive to build up its offensive nuclear forces.

Those who believe that the United States should not deploy NMD in the near future often choose to address emerging ballistic missile threats with a combination of diplomatic, arms control, and nonproliferation tools. They believe that cooperative methods, those that combine economic, political, and military incentives, could help persuade nations not to pursue missile technologies or sell them to countries of concern. And they argue that a strong international nonproliferation regime could bring more pressure to bear on rogue nations than a U.S. NMD.⁶⁴ And if cooperative methods are less than successful, many note that the United States could still deter missile attacks from rogue nations with its overwhelming military superiority in nuclear and conventional forces. They believe that no nation, even one led by an unpredictable leader with less-than-rational objectives, would risk attacking the United States if it believed that its own survival would be threatened in response.

⁶³*U.S. Nuclear Policy in the 21st Century. A Fresh Look at National Strategy and Requirements.* p. 2.4.

⁶⁴Spurgeon Keeney of the Arms Control Association has argued that “the best defense against future missile threats by rogue states is not a crash effort to deploy expensive, unproven defenses, but rather aggressive pursuit of measures to reduce the possibility that such threats will ever materialize. Such measures include improved controls on international trade... prompt U.S. ratification of the CTBT to secure U.S. leadership in strengthening the nuclear nonproliferation regime, etc.” See Keeney Spurgeon, The New Missile “Threat” Gap. *Arms Control Today*, June/July 1998.

The Bush Administration has pursued an extensive review of U.S. missile defense policies and programs. As is noted above, the President emphasized his commitment to the deployment of missile defenses in a speech on May 1, 2001. The President has not, however, outlined a specific architecture for a missile defense system nor its strategy for modifying or abandoning the ABM Treaty. In addition, the Administration is consulting with U.S. allies, and plans to hold discussions (although not necessarily formal negotiations) with Russia, as it develops its missile defense strategy.

Arms Control

Strategic Offensive Force Reductions. In March 1997, Presidents Clinton and Yeltsin agreed that after the START II Treaty entered into force, the two sides would pursue further reductions in a START III Treaty. They agreed that this new agreement would reduce each side's strategic offensive forces to 2,000-2,500 warheads on deployed delivery vehicles. Officials in Russia have since suggested that the parties explore even deeper reductions to 1,500 warheads. The Presidents also agreed that START III should contain measures to promote the irreversibility of the weapons elimination process, including transparency measures and the destruction of strategic nuclear warheads removed from delivery vehicles. They also agreed that they would explore possible measures for long-range, nuclear-armed, sea-launched cruise missiles and other tactical nuclear weapons.⁶⁵

Some analysts have grown skeptical about the value of continuing negotiations with Russia to reduce strategic offensive nuclear forces. They note that Russia will reduce its forces for budgetary reasons, regardless of arms control limits, and, therefore, that the United States does not have to compromise its own force structure to achieve these reductions. They do not see much benefit for the United States in negotiating offensive force reductions, particularly if Russia links these reductions with continued U.S. compliance with the ABM Treaty. Instead, they believe that the United States should go its own way on missile defenses and offensive force levels. President Bush has endorsed this approach to adjusting the U.S. nuclear force posture.

Others have argued that, if the United States and Russia continue negotiations on force reductions, they should change the focus from limits on strategic offensive forces to measures addressing total nuclear posture, which would include theater forces and nuclear infrastructure. They note that Russia's strategic forces are aging and are likely to decline with or without negotiated limits. But they maintain that Russia still has thousands of non-strategic nuclear weapons, far more than the United

⁶⁵Russia has long sought restrictions on U.S. sea-launched cruise missiles because it fears that these could threaten targets in Russia if the United States returned them to deployment on attack submarines. The United States would like further restrictions on Russian tactical nuclear weapons because these may pose a proliferation risk and because Russia possesses a greater number of these weapons than does the United States. Russia would like restrictions on U.S. tactical nuclear weapons to ensure that they are not deployed on the territory of new NATO members.

States, and a more robust nuclear weapons production complex and infrastructure.⁶⁶ Furthermore, they argue that the United States should press for measures that will increase transparency and ensure the irreversibility of nuclear weapons reductions. In the long run, they believe, these types of measures will do more to increase U.S. security than would further negotiated reductions in strategic offensive forces.

