2009 National Security and Nonproliferation Briefing Book

PREPARED BY THE
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The PSI Implementation Team
November 2008
The presidential election of 2008 and the forthcoming inauguration of Barack Obama as the forty-fourth president of the United States in 2009 represent more than a simple change in leadership. We are at war in Iraq and Afghanistan and in a long-term struggle with Al Qaeda and its affiliates, while facing the possibility of another nuclear weapons state in Iran and the approach of a potential global warming catastrophe. At the same time, Russia has challenged the existing order with its intervention in Georgia, and China has become a world economic power, with India moving forward as well.

American resources to deal with these problems are constrained, and our ability to persuade others to work with us is at its lowest point in memory. To offer the next president and his administration a guide in this uncertain terrain, the Peace and Security Initiative has prepared this National Security and Nonproliferation Briefing Book for the Presidential Transition Teams.

Each new administration has to confront a compressed timeframe between its election in November and taking up the reins of government in January. Each administration appoints transition teams for the Executive Office of the President and the various departments and agencies of the federal government to gather issues and information from the career bureaucracy, to develop and flesh out the new administration’s agenda, and to prepare for confirmation hearings for political appointees.

These teams generally have steep learning curves and the issue focus tends more in the direction of near-term policy formulation and new initiatives and less on process and implementation requirements. Except for Executive Orders, the initiatives that get launched in the first one hundred days are limited in number, while Cabinet secretaries and agency heads and their subordinates are being confirmed by the Senate and settle into their new jobs. For issues without pressing urgency or high candidate commitment, the competition for attention can be overwhelming.

The proliferation of nuclear weapons and the attendant possibility of catastrophic nuclear events rank among the most serious and potentially existential threats to the United States and the world. During the first 2004 presidential debate, both major candidates declared the nexus of terrorism and weapons of mass destruction the greatest national security threat; that threat has not diminished with time. This year, both presidential candidates spoke often of proliferation, a further indication of the importance of the issue and the candidates’ commitment.

But the proliferation issue set is complicated, involves numerous elements, and each component may require a lengthy time period and constant attention to complete. The issues generally reside in no single department or agency and require an often extensive interagency process for resolution. The general public has only a vague notion of the seriousness of the issues; and, despite the great and growing risk of catastrophe resulting from inaction, the sense of urgency has only limited public resonance. As a result, without a consistent senior level champion and a strategic plan with clear priorities and sequencing, there is a danger that the agenda will fall back in the queue for attention.

In the current environment—in addition to the domestic issues like the economy, housing foreclosures and health care demanding attention—the urgent national security agenda will include Iraq, Iran, Afghanistan, Pakistan, terrorism, and relations with China and, especially, with Russia. While several of these issues encompass proliferation and nuclear weapons, they are

**By Rand Beers, President and Founder, National Security Network. Reviewed by John Isaacs, Executive Director, Council for a Livable World.**
not of singular importance in any of them. Thus, for the ability to ensure a presidential-level focus on non-proliferation faces a further “crowding out” challenge. This briefing book is an effort to address the proliferation issue and other national security challenges and these constraints head on. Each paper is written by one or more distinguished experts. The book is organized into sections ranging from weapons reduction and control of fissile materials to reducing the dangers of nuclear terrorism and the challenges of Iran’s and North Korea’s nuclear aspirations.

Each briefing paper includes background material, talking points, the present state of play, and recommendations and policy options for the next president. While the principal focus of the book is nonproliferation and nuclear weapons, these issues do not exist in a vacuum. Consequently, there are also sections on related regional issues, such as Iraq, Iran, North Korea and Pakistan, Russia, and China, and other substantive issues, including government organization for national security, missile defense, weapons in space, biological and chemical weapons, conventional weapons, and homeland security. In short, this briefing book is a primer and guide for the next presidency.
Rebalancing and Reorganizing the Government to Better Address National Security Challenges

**BACKGROUND**

The new president will face a number of critical foreign policy and national security challenges. While Iraq and Afghanistan may continue to dominate the national debate, the next administration will need to deal with at least five fundamental issues and underlying trends:

- **Globalization and the international economy** (rising energy demand and declining supply, rising food prices, a weakening global economy, and persistent poverty in critical regions);
- **Governance** (failed, fragile and weak states, political instability, and the need for effective, efficient and responsive governance);
- **Identity conflicts** (religion, ethnicity and nationality);
- **Transnational challenges** (terrorist organizations, disease, global warming, drugs, and crime); and
- **Changing power relations** (emerging regional and international powers like China, Russia, Brazil, India, and Iran; proliferation of nuclear weapons to new powers).

These challenges will create new demands on our foreign policy and national security agencies, will require stronger White House coordination across agencies, and will demand new approaches to multilateral cooperation. Today, our foreign policy and national security institutions are not up to the challenge.

There is a serious imbalance between the authorities, capabilities, and funding for our military institutions, and the support we provide to the civilian instruments of power. Responsibility for diplomacy and foreign assistance is scattered in a “diplomacy” of organizations and programs. There are now over 20 different federal institutions and departments involved in international activity and foreign assistance; support for post-conflict intervention and reconstruction is provided through at least seven different funding channels; and support for governance and democracy through at least ten programs. Overall, funding and staffing for our civilian global engagement—traditional diplomacy, public diplomacy, and foreign assistance—is inadequate. Where foreign assistance funding has grown—the Millennium Challenge Account and the HIV/AIDS program—it has led to the creation of even more new institutions, rather than better strategic integration.

As a consequence, in part, of civilian institutional weaknesses, we have asked our military organizations to perform an expanding range of foreign assistance missions normally overseen by the civilian institutions. New programs and directives have expanded the military’s mission to include reconstruction and stabilization, humanitarian assistance, foreign security force training, and even economic development. Many of these missions are outside the military’s core competence. They include programs that parallel existing programs at State and U.S. Agency for International Development (USAID), further contributing to the diaspora and inadequate coordination of foreign assistance and national security policy planning. Combined with the costs of deployments to Iraq and Afghanistan, we have doubled defense budgets to roughly $700 billion a year, seriously weakening planning and budgeting discipline in the Defense Department. The result of this trend is an overstretched military, weaker civilian capacity and a uniformed face on America’s global engagement.

The White House is seriously “under-powered” in its capacity to coordinate strategic planning and conduct oversight over foreign policy and national security. The President’s policy coordinating, oversight, and budgeting capabilities—principally the National Security Council (NSC) and the Office of Management and Budget (OMB)—are not tailored to provide integrated

**By a former government official who prefers to remain anonymous. Reviewed by Aura Kanegis, Washington Office Director, American Friends Service Committee.**
planning and coordination. The NSC lacks the institutional capacity to plan strategically and OMB lacks the personnel to effectively coordinate the national security agencies across the Executive Branch. In both the NSC and OMB, the short-term takes precedent over the long-term.

There is an urgent need to rebalance our foreign policy and national security toolkit, restructure the institutions and processes, and provide adequate funding for the civilian instruments of power.

**TALKING POINTS**

➤ Globalization and the international economy, governance, identity conflicts, transnational issues, and changing power balances are the future foreign policy and national security challenges;

➤ It is time to address and reduce the diaspora of civilian foreign policy institutions;

➤ It is important to provide adequate staffing and funding for these institutions to enable them to perform the missions we demand of them in the twenty-first century;

➤ We need to restore discipline to the defense planning and budgeting system and return authority over foreign and security assistance to the civilian foreign policy institutions; and

➤ We need to strengthen the president’s ability to coordinate and integrate national security policy, planning, and oversight.

**PREVIOUS ACTION BY THE EXECUTIVE BRANCH**

The weakening of the civilian toolkit, the institutional diaspora, expanding military missions, and the weak White House integration and coordination process have developed over time and across administrations. USAID has absorbed massive reductions in personnel while being asked to implement more programs worldwide. The U.S. Information Agency was absorbed into the State Department, diluting the nation’s public diplomacy efforts. While the State Department has not suffered the same personnel reductions or structural changes as USAID or public diplomacy, it has been asked to address an expanding agenda of challenges without parallel increases in staff.

The diaspora of foreign policy institutions has also been exacerbated over the years. The President’s Emergency Program for AIDS Relief (PEPFAR) and the Millennium Challenge Corporation (MCC) were only the latest addition to a trend begun as early as the 1960s. The post-Iraq invasion creation of a new State Department office to coordinate reconstruction and stabilization planning added to this dispersal of authority, rather than providing greater integration of the federal effort. The creation of a new State/USAID budget office—the Director of Foreign Assistance—represented a step toward greater coordination of foreign assistance, but has not been fully institutionalized or accepted by existing agencies and programs.

Boostered by greater funding and an integrated planning capability, DOD and the military have gradually assumed greater responsibility for foreign and national security policy. The stresses of the invasions and occupations of Iraq and Afghanistan and the needs of global counter-terror operations, combined with a lack of funding and flexibility in existing foreign and security assistance programs, led inexorably to an expansion of DOD programs and budgets. Funding the invasions, occupations, and program expansion through supplemental budget requests has led to a relatively uncontrolled expansion of military budgets, unconstrained by congressional oversight.

**RECOMMENDATIONS AND POLICY OPTIONS FOR 2009**

*Actions the President should take by Executive Order*

➤ Institute the first ever Quadrennial National Security Review (QNSR) within three months of taking office. This review should be coordinated by the NSC and should define a clear set of national security policy priorities;

➤ Institute a National Security Planning Guidance (NSPG) within six months. The NSPG should focus on key national security priorities and be coordinated by the NSC and OMB;

➤ Enhance capacities at NSC and OMB to execute these coordinating processes;

➤ Create new NSC directorates for foreign assistance and for fragile states/post-conflict reconstruction and stabilization with OMB support;

➤ Carry out a detailed review of U.S. strategy at the start of the administration; set clear priorities for
uses, composition, and size of the military forces, post-Iraq;

➤ Ensure the secretary of defense executes a single, integrated budget process, restoring order to the Planning, Programming, and Budgeting System (PPBS), and authority to the secretary;

➤ Review the extended DOD authorities for security and economic assistance with an eye to transferring policy and budget authority for many of these programs to the secretary of state;

➤ Appoint a second deputy secretary of state for management and resources, responsible for State/USAID management and the coordination of foreign assistance (building on the current foreign assistance budget reform). This deputy would oversee State/USAID budgeting and participate in all NSC meetings, giving foreign assistance and development a high-level voice in policy; appoint this same official as the administrator of USAID;

➤ Reform the State and USAID human resources process to recruit, train, incentivize and promote personnel who can bring in the economic, financial, technical, managerial, and strategic planning talent State needs and the program development, implementation, and evaluation skills USAID has lost;

➤ Integrate the operational responsibilities of the State Department Office of the Coordinator for Reconstruction and Stabilization into USAID, building on the existing capabilities of the latter for civil-military relations, governance, and transition support; and

➤ Appoint strategic budget planning officials in every State Department regional and functional bureau and office.

Actions the President should take requiring approval by Congress

➤ Seek legislation to institutionalize the requirement for a QNSR and NSPG;

➤ Request funds to increase State/USAID personnel by 4,700, setting them on a track for substantial growth over the next five years;

➤ Request increased funding for budget function 150 and the civilian foreign policy and national security agencies;

➤ Seek legislation to link the PEPFAR program and the Millennium Challenge Account more closely to a strengthened, adequately staffed USAID;

➤ End supplemental defense funding request for non-Iraq/Afghanistan related programs and activities; and

➤ Review and seek the transfer to State of the new portfolio of DOD authorities for security and foreign assistance programs, particularly the Section 1206 train and equip program, the counter-terrorism fellowship program, and much of the Commander’s Emergency Response Program (CERP).

ADDITIONAL RESOURCES


A Russian shipyard worker uses a cutting torch to break down a large section of a Russian Oscar Class nuclear submarine at the Little Star shipyard in Severodvinsk, Russia, May 29, 1996. Russian submarines are being dismantled with assistance from the Cooperative Threat Reduction program. (DoD photo by Petty Officer 1st Class Todd P Cichonowicz, U.S. Navy)
Moving to a World Free of Nuclear Weapons

BACKGROUND

A single nuclear weapon exploded in a large city at midday could kill hundreds of thousands of people immediately and leave millions injured or ill with radiation sickness. An exchange of tens of nuclear weapons by two nations could be a global catastrophe of unprecedented proportions. An exchange of thousands of weapons, as was once contemplated by the United States and the Soviet Union, would destroy civilized life as we know it.

Yet, for more than sixty years, and despite numerous negotiations and agreements, the nations of the world have been unable to eliminate these dangerous weapons. Indeed, in 2008, the world seems poised between two paths. On the one hand, the threat of nuclear terrorism has awakened many to the dangers of nuclear weapons and given new life to disarmament efforts. On the other hand, increasing numbers of nations are acquiring nuclear weapons (or the underlying technologies and necessary special materials) and the risk of widespread proliferation seems to be rising. These latter trends cannot continue indefinitely without severe consequences.

Existing diplomatic processes and agreements will necessitate that the new Administration deal urgently with nuclear issues. Its choices will be enormously important in determining the world’s future path. Some of the key decisions facing the new president are outlined in this paper.

TALKING POINTS

- Since 1968, the backbone of international efforts to contain the spread of nuclear weapons has been the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). Although carefully hedged, in its Article VI, five declared nuclear weapon states (China, France, the United Kingdom, United States, and the Union of Soviet Socialist Republics) pledged to eventually eliminate all nuclear weapons. (This political, if not legal, commitment was reaffirmed at the NPT review conferences in 1995 and 2000.) In return, the non-weapon signatories foreshadowed the acquisition of nuclear weapons and accepted “safeguards” on their civilian nuclear materials that would ensure that they would not be used for weapon purposes. The non-weapon states are expressing increasing irritation at what they see as the lack of progress by the nuclear weapon states toward negotiated disarmament and have threatened to scuttle the treaty. As demonstrated by North Korea in 2003, it is a simple matter for any of the states party to the treaty to withdraw from the NPT. The next review conference is scheduled for June 2010 with a preparatory committee (PrepCom) meeting in May 2009.

- Four key nations remain outside the NPT. Israel is known to have a nuclear arsenal but has never officially acknowledged it. India and Pakistan have both developed nuclear weapons, which they tested in 1998. North Korea withdrew from the NPT in 2003 and tested a nuclear device in 2006. Iran is and remains a signatory to the NPT, but has been cited for violations of the treaty, is developing a uranium enrichment process that would enable it to acquire weapon-quality nuclear materials, and once had a weapon design program.

- Diplomatic processes are underway both to dismantle the North Korean nuclear capability and to contain the Iranian program short of a weapon capability. So far, the talks with Iran do not appear to be making progress; an agreement was reached in...
the so-called six-party talks with North Korea, but its implementation has proceeded only in fits and starts. If these processes fail, there is significant risk that increasing numbers of countries will acquire nuclear weapons. In the wake of North Korea’s nuclear test, there have been renewed discussions of acquiring nuclear weapons in Japan, South Korea, and other Asian nations. As Iran’s program has progressed, new interest in nuclear technology has been expressed by Algeria, Egypt, Saudi Arabia, Turkey, and other Middle Eastern nations.

- The United States and Russia have thousands of weapons in their arsenals, 97 percent of the global total. The stockpiles of the other nuclear weapon states are much smaller: a few hundred or fewer each. Both the United States and Russia have made substantial cuts in their weapon stocks since the end of the Cold War, but have also proposed developing new types of nuclear weapons.

- During the Cold War, the United States and the Soviet Union limited the size of their respective nuclear arsenals by negotiating the SALT, and then START, strategic arms control agreements, a related treaty that prohibited the deployment of defensive Anti-Ballistic Missile (ABM) systems, and a treaty which completely banned intermediate-range missiles. These treaties include extensive verification provisions to ensure compliance. The only verification provisions still in effect are contained in the START Treaty, which expires in December 2009.

- In 1996, after more than thirty years of off-again, on-again negotiations, the 65 member Conference on Disarmament completed a Comprehensive Nuclear-Test-Ban Treaty (CTBT). Now signed by 180 nations and ratified by 146 of them, the treaty prohibits all nuclear tests and establishes a worldwide system of sensors to verify the prohibition. The treaty does not go into force, however, until 44 named countries ratify it; so far, 35 of these 44 have complied. The nine holdouts are tough cases, including China, Egypt, India, Indonesia, Iran, Israel, North Korea, Pakistan, and the United States. The U.S. Senate rejected the treaty in October 1999 by a vote of 51–48, far short of the 67 votes required for ratification. Though not enshrined in any formal document, there has been a global moratorium on nuclear tests since China’s last test in 1996, with the only exceptions being one test series each by India, Pakistan, and North Korea.

- The Bush administration disliked arms control treaties and preferred less formal controls on nuclear arsenals. It exercised the U.S. right to withdraw from the ABM Treaty in 2003 and refused to negotiate a new, formal treaty limiting offensive weapons. In the 2002 Moscow or SORT agreement, however, the United States and Russia agreed to reduce their respective number of “operationally deployed strategic warheads” to between 1700 and 2200 by the year 2012. This agreement omits any verification provisions, as well as specific definitions of “operationally deployed strategic warheads,” and also excludes thousands of shorter range and reserve warheads maintained by each side. Moreover, SORT expires on the date its agreed limits take effect.

- While stating that it would like to negotiate a new arms control treaty, Moscow has put new emphasis on nuclear weapons in its military strategy and foreign policy, apparently to compensate for the weaknesses of its conventional military forces. Russia also has complained bitterly about the U.S. withdrawal from the ABM Treaty and about U.S. intentions to deploy missile defenses, especially a planned site in Eastern Europe.

- Former Senator Sam Nunn, former secretary of state Henry Kissinger and George Shultz, and former secretary of defense William Perry rekindled interest in the goal of complete nuclear disarmament by authoring two articles in the Wall Street Journal on January 4, 2007 and January 15, 2008, embracing the goal and outlining specific measures that could be taken in the near-term to build momentum toward that objective. Nunn (through the Nuclear Threat Initiative) and Shultz (through the Hoover Institution) have continued to build support for the goal in the United States and abroad through a series of meetings and other actions, including statements of support from many former high-ranking U.S. officials. Similar articles have appeared in several European countries.

- In 2007, local and national NGOs joined forces to launch the “Campaign for a Nuclear Weapons Free World.” The Campaign coordinates efforts by its coalition partners pertaining broadly to nuclear disarmament and, specifically, to stir up grassroots support for the goal of a nuclear-free world. By September 2008, more than eighty coalition partners had joined the campaign.

A third initiative, called Global Zero, will be launched officially in December 2008. It envisions a massive public outreach campaign, including a film, internet campaign, and traditional media campaign, to build support for an initiative to persuade governments to
negotiate a treaty to eliminate nuclear weapons by a date certain. The initiative will center on three conferences, the final one, including 500 world leaders, to be held in early 2010.

PREVIOUS ACTION BY THE PRESIDENT AND CONGRESS

For the most part, the Bush administration has sought to downplay the role of nuclear weapons in U.S. foreign policy, though it has been unsuccessful in conveying this position to much of the world. Its Nuclear Posture Review was completed at the end of 2001 and revamped U.S. doctrine to elevate the role of defenses in U.S. strategy and to open the possibility of utilizing conventional weapons in place of nuclear weapons for offensive strike missions. It also reduced significantly the size of the U.S. arsenal; under current plans, the U.S. stockpile will be halved by 2012 as compared to its size in 2000. At the same time, the administration has tried to modernize the U.S. nuclear infrastructure, indicating a continuing interest in maintaining weapons indefinitely and to develop two new types of nuclear weapons: during its first term, it sought to develop a low-yield, earth-penetrating warhead that could be used against such underground targets as command centers; more recently, it sought to develop a Reliable Replacement Warhead (RRW) to hedge against the failure of existing warheads.

Over the last eight years, the Congress has expressed similar ambivalence. On the one hand, it repeatedly turned down or reduced requests for funds for new warheads and for modernizing the nuclear infrastructure. On the other hand, it repeatedly delayed or cancelled plans to demobilize U.S. nuclear bombers and missiles.

RECOMMENDATIONS FOR 2009

There will be a great deal on the president’s plate at the outset of the term, but nuclear issues require urgent action if the proliferation problem is to be contained and the world moved toward the goal of complete nuclear disarmament. Many things can be initiated by the executive branch alone, but the Congress’ approval will be required at some point, so it would be prudent to keep congressional leaders informed throughout.1

Executive Actions (listed in priority with respect to nuclear risks)

➤ **Iran and North Korea.** If efforts to reverse these two nations’ moves to acquire nuclear weapon capabilities are not successful, it will be difficult to gain political support for any additional measures to contain proliferation and to move toward a nuclear weapon free world. Consequently, these negotiations should be given the highest priority and the administration needs to consider changes in the current U.S. positions that might make progress feasible. Policies toward each of these countries are discussed in separate briefing papers.2

➤ **Internal review.** Before discussions with Russia about possible reductions in the two countries’ nuclear forces, it is essential to conduct an internal review of the purposes of U.S. nuclear weapons and the resulting force structure. Without such a review, it would be difficult to gain the support of U.S. military leaders for any significant cuts from currently planned force levels—whether taken unilaterally or as part of an agreement with other nations. If the administration’s goal is to reduce and eventually eliminate nuclear weapons, the review should make clear that the only purpose of U.S. nuclear weapons is to deter the use of nuclear weapons by others and, therefore, that if all nations eliminated their weapons, the United States could do so safely, as well. The review would also have to show either how additional missions currently planned for nuclear forces could be carried out by other types of forces or were no longer required.3

➤ **Russia.** Russia shares the United States’ interest in preventing nuclear terrorism and containing proliferation, but the deteriorating political relationship between the two countries makes progress on these common goals difficult. Presuming that the new administration will want to reverse the slide toward

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1. Existing legislation, first expressed in the 1961 Arms Control and Disarmament Act, requires congressional approval of any obligatory agreement to reduce the size of U.S. nuclear forces; similarly, reducing forces unilaterally requires appropriations that provide levers for congressional opponents.