Many analysts in the arms control community agree that the United States and Russia should negotiate measures that would improve transparency and the irreversibility of the arms reduction process. But they argue that these measures should go along with much deeper reductions in U.S. and Russian strategic offensive forces. They note that all of these measures would signal a continuing improvement in U.S. and Russian relations and a growing realization by both parties that they have little to gain by retaining Cold War era nuclear postures. Many of these object to the Administration's approach because they believe it is moving too slowly. By waiting for Russia to ratify START II, which the Duma might never do, the United States could lose an opportunity to move with Russia to START III or lower levels of strategic offensive forces. Although budget pressures might force Russia in that direction anyway, some worry that Russia could muster the resources to retain or replace a greater number of nuclear weapons if it felt threatened by the United States.

In November 1998, Senator Robert Kerrey called for immediate unilateral reductions in U.S. strategic nuclear forces to around 2,000-2,500 warheads, the level projected under a START III Treaty. He said that the United States spends \$25 billion on strategic nuclear forces each year, and that this was diverting money away from real and imminent threats. Furthermore, he argued that the United States was provoking Russia to maintain an arsenal larger than it could control, which made Russia's nuclear forces "an accident waiting to happen."⁶⁷ A coalition of arms control analysts made a similar recommendation in a report released in February 1999. The members of the Committee on Nuclear Policy acknowledged that arms control treaties have served U.S. national interests in the past, but they noted that the pace of the arms control process has not kept up with the expansion of nuclear dangers in Russia. These include dangers caused by weaknesses in Russia's early warning and command and control systems and dangers caused by political and economic instability in Russia. Therefore, they called on the United States and Russia to supplement treaties with parallel, reciprocal and verifiable steps to reduce these dangers. They argued that both sides should declare their intentions to reduce their strategic offensive forces to 1,000 deployed warheads within a decade and to offer "cradle to grave transparency" to monitor the elimination of excess warheads. They noted that Russia had rejected this level of transparency in the past, but they argued that it would be more likely to accept such measures if the United States was willing to reduce its forces to the low levels that Russia was heading to anyway.⁶⁸

⁶⁶*U.S. Nuclear Policy in the 21st Century. A Fresh Look at National Strategy and Requirements.* p. 2.31.

⁶⁷Pincus, Walter. Kerrey: U.S. Should Cut Nuclear Arms Unilaterally. *Washington Post*. November 17, 1998. p. 13.

⁶⁸Jump-START. Retaking the Initiative to Reduce Post-Cold War Nuclear Dangers. (continued...)

Several other reports and studies completed during the past few years have suggested that the United States and Russia move beyond the START process and reduce their forces to around 1,000 warheads initially, and as few as 200-300 warheads eventually.⁶⁹ They argue that these reductions would foster continuing improvements in the U.S.-Russian relationship and help reduce the risks of inadvertent use of nuclear weapons inherent in the retention of large stockpiles and large numbers of deployed systems.

Press reports in late 1998 indicated that the Clinton Administration did consider unilateral reductions in U.S. strategic nuclear forces to advance the arms control process and to encourage Russia to reduce its strategic nuclear forces. However, these reductions would not have been as deep as the preceding studies have suggested and most reports acknowledged that budget pressures were the United States' primary rationale for considering them.⁷⁰ One press report indicated that the Administration had considered eliminating 4 Trident submarines, 50 Peacekeeper ICBMs, and 20 Minuteman ICBMs.⁷¹ However, in February 1999, when the Administration submitted its FY2000 budget to Congress, it simply requested that Congress remove the language in previous authorization bills that required the retention of 18 Trident submarines. As was noted above, Congress did alter this language in the FY2000 Defense Authorization Bill.

Many in the Clinton Administration believed that the United States should not begin to make deep reductions without having START II in place because Russia would have a greater incentive to ratify START II if it recognized this as the only way to bring about significant reductions in U.S. forces. Admiral Richard Mies, the Commander-in-Chief of STRATCOM, has also argued that the United States should exercise "considerable caution" when "reducing our strategic forces below the negotiated START I force levels until it is evident that Russia is fully committed to further arms control reductions. Because the United States is not developing new warheads and delivery systems, we must not be hasty in taking irreversible steps to reduce our capability and flexibility."⁷²

⁶⁸(...continued)

Committee on Nuclear Policy. February 1999. p. 11.