2. Please see the chapters on Iran and North Korea chapters in this volume.

3. A congressionally mandated commission will be reporting on this same subject early next year. However, the composition of the panel makes it unlikely that it will be able to report a clear consensus.
new Cold War, it should seek a broad dialogue with Russian leaders on both points of contention and shared interests. Among the latter, the United States should seek Russia’s consent to extend the START agreement so that its verification provisions may be preserved while negotiations are underway for deeper reductions in the two sides’ nuclear arsenals. For its part, Russia may seek a more formal agreement than the existing Moscow Agreement, as well as discussions about missile defenses. Given precedents in existing treaties, it might be possible (assuming a cooperative relationship) to negotiate a new formal arms control treaty in a year or two. Alternatively, if Russia were persuaded of the need to move quickly because of the risk to the NPT, the Moscow Agreement might more easily be amended to incorporate START verification provisions, specific definitions of “operationally deployed warheads,” and lower numbers. On the defense side, the administration may wish to explore in NATO the possibilities for walking back plans to build a third site in Europe and to begin talks with Russia about cooperative, multi-national missile defenses.4

➤ **NPT Review PrepCom.** At the preparatory conference in May 2009, the administration should begin soundings on the priorities of the non-weapon states to avoid a confrontation at the review conference in 2010. The views of such key countries as Brazil, Egypt, Japan, South Africa, and others should be sought on the importance ascribed to deeper reductions in U.S. and Russian arsenals and to CTBT ratification, as well as their response to an initiative to begin negotiations for a treaty to eliminate all nuclear weapons by a date certain.

➤ **Dialogue with major nuclear nations.** Either during or after the NPT PrepCom, but in any case following consultations with the United Kingdom and France, the administration should begin a dialogue with each of the great powers with nuclear weapon capabilities—China, India, and Russia—concerning the possibility of beginning negotiations for a treaty to eliminate all nuclear weapons. These preliminary soundings could outline the possible elements of such a negotiation, questions of venue and timing, which nations should be involved, and how these talks might be related to other ongoing discussions and agreements. Nothing would strengthen the position of the nuclear weapon states at the NPT Review Conference in 2010 as much as if they were prepared to announce the beginnings of negotiations to fulfill their commitment in Article VI to eliminate nuclear weapons.5

**Actions involving the Congress**

Unless and until the discussions recommended above result in signed agreements, congressional action is not necessary; early involvement of congressional leaders is recommended, however, so as to facilitate eventual passage of those agreements when they are placed on the legislative calendar.

➤ **CTBT.** The next administration should take soundings early to determine the price that would have to be paid to secure ratification of the CTBT. There has been considerable turnover in the Senate since the treaty was rejected and both the international and domestic political environments are greatly changed. Still, the price of ratification may be too great relative to the gain. One question concerns whether the treaty is verifiable; that was the main reason cited for its rejection by the Senate ten years ago. Given technological progress, this is no longer a serious issue, if it ever was. Initiating a non-partisan commission to examine this question might be a useful way to put it to rest. Another demand that is likely to be raised by opponents, however, is the need to modernize the U.S. nuclear infrastructure, including developing the RRW. Agreement to such a plan would secure ratification, but could be taken by the world community as a sign that the United States intends to maintain its nuclear arsenal indefinitely and therefore undermine efforts to negotiate a disarmament treaty and to strengthen the NPT. A judgment will have to be made, therefore, weighing the price of ratification against the risks of seeking to maintain the moratorium on testing in the absence of formal ratification.

➤ **Force structure needs.** If the next administration intends to make significant reductions in U.S. nuclear forces, either unilaterally or together with the Russians, it would be prudent to begin discussions with key congressional leaders from both parties early in

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4. Such discussions were held during the administration of George H.W. Bush and made considerable progress.

5. Israel and Pakistan are nuclear weapon states that present special problems. They clearly will have to be consulted on this issue but may choose not to take part in the negotiations at the outset. If the disarmament talks proceed and make progress, consideration will have to be given to the security assurances that might be proffered to each of these nations to persuade it to join the nuclear disarmament process.
the process. In addition to key committee chairs and ranking members, representatives whose districts would be affected by weapon demobilizations should be consulted and offered compensation through other federal programs.

Congressional Disarmament Advisory Committee. In the 1980s, an informal Senate “observers group” was established to work with the administration on arms control matters. Members were briefed frequently on the administration’s thinking and often observed the actual negotiations. Reactivation of such a group, this time including House members, would be an excellent idea given the wide range of nuclear-related negotiations and possible agreements outlined in this agenda.

 ADDITIONAL RESOURCES

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Publications


Taking Nuclear Forces Off Day-to-Day Alert

BACKGROUND

At the end of the Cold War, both the United States and Russia retained their nuclear operational practices that kept about one-third of their strategic forces on launch-ready alert. They still have not been stood down, which means that today these forces could still be fired within a couple of minutes after the order to launch them is issued. Both former rivals thus continue to possess the capability to initiate a sudden large-scale attack by missiles whose flight times to targets anywhere in the world would range from twelve to thirty minutes after launch. If either of these ex-rivals is the target of such a sudden first strike, it is fully prepared to rapidly fire a large-scale retaliatory strike soon after detecting the opposing missiles during launch and flight. The procedure for “launch-on-warning” strives to detect an enemy missile strike in progress, assess the attack, decide upon a retaliatory response, and implement the response in less time than the enemy missiles need to reach their targets. Launch on warning thus requires a warning, decision, and execution process under a deadline of less than the twelve to thirty minutes in circumstances of dire threat and stress, whether the incoming attack indicators are true or false.

This launch-ready posture—reflecting vestigial presidential directives on both sides requiring their forces to be prepared to fight a large-scale nuclear war with each other on a moment’s notice—carries significant risk. It creates the distinct possibility of leaders misreading a situation and making fateful bad calls. The tight timelines at all levels of the chain of command do not allow adequate margins for technical malfunctions or human error in the early warning network, the decisionmaking apparatus, and the executing forces.

The hair-trigger configuration of the missiles themselves—missiles that are armed, fueled, targeted, and ready to fly instantly upon receiving a short stream of computer signals—creates an irreducible risk of accidental launch, and a larger risk that unauthorized actions from within or without the nuclear command system, including actions by cyberterrorists, could spark a nuclear strike and nuclear war.

The U.S. and Russian nuclear arsenals should be reciprocally de-alerted in order to buy a real margin of safety against inadvertent or unauthorized nuclear strikes, to eliminate the threat of sudden deliberate attack, to align their nuclear arsenals with the normalization of their relations after the end of the Cold War, and to take a serious step toward the elimination of nuclear weapons as required by their obligation under the Treaty on the Non-Proliferation of Nuclear Weapons.

A Dangerous Legacy

Because of this legacy posture of launch-ready forces and reliance on launch-on-warning by both the American and the Russian sides, the nuclear command systems from top to bottom—from the presidential level to the field commanders in underground launch centers and submarines—operates in a quasi-automatic mode. There is little or no scope for rational deliberation, and national leadership. The timelines and complex operations needed to execute a coherent plan involving thousands of nuclear weapons reduce the decision process to reflexes, rote decisionmaking, and checklists. This tightly wound and checklist driven process possesses, on a given normal peacetime day, the ability to unleash within minutes an extreme amount of firepower: 2,300 high-yield nuclear warheads (roughly equally divided between U.S. and Russian forces), or the explosive equivalent of approximately 100,000 Hiroshima-size bombs.

By Bruce Blair, President, World Security Institute, and Victoria Samson, Senior Analyst, Center for Defense Information.

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The history of the Cold War records a spate of nuclear false alarms, a number of which were quite serious and brought the world to the brink of accidental nuclear war. The most recent example, if the public record is complete, involved a U.S. research rocket launched in January 1995 from an island near Norway that caught Russia by surprise. Initially fearing that it could be a missile launched by a U.S. submarine to decapitate Moscow, Russia’s “nuclear suitcase” was activated for the first time and the retaliatory launch procedure begun, until Russia’s ground radar network determined that the rocket was not a threat. This potential for mistakes still exists, given the decrepit state of Russian early warning systems (though they are being modernized), and the situation in certain respects is becoming more dangerous. As additional nuclear states and weapons proliferate around the world, they will present more chances of command and early warning system failures in their own as well as other nations’ systems.

Even with the decades of experience in managing nuclear forces, the United States has made some serious mistakes lately in controlling its nuclear arsenal. In August 2007, a B-52 bomber accidentally flew across the United States with six nuclear-armed cruise missiles: for 36 hours, no one even noticed that they were missing. In March 2008, it was reported that the United States had accidentally shipped to Taiwan four fuses intended for nuclear warheads two years earlier, and hadn’t realized the extent of the mistake until Taiwan brought it to the Defense Department’s attention.

Partially as a response to the deterioration of the U.S. Air Force’s nuclear command and control, in June 2008, Secretary of Defense Robert Gates fired Secretary of the Air Force Michael Wynne and Air Force Chief of Staff Gen. T. Michael Moseley, saying that the two incidents characterized “a degradation of the authority, standards of excellence, and technical competence within the nation’s ICBM force.”

A new concern has arisen about nuclear command and control: the prospect of a cyber-attack. Cyber intrusions are becoming more common and have even moved into the playbook for conventional warfare (witness the cyber-attacks on official Georgian computers prior to Russia’s offensive in South Ossetia and Georgia in August 2008). Keeping nuclear weapons on hair-trigger alert implies an absolute faith in the computer security safeguards on these weapons, and in the early warning data that decision-makers receive—unwarranted or at least unproven leaps of faith in an era of increasingly sophisticated cyber-penetration.

**A Precedent for Action**

De-alerting U.S. nuclear forces has occurred before. President George H.W. Bush unilaterally de-alerted a large portion of the U.S. strategic arsenal in September 1991, by deciding to fully stand down all of the alert U.S. strategic heavy bombers (downloading their nuclear arms and placing them in storage) and 450 Minuteman II missiles and many Poseidon submarine-launched ballistic missiles. This move was quickly followed by comparable steps in Russia at the direction of President Mikhail Gorbachev.

There is a groundswell of support for removing nuclear forces from launch-ready alert. In a pair of *Wall Street Journal* op-eds by former Secretaries of State George Shultz and Henry Kissinger, former Secretary of Defense William Perry, and former Senate Armed Services Chairman Sam Nunn (“A World Free of Nuclear Weapons,” Jan. 4, 2007; and “Toward a Nuclear-Free World,” Jan. 15, 2008), these former cold warriors called for taking nuclear weapons off of hair-trigger alert. In 2007, they called for “Changing the Cold War posture of deployed nuclear weapons to increase warning time and thereby reduce the danger of an accidental or unauthorized use of a nuclear weapon.” A year later, drawing on the analysis provided them by the author, they called upon the leaders of the U.S. and Russia to “Take steps to increase the warning and decision times for the launch of all nuclear-armed ballistic missiles, thereby reducing risks of accidental or unauthorized attacks.”

**TALKING POINTS**

➤ The end of the Cold War warranted, but did not lead to, the removal of strategic nuclear arsenals from launch-ready alert. This step is long overdue, as are related safety and security steps needed to eliminate the risks of inadvertent or unauthorized nuclear weapons release.

➤ Keeping large numbers of nuclear weapons on launch-ready alert is “overkill.” U.S. and Russian deterrence requirements, realistically assessed, no longer demand reliance on hair-trigger postures. These postures unnecessarily harm U.S. and international security by creating real risks of unauthorized or accidental launches, and otherwise undermining the rational and secure management of nuclear operations, for the sake of an outdated purpose.

➤ Launch-on-warning is a vestige of the Cold War that is not aligned with modern political relations.
between the former nuclear adversaries, and it sets a poor example for other nations to follow. The global ramifications of other nations following our lead and adopting launch-ready postures are ominous.

➤ The United States and Russia came too close to accidental war on too many occasions during the Cold War, owing to the pressure-packed timelines of warning and decisionmaking under policies of launch-on-warning. Observing that U.S. nuclear command and control routinely experiences critical failures, it behooves the next administration to take actions that buy additional protection from such failures, and to seek reciprocal actions by all nuclear weapons states in order to minimize chances for launching on false warning or unauthorized actions.

➤ Limited de-alerting occurred shortly after the Cold War ended and helped to increase transparency and goodwill between the United States and Russia. Restarting the de-alerting process could strengthen U.S.-Russian relations at a time of strain in the relationship. If all strategic missile forces are taken off of launch-ready alert, removing the threat of a offensive nuclear first-strike, then the threat projected by U.S. missile defenses in Europe would decline.

PREVIOUS ACTION BY THE PRESIDENT AND CONGRESS

George W. Bush spoke about the need to de-alert in a campaign speech made in May 2000. He said, “The United States should remove as many weapons as possible from high-alert, hair-trigger status—another unnecessary vestige of cold war confrontation… For two nations at peace, keeping so many weapons on high alert may create unacceptable risks of accidental or unauthorized launch. So, as president, I will ask for an assessment of what we can safely do to lower the alert status of our forces.” However, he never followed through on this campaign promise. De-alerting was not part of President Bush's 2002 Nuclear Posture Review, for example.

In fact, the alert status of U.S. nuclear forces has become such a non-issue for the Bush administration that Christina Rocca, the U.S. representative to the United Nations Conference on Disarmament, told the other delegates in October 2007, "U.S. nuclear forces are not and have never been on hair-trigger alert."

Congress has not been any more active on this issue. In August 1999, Representative Edward Markey (Democrat of Massachusetts) sponsored a sense of Congress resolution that the United States and Russia should take their nuclear weapons off of hair-trigger alert. Nothing has happened, in terms of legislation, since then.

RECOMMENDATIONS FOR 2009

There are two near-term efforts for de-alerting that should be followed in 2009, and two recommendations that may take longer to implement but whose groundwork should be laid in 2009. In the near-term:

1. Coordinate the mutual elimination of launch-on-warning from the U.S. and Russian nuclear command system operating procedures.

2. Take the nuclear weapons themselves off of hair-trigger alert by isolating land-based nuclear missiles from external launch control, and by separating critical launch components from nuclear submarine missile tubes. Both of these moves could be reversed in a day, should the need arise. In the meantime, they could be verified to increase transparency and trust between the United States and Russia.

In the longer term:

3. Coordinate with Russia the separation of nuclear warheads from their delivery vehicles, placing the two in separate and heavily-protected positions, and strive to do this by the end of 2012 (which is when nuclear reductions that are part of the 2002 Moscow Treaty are supposed to be completed).

4. Over the next four to six years, move all deployed nuclear warheads to central storage facilities in the United States and Russia, and institute stringent monitoring and verification of these moves.
ADDITIONAL RESOURCES

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Publications


START I and Future Nuclear Weapons Reductions

BACKGROUND

The landmark 1991 Strategic Arms Reduction Treaty (START) provides a legally binding basis for substantial, verified reductions in the U.S. and Russian strategic nuclear arsenals. START codifies the end of the Cold War nuclear competition, reduces the real and immediate danger associated with the retention of excess nuclear weapons, and provides both sides with legal rights built to endure future political disputes to verify the other's compliance. However, START will expire in late 2009, leaving the future of nuclear arms reduction verification subject to the uncertainties of future international politics. The United States must work expeditiously with Russia to negotiate and conclude a new strategic arms reduction agreement that achieves deeper reductions in warheads and delivery systems and increasingly effective, legally binding provisions for verification and transparency.

START slashed strategic nuclear forces from 1990 levels of approximately 10,000 deployed warheads on each of the two sides to no more than 6,000 warheads apiece by December 5, 2001. The accord also limits each side to 1,600 strategic delivery vehicles (land- and submarine-based ballistic missiles, plus heavy bombers) and mandates the destruction of most excess delivery systems. In addition, START established a far-reaching system of notifications and inspections that provides an accurate assessment of the size and location of each state’s forces.

START also prohibits interference with national technical means of intelligence, operating in a manner consistent with the recognized principles of international law. START bans the use of concealment measures that impede verification by national technical means. National technical means are buttressed by a system of cooperative measures, which make it easier for satellites to monitor the locations and numbers of strategic forces. START further bans most forms of telemetry encryption during flight tests of ICBMs and SLBMs, which provides additional confidence that such tests are not being used for illegal purposes. Finally, START provides agreed procedures for the conversion or elimination of delivery systems. A special system of notifications in numerical and geographical constraints helps control the numbers and locations of mobile ICBMs. Although the United States and Russia reached the START-mandated weapons ceilings in 2001, START still provides a channel through which U.S. and Russian military leaders, bureaucrats, and experts can communicate, allowing them to discuss particular issues and settle disagreements. It provides U.S. and Russian political leaders with predictability and transparency about how each will handle the world’s largest and most deadly nuclear arsenals.

CURRENT STATUS

Since 2007, U.S. and Russian officials have held meetings to discuss the future of START. Unfortunately, these talks have not yet succeeded in reaching an agreement on the future of START, which is due to expire on December 5, 2009, unless extended by mutual agreement or superseded by a new strategic nuclear weapons agreement.

John Rood, acting undersecretary of state for arms control and international security, told a May 21, 2008 Senate Committee on Foreign Relations hearing that both Russia and the United States “do not wish to simply continue the existing START.”

The inability to develop a common future strategy for START is nothing new. Since START was negotiated and signed, efforts to ratify and implement the

By Daryl G. Kimball, Executive Director, Arms Control Association. Reviewed by Douglas Shaw, Associate, Booz Allen Hamilton
follow-on START II of 1993 and plans to begin formal talks on a START III framework agreement have been sidetracked by differences between Washington and Moscow on other issues, primarily missile defenses. Instead of START II or START III, the United States and Russia agreed to the useful but very inadequate Strategic Offensive Reductions Treaty (SORT) in May 2002, which calls for deeper reductions in operationally deployed strategic warheads to 1,700 to 2,200 each by the year 2012.

Unlike START, SORT does not establish any limits on strategic nuclear delivery systems, nor does it mandate the destruction of those delivery systems. Excess warheads may be stored, and no new verification mechanism was established. Making matters worse, the two sides were unable to agree on a common system for monitoring compliance with the limits on deployed warheads and the treaty expires on the day its limitations take effect.

Today, the United States and Russia deploy some 3,000 to 4,000 strategic nuclear warheads, many of which are on a high level of alert. Each side stores thousands of additional strategic and sub-strategic nuclear warheads, many of which could potentially be redeployed within weeks or months. The United States cannot be certain about Russia’s current number of deployed strategic warheads because SORT did not establish a common set of counting rules.

TALKING POINTS

➤ Partly as a result of this history of missed opportunities and nuclear policy inertia, as well as Russian concerns about potential U.S. strategic missile capabilities, the United States and Russia are not true allies, and mutual suspicions linger.

➤ START continues to serve as an important foundation for deeper, faster, and irreversible reductions in U.S. and Russian arsenals. Further verifiable reductions in warheads and delivery systems are essential if we are to head off renewed U.S.-Russian strategic competition and reduce the dangers posed by these excessive, obsolete, and deadly arsenals.

➤ The shortcomings of SORT and the failure of Washington and Moscow to achieve verifiable and “irreversible” nuclear reductions has reinforced the view among the majority of non-nuclear weapon states that the five original nuclear weapon states parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) do not intend to pursue their NPT-related nuclear disarmament commitments.

➤ In the absence of the START verification and monitoring regime, the U.S. intelligence community’s ability to monitor strategic nuclear weapons holdings would be significantly hindered.

➤ The loss of START would compound the existing tensions between Washington and Moscow over U.S. plans to install missile interceptors in Poland, as well as Russian worries that the United States might redeploy its reserve nuclear forces and utilize leftover nuclear delivery systems for conventional strike missions.

PREVIOUS ACTION BY THE PRESIDENT AND CONGRESS

U.S. and Russian experts began discussions in March 2007 on follow-on measures to START, but the two sides were unable to bridge differences on several core issues. Russia favors negotiating a new treaty that would reduce strategic nuclear warheads to less than 1,500 each using START counting rules and also set limits on delivery systems. The Bush administration had sought further weapons limits and has agreed to SORT-like legally binding transparency and confidence building measures.

Key Republican and Democratic lawmakers believe that the United States and Russia must make further progress on legally binding strategic nuclear reductions. In January 2008, Sen. Richard Lugar (Republican of Indiana) said: “Presidents Bush and Putin must extend the START Treaty’s verification and transparency elements… and they should work to add verification measures to the Moscow Treaty.”

Vice President-elect Joseph Biden wrote in a March 2008 Wall Street Journal op-ed that, “losing the transparency and stability these treaties provide would be a monumental failure for the U.S. and Russia.” Presidents Bush and Putin, he wrote, have “largely abdicated these responsibilities. Their successors will have to act immediately to revitalize both accords.”

In June 2007, 28 key members of the House of Representatives urged action to extend START and achieve deeper reductions. Representatives Ellen Tauscher (Democrat of Illinois, Ike Skelton (Republican of Missouri), and others urged President Bush to “…carefully consider extending START in its current form in order to enable your and
President Putin’s successors to negotiate a new legally binding agreement that achieves greater, verifiable reductions in each nation’s nuclear forces.”

In their bill S. 1977, Senators Barack Obama (Democrat of Illinois) and Chuck Hagel (Republican of Nebraska) called for “…taking further steps to achieve deeper, verifiable reductions in global nuclear arsenals and their means of delivery; initiating talks with the Government of the Russian Federation to reduce the number of non-strategic nuclear weapons and further reduce the number of strategic nuclear weapons in the respective nuclear stockpiles of the United States and the Russian Federation in a transparent and verifiable fashion…; taking measures to reduce the risk of an accidental, unauthorized, or mistaken launch of nuclear weapons, including by considering changes in the alert status in U.S. and Russian forces and rapidly completing the Joint Data Exchange Center….”

In a May 27, 2008 speech, Senator John McCain (Republican of Arizona) said: “I believe we should reduce our nuclear forces to the lowest level we judge necessary, and we should be prepared to enter into a new arms control agreement with Russia reflecting the nuclear reductions I will seek. Further, we should be able to agree with Russia on binding verification measures based on those currently in effect under the START Agreement, to enhance confidence and transparency.”

**RECOMMENDATIONS FOR 2009**

The United States must work expeditiously with Russia to negotiate and conclude a new strategic arms reduction agreement before START lapses. To do so, their respective presidents should declare in early 2009 that they intend to work together to negotiate a new “START plus” treaty that puts each nation on course to achieve far deeper, verifiable, and legally-binding reductions in each nation’s nuclear warheads and missile forces, with the goal of completing the new agreement by 2010.