⁶⁹See, for example, National Academy of Sciences. *The Future of U.S. Nuclear Weapons Policy*. Washington, D.C. 1997. See also, Goodby, James E. and Harold Feiveson. *Ending the Threat of Nuclear Attack*. Henry L. Stimson Center, Policy Brief V. 1, No. 8. June 27, 1997; and *An Evolving U.S. Nuclear Posture*. The Second Report of the Steering Committee Project on Eliminating Weapons of Mass Destruction. The Henry L. Stimson Center, Washington D.C. 1995.

⁷⁰See, for example, Steven Lee Myers. Pentagon Ready to Shrink Arsenal of Nuclear Bombs. *New York Times*, November 23, 1998. p. 1.

⁷¹Sloyan, Patrick J. Clinton Considering Unilateral Arms Cuts. *Long Island Newsday*. December 6, 1998. p. 27.

⁷²Mies Calls for Caution on Proposals to Unilaterally Cut Strategic Forces. *Inside the Pentagon*. Vol. 15, June 10, 1999. p. 1.

Strategic Nuclear Force Posture. In recent years, many analysts in the arms control community have argued that the United States and Russia should change the focus of arms control efforts from reducing the numbers of strategic nuclear weapons to altering the postures of those weapons to reduce the dangers of an inadvertent nuclear attack. Support for this change in focus derives, in part, from the fact that efforts in past years to press for deep cuts in nuclear weapons did not alter Administration policy, but also from growing concerns about the safety and security of nuclear weapons in Russia.⁷³ According to one analyst, the two sides should “make operational safety, as opposed to deterrence of deliberate attack, the primary consideration” for their cooperative threat reduction efforts.⁷⁴

Those who support these types of measures argue that it is a mistake for both nations to maintain large portions of their forces on high levels of alert (a situation they refer to as “hair-trigger alert”). They note that these alert postures remain in place, in spite of the end of the Cold War and the significantly lower likelihood of a conflict between the two nations, and in an environment where Russia may be unable to receive clear, unambiguous, and accurate information about the presence or absence of an attack on its territory. Hence, this posture not only increases the likelihood of an inadvertent nuclear conflict, which could result if Russia launched its nuclear forces after misinterpreting data about a possible U.S. launch, but it also perpetuates the high levels of suspicion and mistrust that characterized the U.S.-Soviet nuclear stand-off during the Cold War.⁷⁵ Several analysts have offered proposals to remedy this situation.

Admiral Stansfield Turner has argued that the formal treaty process is too slow to respond to the rapidly changing economic, political, and security situation in Russia and that the United States and Russia should reduce their deployed forces significantly and quickly to address concerns about nuclear proliferation. Therefore, he has proposed that the United States remove some number of warheads from its deployed strategic ballistic missiles and place them in storage about 200 miles away from the deployment areas, an arrangement he refers to as “strategic escrow.” He argues that this would add significantly to the amount of time it would take for the United States to load and launch its missiles. He also suggests that the United States invite Russian observers to monitor the storage sites. Finally, he suggests that the United States invite Russia to take reciprocal steps with its strategic offensive nuclear forces. Because both nations would begin their escrow with only a portion of their deployed warheads, both could remain confident in their deterrent forces. And, over time, as confidence and cooperation improved, both could increase the proportion of warheads in escrow and reduce the number of deployed weapons remaining on alert. He argues that these steps would not only indicate to the international community that the

⁷³Fisher, Cathleen S. *Reformation and Resistance: Nongovernmental Organizations and the Future of Nuclear Weapons*. The Henry L. Stimson Center, Report no. 29, May 1999. p. 50.

⁷⁴Blair, Bruce. *Global Zero Alert for Nuclear Forces*. Brookings Institution, Washington, D.C. 1995. p. 9.

⁷⁵According to the Committee on Nuclear Policy, “No other single measure would more clearly signal the end of mutual suspicion carried over from the Cold War than taking these weapons off quick launch status.” See Jump-START. *Retaking the Initiative to Reduce Post-Cold War Nuclear Dangers*. February 1999. p. 12.