If necessary, the two presidents should announce that they will extend START until they can conclude negotiations on the new START-plus agreement as allowed for in Article XVIII paragraph 2 of START, which allows
for the two parties to extend the treaty “for a period of five years unless it is superseded before the expiration of that period by a subsequent agreement on the reduction and limitation of strategic offensive arms.”

A new “START-plus” agreement must tackle four key objectives:

➤ Mutually acceptable ceilings on the number of delivery systems and the warheads that they carry according to common and verifiable counting rules, down to 1,000 warheads each by 2015 or earlier;

➤ Ensuring that non-deployed warheads are not available to quickly increase the size of either nation’s deployed strategic stockpile;

➤ Establishing a streamlined START-style verification protocol; and

➤ Accounting for any strategic ballistic missiles that are converted from a nuclear to a conventional, “prompt global strike” mission.

The two presidents must agree not to allow other difficult bilateral issues stall the START negotiations, including NATO expansion, U.S. missile interceptors and radars in Europe, the Conventional Forces in Europe Treaty, and disputes in Balkans and the Caucuses. These political difficulties vividly demonstrate the necessity of an explicit and legally-binding agreement to insulate the nuclear arms reduction process. Conversely, a new START-plus agreement is essential to ensuring strategic stability and to increase the likelihood of resolving other challenging bilateral issues with Moscow.

As the two sides’ strategic arsenals shrink, the United States and Russia should apply further limits on the number of warheads held in reserve, and implement joint measures to reduce the alert levels of deployed forces. The two sides should also account for and agree to scrap Russia’s residual arsenal of at least 1,300 sub-strategic nuclear warheads, as well as the smaller U.S. stockpile, which includes an estimated 150–240 warheads stationed at six bases in five European NATO countries.

The “START plus” process should explicitly envision the future inclusion of the other states that possess nuclear weapons and key non-nuclear weapons states in a globally inclusive and transparent process of nuclear arms and threat reduction. The negotiators should take particular note of the British efforts to explore new technologies for the verification of nuclear arms reductions. The bilateral nuclear arms reduction process is integral to the NPT and all international efforts to prevent the spread of nuclear weapons.

**ADDITONAL RESOURCES**

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**Publications**


BACKGROUND

President John F. Kennedy truly feared that nuclear weapons would inherit the earth. Speaking in March 1963, he stated, “I am haunted by the feeling that by 1970 unless we are successful [in implementing a test ban treaty], there may be ten nuclear powers instead of four, and by 1975, fifteen or twenty...” If such proliferation had taken place, it is likely there would be more than twice as many nuclear weapon states today. In 2004, Mohamed ElBaradei, the director general of the International Atomic Energy Agency, asserted that there were more than 40 states in the world that could build nuclear weapons if they so chose. Such a development would have created a horrific international security situation with the risk that every conflict would carry the potential of going nuclear. Further it would be impossible to keep nuclear weapons out of the hands of terrorist organizations because they would be so widespread.

Fortunately, such nuclear weapon proliferation has not happened: beyond the five nuclear weapon states recognized by the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) only four countries have acquired nuclear weapons since 1970: India, Pakistan, Israel and North Korea and the programs of two of those four—India and Israel—were well along by 1970. The principal reason that such proliferation did not occur was the entry into force of the NPT in 1970, along with the Cold War extended deterrence policies of the United States and the Soviet Union.

But the NPT did not come as a free gift to the five nuclear weapon states from the rest of the world; rather it is a strategic arrangement founded on a basic bargain. That bargain was, and is, nonproliferation in exchange for the sharing of peaceful nuclear technology and nuclear disarmament. Since the 1960s, a comprehensive test ban has been recognized as an essential element of the nuclear weapon states’ NPT disarmament obligations. It was included in the preamble of the NPT. NPT Review conferences several times over the years failed because of disagreement over this issue. When the NPT was made a permanent treaty in 1995, the principal price for the NPT nuclear weapon states’ was a recommitment to conclude a test ban by 1996.

After three years of U.S.-led negotiations at the Conference on Disarmament, the Comprehensive Nuclear-Test-Ban Treaty (CTBT) was opened for signature in September 1996. The treaty establishes a prohibition on all nuclear weapon test explosions in any environment. It mandated the establishment of a global network of 321 monitoring stations, allows for the use of national intelligence data to flag potential violations, and upon entry into force it allows for short-notice on-site inspections. The treaty will enter into force when a set of 44 specific states sign and ratify. Today, 180 countries have signed the CTBT, and 146 countries have ratified. There remain nine key states that must still ratify to achieve entry into force, including the United States.

Following the suspension of U.S. nuclear testing in 1992 (via a congressional moratorium), the Department of Energy embarked upon a robust stockpile stewardship program to maintain the safety, security, and reliability of the remaining types of U.S. nuclear warheads in the absence of nuclear testing.

As the U.S. National Academy of Sciences (NAS) reported in July 2002, the United States “has the technical capabilities to maintain confidence in the safety and reliability of its existing nuclear-weapon stockpile under [a test ban], provided that adequate resources are made available to the Department of Energy’s nuclear-weapons complex and are properly focused on this task.”
Indeed, the Energy Department has determined each year for the last decade that the U.S. nuclear arsenal remains safe and reliable without nuclear testing.

According to the NAS panel, which included three former lab directors, age-related defects mainly related to non-nuclear components can be expected, but nuclear testing “is not needed to discover these problems and is not likely to be needed to address them.” Rather, the panel says, the key to the stewardship of the arsenal is a rigorous stockpile surveillance program, the ability to remanufacture nuclear components to original specifications, minimizing changes to existing warheads, and non-explosive testing and repair of non-nuclear components.

**PREVIOUS EXECUTIVE BRANCH AND CONGRESSIONAL ACTION**

For two years after the CTBT was transmitted to the Senate in 1997, the Republican-led Senate Foreign Relations Committee stymied all debate on the treaty. But then, in September 1999, the Republican Senate leadership agreed to a short debate and a vote. Despite the lack of time usually necessary to win support for a treaty, Democratic Senate leaders agreed.

Not surprisingly, on October 13, the Senate fell short of providing the 67 votes necessary for ratification and it rejected the treaty by a vote of 51-48. Without the benefit of a months-long, high-profile White House campaign in favor of the CTBT, treaty proponents were unable to effectively counter the outdated arguments against the treaty. Senator John Warner (Republican of Virginia), the former Chairman of the Senate Armed Services Committee noted shortly after the vote, “much of the confusion [about the treaty] is based on misconceptions and wrong information.”

In November 1999, the Clinton administration informed other governments that it would continue to abide by the CTBT and would continue to work toward its ratification. Since taking office in 2001, the Bush administration has not supported CTBT entry into force. Today the CTBT remains on the executive calendar of the Senate Foreign Relations Committee.

Partially in response to U.S. policy on the CTBT, some of the nine countries essential to CTBT entry into force that have signed the CTBT, such as China and Israel, have delayed their ratification processes. Others, including India and Pakistan, have yet to sign the treaty and are unlikely to do so unless the United States, China, and perhaps other holdouts, finally ratify.

**TALKING POINTS**

- **The CTBT is overwhelmingly in the security interests of the United States.** The United States currently has a significant advantage over Russia and China, and indeed the rest of the world, in terms of the sophistication of its nuclear arsenal and the depth of knowledge related to nuclear weapon technology possessed by its nuclear scientists. This advantage was developed through more than 1,000 nuclear explosive tests—greater than the combined total of nuclear tests conducted by the rest of the world—and translates into a United States nuclear deterrent of unmatched effectiveness.

- **The CTBT is effectively verifiable.** When the combination of existing national means of intelligence, as well as the Comprehensive Nuclear-Test-Ban Treaty Organization’s global network of monitoring stations, plus the option of on-site inspections are taken into account, no would-be cheater could conduct a nuclear weapon test explosion underground, underwater, or in the atmosphere without a high risk of detection.

- **The CTBT is a vital disarmament and nonproliferation instrument.** By prohibiting all nuclear test explosions it impedes the ability of states possessing nuclear weapons to field new and more deadly types of warheads, while also helping to prevent the emergence of new nuclear-armed states.

- **Moving forward on the CTBT is also an essential step towards restoring confidence in the beleaguered NPT regime.** The nuclear weapon states’ commitment to achieve the CTBT was a crucial part of the bargain that won the indefinite extension of the NPT in 1995 and the 2000 NPT Review Conference document.

- **Given the U.S. signature of the CTBT and its ongoing test moratorium policy, the United States complies with most CTBT-related constraints.** Yet Washington’s failure to ratify has diminished its ability to prod other nations to join the Treaty and refrain from testing. At the same time, there is no technical or military requirement—nor is there any political support—for renewed U.S. testing for new nuclear warheads or for any other reason.

- **The CTBT is also needed to help head-off and de-escalate regional tensions.** Ratification by Israel,
Egypt, and Iran would reduce nuclear weapons-related security concerns and bring those states further into the nuclear nonproliferation mainstream. Action by Israel to ratify could put pressure on other states in the regions to do so. Iranian ratification would help address concerns that its nuclear program could be used to develop and deploy deliverable nuclear warheads. Likewise, North Korean accession to the CTBT would help demonstrate the seriousness of its commitment to verifiably dismantle its nuclear weapons program through the six-party process. The ongoing India-Pakistan nuclear arms race could be substantially slowed to the benefit of both countries if they signed and ratified the CTBT or agreed to an equivalent legal instrument.

The CTBT would help limit the nuclear-weapons development capabilities of the established nuclear-weapon states. For instance, in the absence of a permanent CTBT, China and Russia might test in order to make certain refinements in their nuclear arsenals. With further nuclear testing China might be able to reduce the size and weight of its nuclear warheads, which would make it easier to add multiple independently targetable re-entry vehicles to its strategic arsenal if it wanted to do so. This could dramatically increase the number of nuclear warheads China could deliver. In addition, India and Pakistan could use further testing to perfect boosted fission weapons and thermonuclear weapons, greatly increasing the destructive power of their arsenals.

The absence of CTBT entry into force also means that the full range of verification and monitoring tools, confidence building measures, and the option of on-site inspections, are not available to help strengthen the international community’s ability to detect, deter, and if necessary respond to possible nuclear testing.

This crater at the Nevada Test Site is 1,280 feet wide and 322 feet deep. It was created by the July 6, 1962, Sedan test, a 104 kiloton device buried 635 feet underground as part of the Atomic Energy Commission’s Project Plowshare to study potential excavation techniques using nuclear weapons. The explosion ejected 12 millions tons of rock and earth into the air, 8 million of which fell outside the crater. The vehicles near the lip of the crater at right show the scale.

(Photo courtesy of National Nuclear Security Administration, Nevada Site Office)
RECOMMENDATIONS AND POLICY OPTIONS FOR 2009

If the new U.S. president is fully committed to the CTBT, he should:

➤ Publicly state his support for the continuation of the U.S. nuclear test moratorium and for U.S. CTBT ratification at the earliest possible date;

➤ Appoint a special, senior CTBT coordinator, backed with substantial interagency support and resources,

to begin a bipartisan dialogue on the CTBT with the Senate; and

➤ Initiate a review of key technical issues relating to the CTBT to establish how the ability of the United States to maintain its nuclear arsenal has improved since 1999 and to document how technical advances have improved the ability to monitor and verify CTBT compliance.

ADDITIONAL RESOURCES

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Arms Control Association CTBT Resources Page <www.armscontrol.org/subject/45/date>.

Publications


The U.S. nuclear arsenal and the policies that govern its size and composition are at a critical crossroads. The new president faces important decisions about the size of the U.S. nuclear arsenal, decisions that will influence and in turn be influenced by nonproliferation and foreign policy objectives and by growing pressures on the federal budget.

BACKGROUND

“Complex Transformation” (formerly known as Complex 2030) is the Department of Energy’s (DOE) proposal for a systemic overhaul of U.S. nuclear weapons facilities. The DOE’s vision includes a stream of new nuclear weapons designs and warheads, involving a host of new and modernized plants. The DOE has held two sets of public hearings around the country seeking input through the Environmental Impact Statement (EIS) process. During the first set of hearings in late 2007, nearly 33,000 individuals submitted comments. The DOE was stunned by the response.

When the DOE released its Draft Programmatic EIS in early 2008, more than 120,000 comments were submitted. The vast majority raised questions about the timing and wisdom of moving forward with an expanded production capability shortly before the election of a new president, a decision that would sharply circumcribe the president’s ability to reorient U.S. nuclear policy. The hearings, most of which were near DOE nuclear weapons facilities, represent a public referendum on current weapons policy and a strong show of support for U.S. compliance with Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

Reliable Replacement Warhead

The centerpiece of Complex Transformation is the Reliable Replacement Warhead (RRW), which the DOE describes as the justification for Complex Transformation but which was originally proposed by a Republican congressman as a cost-effective means of sustaining the existing nuclear stockpile.

Before the enactment of the congressionally mandated 1992 nuclear weapons testing moratorium, the United States conducted more than one thousand explosive nuclear weapons tests, building up a huge base of performance data. Since 1994, the three nuclear weapons laboratories—Los Alamos, Lawrence Livermore, and Sandia National Laboratories—have certified annually the arsenal’s reliability under the Stockpile Stewardship Program. Despite the investment of more than $70 billion, the labs now claim that Stockpile Stewardship is no longer sustainable.

The DOE wants a “continuous design/deployment cycle that exercises design and production capabilities.” The proposed RRW is not a single warhead, but a family of warheads that would eventually replace most of the current arsenal. Retrofitting Air Force and Navy delivery systems to accommodate the RRW could cost hundreds of billions of dollars. The DOE and the nuclear weapons design laboratories have seized upon the RRW to advance their own agenda: to once again design and develop new nuclear weapons to justify their continued existence and protect their future funding.

Despite the DOE’s claim that the RRW program is needed to avoid future testing, new designs may increase pressure to resume nuclear tests to certify new warheads before the military accepts them. If the United States resumes testing, other countries would likely follow suit.

By Susan Gordon, Director, Alliance for Nuclear Accountability. Review by David Culp, Legislative Representative, Quaker Nuclear Disarmament Program, Friends Committee on National Legislation.
Congress refused to fund the RRW program in FY 2008, stating that it was “prohibiting” the development “of a Reliable Replacement Warhead until the President has a post-Cold War strategic nuclear weapons plan to guide transformation and downsizing of the stockpile and nuclear weapons complex.” Despite that message, the administration returned with a budget request for FY 2009 that included nearly $100 million in funding connected to the RRW. The House Armed Services Committee, and the House and Senate Energy and Water Appropriations Subcommittees have rejected the FY 2009 request. The House and Senate both zeroed out all funding for RRW in their respective appropriations bills.

**Plutonium “Triggers” For Nuclear Bombs**

Plutonium pits—carefully fabricated spheres of plutonium metal—surrounded by high explosives are the “triggers” for modern thermonuclear weapons. The United States manufactured pits at the Rocky Flats Plant near Denver until 1989, when the FBI raided the facility to investigate environmental crimes, effectively ending industrial-scale plutonium pit production.

The United States presently has about 25,000 plutonium pits. Nearly 10,000 are in existing nuclear warheads. Five thousand are in “strategic reserve” and more than 10,000 “surplus” pits are stored at the Pantex Plant near Amarillo, Texas. The May 2002 Moscow Treaty requires Russia and the United States to reduce their nuclear arsenals to 2,200 or fewer deployed strategic warheads each by December 31, 2012, but fails to mandate irreversible dismantlement. Even under this treaty, the United States will likely retain some 25,000 pits.

Beginning in 1998, the DOE attempted to establish “interim” pit production at the Los Alamos National Laboratory (LANL) in northern New Mexico. LANL produced the first new pits in 2007, and ten were certified to replace existing pits in W88 warheads.

The DOE’s original argument for reestablishing production was that it had no spare W88 pits for annual defect checks. However, only one pit per type of nuclear weapon is “destructively analyzed” every year. Moreover, the number W88 warheads could and should be reduced under the Moscow Treaty, thereby making spare pits available. Since 2002, the DOE has pushed for a Modern Pit Facility capable of producing 450 or more pits per year. When Congress failed to fund it for two consecutive years, the DOE then proposed a Consolidated Plutonium Center to produce 125 pits per year. That also failed to gain congressional support.

In its Final Summary for Complex Transformation, released on October 10, 2008, the DOE defers increasing pit production capacity from the current 20 pits per year until a new Nuclear Posture Review is completed in 2009. This is not a final decision and a future Record of Decision may return to the previously supported capacity of 50-80 pits per year.

The current plan under Complex Transformation would increase production capacity at Los Alamos to up to 80 pits per year. The proposed Chemistry and Metallurgy Research Replacement (CMRR) project is central to this plan. The DOE requested $102 million for FY 2009. Estimates for the total construction costs range up to more than $2 billion. If built, the total cost for producing 50-80 pits a year will be more than a half-billion dollars annually. Without CMRR, LANL’s production capacity will remain at 20 pits per year, more than enough to meet current stockpile requirements.

In November 2006, an independent scientific review, conducted at the request of Congress, reported on DOE’s plutonium aging studies. It concluded that pits last a century or more. The oldest U.S. nuclear weapons in the planned future stockpile are presently 30 years old.

**Financial Costs**

The estimated price tag for Complex Transformation starts at $150 billion, according to the Government Accountability Office. Given the DOE’s well-documented history of cost overruns and the fact that current estimates do not include funds for eventual decommissioning and cleanup of the facilities to be built, the total cost may be significantly higher.

With both the public and many national security experts calling for U.S. leadership toward a world free of nuclear weapons, Complex Transformation is premature at best and counterproductive at worst.

The FY 2009 DOE budget request included $241.6 million for plutonium pit manufacturing, capability and certification, thirteen percent above the FY 2008 congressional appropriation. Pit production costs at Los Alamos will be $2.5 billion from FY 2009 to 2013, including facility costs. During the same time, another quarter–billion dollars is slated for Lawrence
Livermore’s costs for new manufacturing capabilities and research and development of new pits. None of this includes eventual decommissioning and cleanup costs.

**TALKING POINTS**

➤ The United States must take a balanced, integrated approach to our foreign policy, because effective nonproliferation agreements and programs are linked to an array of important national objectives—enhancing our security, affirming our values, fostering shared prosperity, and rebuilding America’s image abroad.

➤ The United States must develop security policies and approaches that reflect today’s security threats and the realities of an increasingly interdependent world.

➤ Global cooperation to reduce the nuclear weapons risk is in our national security interest and the world’s interest. There are smart, practical, common-sense steps that the United States and its allies can take to prevent the spread of nuclear weapons and nuclear weapons materials.

**PREVIOUS ACTION BY THE PRESIDENT AND CONGRESS**

President Bush had requested funds to develop a nuclear “bunker buster” (the Robust Nuclear Earth Penetrator). Congress rejected that proposal in FY 2005 and FY 2006. The administration more recently has requested funds for the Reliable Replacement Warhead. That proposal was also rejected by Congress for FY 2008, and was again rejected for the FY 2009 budget. The Energy Department’s latest plan for the nuclear weapons complex, “Complex Transformation,” is expected to be released soon after the November election.

**POLICY RECOMMENDATIONS FOR 2009**

Actions the president should take by Executive Order:

➤ Declare that the United States will not develop new nuclear warheads, and seek to have that standard adopted by other nuclear weapons states as part of the NPT review conference in April-May 2010.

➤ Suspend the DOE’s SPEIS (Supplemental Programmatic Environmental Impact Statement) process for Complex Transformation until after the congressionally-mandated Nuclear Posture Review is completed in February 2010 so that posture drives the complex and not vice-versa.

➤ Halt the construction of facilities designed to produce new plutonium “pits” and to produce highly enriched uranium until after the Nuclear Posture Review is completed.

Additional actions the president can take requiring approval by Congress:

➤ In the new administration’s budget amendment to Congress for FY 2010, delete funds for the Reliable Replacement Warhead, for plutonium pit manufacturing construction at the Los Alamos National Laboratory, and construction of the Uranium Manufacturing Facility at the Y-12 Plant in Oak Ridge, Tennessee. Transfer the funds to nuclear nonproliferation programs and environmental cleanup.

**ADDITIONAL RESOURCES**

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**Publications**

Increasing surveillance of vessels and cargo entering or destined for U.S. ports is one tool to prevent nuclear terrorism.

(Stockphoto.com)
Nuclear terrorism is a real and dangerous threat. Some terrorist organizations, particularly Al Qaeda, are seeking nuclear weapons. While the overthrow of the Taliban and the disruption of Al Qaeda’s old central command structure certainly reduced Al Qaeda’s chances of pulling off such a complex operation, Al Qaeda is reconstituting in the tribal areas of Pakistan. Making nuclear bomb material from scratch is beyond the plausible capabilities of terrorist groups, but if a sophisticated group got enough highly enriched uranium (HEU) or separated plutonium, it might well be able to make a crude nuclear bomb. Indeed, the U.S. intelligence community assesses that an Al Qaeda nuclear bomb effort probably would not require the involvement of more than the number of operatives who carried out the September 11, 2001 attacks, and could be just as compartmented, making it extraordinarily difficult for the intelligence community to detect and stop.

Nuclear weapons or their essential ingredients exist in hundreds of buildings in dozens of countries, but there are no specific and binding global standards for how these stockpiles should be secured. Hence security measures range from excellent to appalling. Thefts of small amounts of HEU and plutonium have already occurred. While delivery of a terrorist nuclear bomb would not be trivial matter, the diversity of means of transport, the vast scale of legitimate traffic across national borders, and the ease of radiation shielding all operate in favor of the terrorists delivering a nuclear bomb to the United States.

But there is good news as well. There is no convincing evidence that any terrorist group has yet gotten a nuclear weapon or the materials needed to make one—or that Al Qaeda has yet put together the expertise that would be needed to make a bomb. Making and delivering a nuclear bomb—or detonating a stolen nuclear bomb—would be the most challenging operation terrorists have ever carried out, and there are many steps on the pathway to the bomb where the terrorists might make a mistake, or government efforts might succeed in stopping them.