United States and Russia are “downgrading nuclear weapons” in their defense policies, but that they would also reduce the dangers from Russian nuclear forces.⁷⁶

Many other analysts have endorsed a concept that has become known as “de-alerting” for nuclear warheads. Some have outlined a range of specific alternatives — from physical obstructions that would block the exit of missiles from their silos, to technical changes in computer software that would make it difficult for either nation to launch its weapons promptly, to the actual removal of warheads from ballistic missiles — that would increase the amount of time needed to launch nuclear weapons after a nation had received warning of an attack.⁷⁷ Proponents, including Bruce Blair, have stated that these types of measures could enhance stability and reduce the risk of miscalculations if they are verifiable, so that each side can be confident that the other has maintained its forces on lower levels of alert, and if they would take a significant amount of time to reverse, so that both sides would have time to respond if the other side began to re-alert its forces. Furthermore, they have sought to devise measures that would not jeopardize the survivability of a core force of nuclear weapons that could be reconstituted to deter attacks in the event of a crisis.

Proponents also argue that, if the United States were to remove its forces from their high levels of alert, then Russia would no longer fear a disarming first strike from U.S. forces because such an attack would not be possible without significant warning time. As a result, Russia would no longer need to maintain its forces on high levels of alert so that it could launch promptly if it did detect evidence of an attack. And, if Russia reduced the alert rates for its forces, the risk that it would respond in haste to ambiguous evidence of a possible nuclear attack would also decline. Hence, if the United States started the de-alerting process, it could enhance safety and reduce the likelihood that gaps in Russia’s early warning networks or flaws in its command and control systems and procedures would lead to an inadvertent nuclear launch.⁷⁸

Officials in the Clinton Administration rejected many of these de-alerting proposals. First, they noted that there is no guarantee that Russia would reciprocate if the United States reduced the alert rates for its forces, so the measures might not redress any weaknesses in Russia’s early warning network and command and control system. Furthermore, they argued that these types of step could undermine, rather than enhance, stability. In testimony before the Senate Armed Services Committee, Assistant Secretary of Defense Warner noted that many options for de-alerting, such as changes in computer software or internal locks in missile silos, are not verifiable,

⁷⁶Commentary: Post-Cold War Demands New Ways to Deal with Warheads on Nuclear Arms: We can’t wait for START II Treaty to do some good. *Los Angeles Times*, January 11, 1999. p. B-5.

⁷⁷For more detailed descriptions of “de-alerting,” see Bruce Blair. *Global Zero Alert for Nuclear Forces*. Brookings Institution, Washington, D.C. 1995; National Academy of Sciences. *The Future of U.S. Nuclear Weapons Policy*. Washington, D.C., 1997. pp. 62-63; Sam Nunn and Bruce Blair. From Nuclear Deterrence to Mutual Safety. *Washington Post*. June 22, 1997. p. C1; and Bruce G. Blair, Harold A. Feiveson, and Frank N. von Hippel. Taking Nuclear Weapons off Hair-Trigger Alert. *Scientific American*. November 1997.

⁷⁸See, for example, Bruce Blair. *Global Zero Alert for Nuclear Forces*. Brookings Institution, Washington, D.C. 1995. p. 15.

which is widely accepted as an essential requirement for increased strategic stability. He went on to state that those measures that could be verified, such as the removal of warheads from missiles, could also be highly destabilizing in a crisis because steps that either nation took to re-alert its forces could very easily set off a dangerous chain of events.⁷⁹ Admiral Mies, the Commander in Chief of STRATCOM, has also noted that reducing the alert status of our forces could diminish the credibility and the survivability of our deterrent forces and, therefore, jeopardize existing stability against a preemptive first strike.⁸⁰ This would be particularly true if the United States were to remove components that ballistic missile submarines would need to launch their missiles. It would be very difficult to restore these components to submarines at sea during a crisis or conflict without having them return to port, but this return would make them vulnerable to attack.