Moreover, programs to reduce the risk are making real progress. An alphabet soup of programs and initiatives—Cooperative Threat Reduction (CTR), the Materials Protection, Control, and Accounting (MPC&A) program, the Global Threat Reduction Initiative (GTRI), the Global Initiative to Combat Nuclear Terrorism (GI), the International Atomic Energy Agency’s Office of Nuclear Security, the Department of Homeland Security’s (DHS) Domestic Nuclear Detection Office (DNDO), and many more—are each making real contributions. In the former Soviet Union, by the spring of 2008, U.S.-funded comprehensive upgrades had been completed at roughly 60 percent of the buildings with weapons-useable nuclear material; 85 percent of these buildings had at least rapid upgrades in place. Similarly, all planned U.S.-funded security upgrades were completed by then for 65 percent of the nuclear warhead sites in Russia. Security upgrades are scheduled to be completed for most Russian nuclear warhead and nuclear material sites by the end of 2008. The Department of Energy’s National Nuclear Security Administration (NNSA)—as well as other U.S. government agencies—has undertaken a large effort to work with Pakistan to improve nuclear security, though details of the progress made are classified. As of mid-2008, the DHS reported that it was screening 96 percent of all containerized cargo entering the United States for nuclear and radiological material. In addition, the NNSA intends to install radiation detectors at 450 border crossings and 75 “megaports” in

**BACKGROUND**

Preventing Nuclear Terrorism

By Matthew Bunn, Associate Professor of Public Policy, Harvard University, and Co-Principal Investigator, Project on Managing the Atom, and Andrew Newman, Managing the Atom Research Associate. Reviewed by Charles Ferguson, Fellow for Science and Technology, Council on Foreign Relations.
key countries around the world by the end of 2014 (by the end of FY 2007, such detectors were installed and operating at 162 of border crossings and 12 megaports in Russia). Intelligent adversaries, however, may choose to use routes not covered by these large, highly visible detectors, and neither current nor planned detectors are likely to be able to detect shielded HEU metal; ultimately, success may depend more on improving counterterrorism and border control efforts than on new detection technologies.

The United States needs a total system of interlocking efforts to prevent nuclear terrorism. But the single highest-priority part of that system is to improve security for nuclear stockpiles around the world, to reduce the chance that nuclear weapons or materials could ever be stolen and fall into terrorist hands. Every subsequent step on the terrorist pathway to the bomb is easier for the terrorists to take, and harder for us to stop.

TALKING POINTS

➤ The next administration should have no higher priority than keeping nuclear weapons and the materials to make them out of terrorist hands. The next president should aim to eliminate nuclear material entirely from the world’s most vulnerable nuclear sites and ensure that effective security is put in place for the remainder during his first term in office.

➤ The terrorist networks scheming to attack the United States are global, and our response must be global as well. We need redoubled intelligence and police cooperation around the world to find and defeat terrorist groups with nuclear ambitions.

➤ A combination of extremism, instability, and nuclear weapons makes ensuring nuclear security in Pakistan one of our highest priorities. The next president should strengthen cooperation with Pakistan to ensure that its nuclear stockpiles are secure and to stop terrorist conspiracies and operations and also work to ensure that nuclear cooperation with India includes cooperation on nuclear security.

➤ The new administration must do everything it can to prevent Iran from acquiring the world’s most dangerous weapons, and to eliminate North Korea’s nuclear capabilities. Both these countries’ nuclear programs pose grave risks of their own, and the more countries that have nuclear weapons and the materials to make them (and the greater the likelihood of instability or even collapse of central authority in such countries), the greater will be the risk that terrorists might someday be able to get them. The administration should seek a diplomatic solution through direct engagement with both of these regimes, with international packages of carrots and sticks large enough and credible enough to convince these states that it is in their national interests to abandon their nuclear weapons ambitions.

➤ Preventing nuclear terrorism must be on the front burner at the White House every day. Preventing nuclear terrorism involves efforts that are spread across more than a dozen agencies, making it easy for important opportunities to slip through the cracks. The president should appoint a senior White House official whose sole responsibility is to see that everything that must be done to prevent a nuclear terrorist attack is being done.

➤ The entire budget for all programs to prevent nuclear terrorism currently comes to less than one-quarter of one percent of the defense budget. The new administration should increase the program budgets to ensure that the speed at which we get these jobs done is not limited by lack of money, and seek a Congressional appropriation of approximately $0.5–$1 billion of no-year money that can be used flexibly to address new opportunities as they arise.

PREVIOUS ACTION BY CONGRESS

During the Bush administration, Congress more than doubled funding for programs to improve controls over nuclear weapons, materials, and expertise around the world, from roughly $600 million in FY 2001 to over $1.3 billion in FY 2008. Congress also removed the certification requirements that slowed CTR progress, and authorized new CTR programs to address key proliferation threats worldwide. In addition, Congress:

➤ Passed legislation in 2004 authorizing the establishment of the GTRI, enabling key authorities to provide incentives to convince vulnerable sites to give up their nuclear material;

➤ Passed legislation in 2007 establishing a senior White House coordinator for preventing nuclear, chemical, and biological proliferation and terrorism. The Bush administration, however, has not yet appointed anyone to this position;

➤ Passed legislation in 2007 requiring that by 2012, 100 percent of cargo containers entering the United
States be scanned for radiation before they arrive (though with waiver provisions if that proves impractical). The legislation did not specify who should do the scanning, the quality of the scanning, or what action should be taken if the scanners detect something; and

➤ Passed legislation in 2007 requiring the administration to prepare a comprehensive plan to ensure that all nuclear weapons and all significant caches of plutonium and HEU worldwide are protected against the kinds of threats terrorists and criminals have shown they can pose by the end of 2012.

RECOMMENDATIONS FOR 2009

Actions The President Can Take

➤ Work with other countries to launch a fast-paced global campaign to put effective security in place for all nuclear stockpiles worldwide (and reduce the number of places where such stockpiles exist, particularly cleaning out the most vulnerable sites) as rapidly as practicable.

➤ Seek to gain agreement on effective global nuclear security standards, ensuring that all nuclear stockpiles are protected against the threats terrorists and criminals have shown they can pose.

➤ Build an international consensus to reduce and ultimately end the civilian use of HEU.

➤ Launch a major effort to convince policymakers and nuclear managers around the world of the urgency of the nuclear terrorism threat, and the need for them to address it.

➤ Beef up efforts to strengthen sustainability and security culture, working with countries around the world to ensure they put in place the resources, organizations, and incentives to sustain effective nuclear security for the long haul.

➤ Strengthen cooperation with Pakistan both to improve nuclear security and to counter extremist threats, limiting likely insider and outsider dangers.

➤ Seek agreement on deep reductions in nuclear arms, including placing most dangerous weapons (such as tactical weapons without effective electronic locks) in secured monitored storage pending dismantlement. Progress on fulfilling the weapon states’ disarmament obligations would improve the chances for getting non-nuclear weapons states to agree to strengthened nonproliferation and nuclear security measures.

➤ Seek to place all plutonium and HEU beyond the minimum required to support reduced warhead stockpiles (and modest reserves for naval fuel) in secure, monitored storage, and ultimately eliminate these stocks; also seek a fissile cutoff agreement to end further production of plutonium and HEU for weapons, an end to all HEU production for any purpose, and a phase-out of plutonium separation.

➤ Directly engage Iran and North Korea to keep Iran from acquiring the world’s most dangerous weapons and to eliminate North Korea’s nuclear capabilities.

➤ Put in place a comprehensive system of efforts to prevent nuclear terrorism, including prioritized plan with identified goals and metrics.

➤ Strengthen intelligence, terrorist finance tracking, police, border control, and radiation detection cooperation domestically and internationally to defeat terrorist groups with nuclear ambitions; direct the intelligence community to make stopping nuclear terrorism, and particularly supporting efforts to prevent nuclear theft, top priority.

➤ Improve planning for response to a nuclear terrorist attack.

➤ Appoint a senior White House official to coordinate all U.S. efforts to prevent nuclear terrorism.

Actions The President Can Take Requiring Approval From Congress

➤ Increase nuclear terrorism prevention program budgets to ensure that progress is not limited by lack of money.

➤ Establish a broader program of targeted incentives to convince sites to give up weapons material, including (a) working with all states to put in place effective regulations requiring high levels of security for HEU and separated plutonium, creating serious costs for maintaining such materials; (b) reducing or eliminating fees for return of HEU to the United States; (c) incentives to convince little-used HEU-fueled research reactors to shut down (often cheaper and quicker than conversion); (d) a user fee on all medical isotopes produced with HEU, with revenues used to help producers convert to low-enriched uranium.
➤ Establish a broader effort to ensure that all potential source and transit states have effective intelligence and police capabilities to cope with nuclear smuggling, and laws in place making nuclear theft, smuggling, and terrorism crimes comparable to treason or murder

➤ Streamline oversight, reduce the number of reports required, establish regular informal oversight and mechanisms including nuclear security task force comparable to the former arms control observers’ group, eliminate unnecessary certification requirements, eliminate unnecessary constraints, such as limits on program direction vs. program funds at DOE; pass budgets on time, rather than requiring programs to run on continuing resolutions

➤ Reinvest in nuclear security and accounting research and development, and beef up nuclear forensics research and development

### ADDITIONAL RESOURCES

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BACKGROUND

If recent history is any guide, Al Qaeda is likely to test the next president, early in his tenure, by attempting another major terror attack. The World Trade Center towers were first bombed in the second month of the Clinton presidency. The September 11, 2001 attacks came within the first year of the Bush presidency. The Madrid bombing took place on the eve of Spanish parliamentary elections in 2004. Gordon Brown had just been elected prime minister of Britain in 2007 when Al Qaeda attempted to strike London and Glasgow.

Making such a test even more likely, Al Qaeda is back in business and stronger than at any time since 2001. The safe haven it lost in Afghanistan has been recreated just over the border in Pakistan, and, increasingly, Al Qaeda, facilitated by a resurgent Taliban, seems poised to reclaim its safe haven in Afghanistan.

Meanwhile, far too many of the pre-9/11 gaps in America’s defenses against terrorism remain. It may be next to impossible for Al Qaeda to hijack another jetliner and fly it into a skyscraper, but holes in border security, maritime security, mass transit security, intelligence, the security of critical infrastructure, soft targets, and icons, emergency preparedness, and remaining holes in aviation security offer a wide menu of alternative terror scenarios that could equal or even exceed 9/11 in terms of death and destruction.

In short, then, the distance between the Bush Administration’s rhetoric about homeland security and its record is wide enough for many a terrorist truck bomb to go through. Accordingly, the next president will have no greater challenge than aligning the nation’s level of counterterrorism preparedness with the enormity of the terror threat.

TALKING POINTS

➤ The new president must make an urgent priority of identifying and closing the remaining gaps in America’s defenses against terrorism.

It is a good thing that, since 9/11, the number of air marshals has been significantly increased; cockpit doors have been hardened; some pilots and crew members are now allowed to carry guns to protect themselves and their passengers; screeners are somewhat better trained and motivated; and passengers are more aware of the threat of airborne terrorism and more likely to do everything within their power to thwart another hijacking. For these reasons, another 9/11-style attack would be hard, if not impossible, to carry out.