Some analysts have also criticized proposals to reduce the alert rates for strategic nuclear forces.⁸¹ First, they note that U.S. alert rates do not create a “hair-trigger” which evokes an image of weapons that would launch automatically in response to warning of an incoming attack. Instead, the alert rates provide the President with the option of launching promptly, along with the *option* of waiting for more information before making a decision. In addition, some have argued that warheads removed from missiles and stored in central storage areas might actually be so vulnerable and attractive as targets, that they would invite attacks by other nations seeking to undermine the U.S. nuclear deterrent. Others have noted that these proposals could actually raise Russian suspicions that the United States was seeking to disarm the Russian deterrent by insisting that Russia remove its forces from alert and make them more vulnerable to a surprise attack.⁸²

Many analysts and officials in the Clinton Administration agreed, however, that weaknesses in Russia’s early warning and command and control networks did increase the risk that Russia might launch its weapons in response to ambiguous or inaccurate information about an incoming attack. Some analysts suggested that the United States deploy ballistic missile defenses to protect itself against such a contingency. Many others have suggested that the United States address the problem directly, by sharing ballistic missile early warning data with the Russians. During their September 1998 summit, Presidents Clinton and Yeltsin agreed that the United States and Russia should explore the possibility of establishing a joint early warning center to share data about ballistic missile launches worldwide. The two sides have agreed to establish

⁷⁹Statement of the Honorable Edward L. Warner, III. Assistant Secretary of Defense for Strategy and Threat Reduction, before the Senate Armed Services Subcommittee on Strategic Forces. April 14, 1999.

⁸⁰Mies Calls for Caution on Proposals to Unilaterally Cut Strategic Forces. *Inside the Pentagon*. Vol. 15, June 10, 1999. p. 1.

⁸¹See, for example, the Statement by Dr. Kathleen C. Bailey, before the U.S. Senate Armed Services Committee Subcommittee on Strategic Forces. March 31, 1998.

⁸²Alexei Arbatov, a member of the Russian parliament and arms control expert, has noted that de-alerting proposals would be unverifiable and could be viewed with suspicion in Russia. See Jump-START. Retaking the Initiative to Reduce Post-Cold War Nuclear Dangers. Committee on Nuclear Policy. February 1999. p. 30.

such a center outside of Moscow, and are in the process of completing agreements on the details.

Analysts from across the political spectrum appear to agree that the United States can assist Russia with its early warning gaps by sharing data collected by U.S. early warning satellites. Some worry that this effort could reveal sensitive information about the capabilities of U.S. systems, but most acknowledge that the two sides could probably devise a system that would provide useful data without compromising U.S. capabilities. Some analysts have proposed that the United States share more than data with Russia. They have suggested that the United States could help Russia rebuild its early warning network by providing funds to help Russia build and launch more satellites, or even by sharing satellite technology directly with Russia.⁸³ Some have criticized these proposals because they believe that the United States should not make it easier for Russia to manage and operate its nuclear weapons and that Russia should invest its own funds in its early warning systems. Nevertheless, there appears to be a growing consensus, both among officials in the Clinton Administration and others, that the United States and Russia can cooperate to reduce the risks created by weaknesses in Russia's early warning system.

Conclusion

The United States has implemented some changes in its nuclear force posture and force structure since the end of the Cold War. Nevertheless, it has retained many elements that have been a part of U.S. nuclear strategy for nearly 30 years. Some analysts argue that this continuity is necessary, even though the Soviet Union no longer exists, because the United States is likely to face new threats from adversaries armed with weapons of mass destruction. Others, however, believe that the United States should implement more far-reaching changes in its nuclear posture in response to the changing international security environment. They contend that the United States should focus more on reducing nuclear dangers in Russia than on nuclear deterrence of emerging threats in other nations.

Congress has not addressed nuclear strategy and force posture in a comprehensive manner in many years. But it reviews many aspects of U.S. nuclear policy when it approves budgets for force structure and modernization programs, when it debates the merits of arms control agreements and potential arms control measures, and when it addresses the role that ballistic missile defenses may play in protecting the United States against emerging threats from nations armed with weapons of mass destruction. These issues are likely to remain on the congressional agenda for many years. At the same time, analysts from across the political spectrum may continue to press for change or continuity in U.S. nuclear posture. Consequently, although these issues rarely attract wide-spread attention or

⁸³The Congressional Budget Office outlined some of these alternatives in its September 1998 letter to Senator Tom Daschle. It recently reviewed the pros and cons of another proposal for the United States to provide the funds for Russia to launch several early warning satellites. See U.S. Congressional Budget Office, Letter to the Honorable Tom Daschle, August 24, 1999.

impassioned debate, they are likely to remain on the congressional agenda for the foreseeable future.

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