But, a number of other vulnerabilities remain in aviation. To name just two, about a quarter of airborne cargo is carried in the hold of passenger planes. Unlike luggage, cargo is not screened for explosives. And, federal screeners today fail undercover tests designed to spot their ability to detect concealed weapons at about the same rate as their private sector counterparts before 9/11.

In terms of maritime security, we are beginning to scan all incoming cargo containers for radiation to detect evidence of a concealed nuclear or dirty bomb. But, our radiation scanners are not as effective as they should be at distinguishing between harmless and deadly radiation, and shielded radioactive material cannot be detected at all.

In terms of mass transit security, we are beginning to see a greater armed police presence; more bomb detection dogs and technology; more use of surveillance cameras; and, in some places, even random bag

searches. But, the scale of investment in these worthy but costly initiatives nationwide does not match the enormity of the threat.

In terms of border security, while taking some commendable steps like more thoroughly screening foreigners who need visas to travel to the United States, we are simultaneously opening up more holes by expanding the number of countries whose citizens do not need visas to travel to the United States.

In terms of intelligence, while progress has been made in sharing terrorist-related information between and among federal, state, and local governmental and private sector partners, such information sharing remains very much a work in progress. There are still dangerous “seams” in the flow of information from the local cop on the beat to the intelligence analyst in Washington and vice-versa.

In terms of critical infrastructure, we have not made a priority of identifying and protecting those facilities whose destruction or crippling would devastate the nation. Likewise, we have not made a priority of hardening “soft” targets or cultural icons to the maximum possible extent.

In terms of emergency preparedness, while some cities are certainly better prepared than others, challenges remain with regard to chains of command; interoperable communications; evacuation planning; and having both the requisite supply of food, water, medicine, and shelter and the means to track and deliver such supplies to where they are needed when they are needed.

➤ The Department of Homeland Security is overworked and underfunded

The Department of Homeland Security (DHS), the agency charged with the mission of preventing the next 9/11 or, failing that, responding to it in such a way as to minimize resulting death, injury, and economic damage, is in urgent need of improvement. Part of its dysfunction stems from its having to focus on both terror attacks and natural disasters. While there is some overlap between the two, there are also fundamental differences.

It would be folly for Barack Obama to make major organizational changes in DHS early in his tenure, given how much change there has already been and how disruptive any major change can be.

But the president-elect should give some thought to a long-term plan to downsize DHS to a department that focuses exclusively on the greater threat to national security—terrorism.

In any event, the president must make a priority of working with Congress to provide the DHS with the resources it needs to do its job (whatever that job may wind up being in a new administration). DHS has been forced to fight with, as it were, one hand tied behind its back by having to make do with only a fraction of what it needs to identify and close security gaps. And, homeland security money should be disbursed by the department to states and localities solely on the basis of risk and not on the basis of pork barrel politics.

Finally, “resources” is not synonymous just with “money.” Good leadership is likewise a resource, a critical one. All too often people have been placed in key positions at DHS less for their expertise and experience and more for their political connections. The president should put a premium on staffing the department with experts in counterterrorism, natural disaster preparedness, and/or managing large and complex bureaucracies, without regard to their political affiliation or ideological persuasion.

PREVIOUS ACTION BY THE PRESIDENT AND CONGRESS

The 110th Congress passed a bill into law—The Implementing the 9/11 Commission Recommendations Act of 2007 (P.L. 110-53)—which President Bush reluctantly signed in August 2007. Among its provisions was one requiring the screening for explosives of 100 percent of air cargo by 2010.

Unfortunately, DHS has taken the position that it may comply with that law by allowing shipping companies to hire third parties to screen cargo for them and certify that they have done so. Two prime movers behind this law, House Homeland Security Committee Chairman Bennie Thompson and Congressman Ed Markey, insist that the intent of the provision was that TSA personnel do the screening. Experience, pre-9/11, indicates that when left to their own devices, private sector companies will put profit ahead of security concerns time and again.

Another provision in P.L. 110-53 requires 100 percent scanning of cargo containers for radiation by 2010. As noted above, DHS is beginning to implement this
requirement, but neither present generation technology nor “next generation” technology is reliable in detecting radiation. Until such technology is developed and deployed, scanning containers will be more a matter of show than substance.

**RECOMMENDATIONS OR POLICY OPTIONS FOR 2009**

➤ The president should order the Transportation Security Administration to begin to screen 100 percent of air cargo with TSA personnel, meeting the intent of P.L. 110-53.

➤ Likewise, the president should issue an Executive Order directing DHS to make a priority of developing and deploying technology that can detect deadly radiation in cargo containers.

➤ To address a major vulnerability in border security, the president should work with Congress to begin to phase out the visa waiver program. If handled precipitously, ending the program can cause a bureaucratic nightmare by significantly increasing the number of visa applications the State Department must process with its existing resources, as well as a diplomatic nightmare by suggesting to our allies and friends that their citizens are unwelcome. But, if there is adequate notice and due consultation; sufficient resources provided to the State Department to process the increased volume of applications in a timely fashion; and a profession on our government’s part of a willingness for a reciprocal visa requirement to be imposed on American citizens, ending the program will be more palatable to those affected by it.

➤ The president should also work with Congress to implement measures to close the other security gaps mentioned above in terms of intelligence; critical infrastructure, soft targets and icons; and emergency preparedness. For example, the FBI-led Terrorist Screening Center and the Director of National Intelligence-led National Counterterrorism Center should be led by DHS. Working with Congress, the White House should redouble the present Administration’s efforts to secure critical infrastructure, soft targets, and icons. Where voluntary action proves to be insufficient, legislative and regulatory tools, supplemented, if necessary by federal funding, should be employed. Finally, working with Congress, the Administration should identify the likeliest and most catastrophic terror scenarios and then ensure that cities likely to be targeted are adequately prepared for them.

**ADDITIONAL RESOURCES**

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**Publications**


Clark Kent Ervin, Open Target: Where America is Vulnerable to Attack, (Palgrave Macmillan, 2006).


The Iraq War

BACKGROUND

On May 1, 2003, President George W. Bush announced the end of major combat operations in Iraq from aboard the USS Lincoln. However, five more years of violence and the deaths of more than 4,000 American soldiers are painful evidence that the war has overwhelmed the victory Bush sought to claim. Although U.S. forces were successful in ousting Saddam Hussein’s regime, the fragile gains in stability and security have come at a high price.

Within months of the onset of the U.S. invasion, a multi-party insurgency emerged in Iraq. Sectarian groups engaged in violence aimed at American and allied troops, as well as opposing Iraqi factions. The most notable of these groups were Al Qaeda in Iraq, which drew foreign fighters from Syria, Jordan, Saudi Arabia and elsewhere, and the 60,000-member Madhi Army, raised and led by radical Shi’a cleric Muqtada al-Sadr.

The Department of Defense reported in November 2006 that both average weekly attacks and average daily casualties were at their highest levels in more than two years. In response to the rise in violence, President Bush committed to a 20,000 troop “surge” in early 2007. This strategy, which lasted into July 2008, was intended to provide an improved security environment for the Iraqi government to reconcile sectarian opponents and complete 18 political and military benchmarks. Although violence declined in 2008 compared to 2006, the changing security climate depended substantially on consecutive ceasefires called by Sadr and the assistance of Sunni Awakening militias. This increase in security also came at the cost of additional deployments for the already overstretched U.S. military.

In July 2008, Iraqi Prime Minister Nouri al-Maliki called for the United States to set a date for the withdrawal of combat troops. He was echoed more pointedly by his national security advisor Mowaffak al-Rubaie, who declared that the government would not agree to a document governing the future of the American military presence in Iraq without “a specific date for a complete withdrawal of foreign troops.” Bush and Maliki subsequently negotiated for American troops to leave Iraqi cities by June 30, 2009, and for all combat troops to be redeployed by December 31, 2011. As of early November, it was unclear whether either side would officially approve this arrangement.

While Bush and Maliki were finalizing details of the proposed withdrawal agreement, the Iraqi Parliament passed legislation governing provincial elections to be held in January of 2009. While the law’s passage is ostensibly a step forward for Iraqi politics, its approval masked persistent ethnic tensions and unimplemented reconciliation. Parliament was only able to pass the bill by deferring consideration of a power-sharing agreement on the northern city of Kirkuk. In order to overcome this dispute, and hold comprehensive, fair elections, Iraqi leaders will have to prioritize their country’s future over their own ethnic and religious affiliations. Bush’s surge strategy was intended to create a security environment in which this unity could develop, but ultimately failed to do so.

The next president will be faced with vital political and military questions on the future of the U.S. forces in Iraq. He will be responsible for working with Iraqis to define the role of U.S. troops in the country and to determine for how long, and at what levels, they should continue to be deployed. Concomitantly, he will need to leverage his political power to assist Iraqis in conducting a free and fair election, and structuring
their economy so oil revenues are properly distributed. Finally, the next president will be tasked with deciding how best to engage regional and Iraqi players in the long-term process of creating a peaceful, unified Iraq.

**TALKING POINTS**

The human, financial, security, and diplomatic costs of the war are significant and unsustainable. Based on the current rate of casualties, total U.S. deaths in Iraq may reach 4,300 by January 2009. The stress placed on U.S. soldiers during the war has been substantial, with Army desertions hitting their highest rate since 1980, and suicides in the Army reaching their highest level since 1991. The stress of overseas duty in Iraq and Afghanistan has been compounded by insufficient time between deployments. Soldiers have consistently received less than the Department of Defense’s recommended 2:1 ratio of dwell time to combat deployment.

Further costs include a diminished American ability to respond to other crises, most notably in Afghanistan, reduced diplomatic capital, and an estimated $1 trillion in direct costs by the end of the Bush administration, most of which has been borrowed.

The war in Iraq makes the United State less safe. U.S. commitments in Iraq draw vital resources from Afghanistan, and from the mission to bring to justice those who attacked us on September 11, 2001. The volatile border region between Afghanistan and Pakistan continues to provide space for Al Qaeda central to reconstitute itself. However, U.S. efforts in this key arena consistently take a backseat to the war in Iraq. Although U.S. commanders in Afghanistan have called for 20,000 additional troops, in September 2008 the President offered only 4,500 troops. Admiral Mike Mullen, chairman of the Joint Chiefs of Staff, noted in early July that although he would like to direct additional troops to Afghanistan, “those forces will not be available unless or until the situation in Iraq allows us to do so.”

As long as significant numbers of U.S. forces remain in Iraq, sectarian and government actors can delay reconciliation. The United States has provided monthly payments and training to 103,000 members of the Sunni Awakening militias, a responsibility that began to transfer to the Iraqi government on October 1, 2008. In June 2008, the Department of Defense recognized that these fighters “make essential contributions to security in Iraq.” However, these diverse groups have been unwilling to declare loyalty to the Iraqi government. Maliki’s Shi’a-dominated administration has not made significant progress on integrating them into the Iraqi Security Forces, and has pursued and arrested some militia members.

Until the United States and Iraq move forward with the timeline to withdraw American troops, the Iraqi government will have no incentive to work for significant sectarian integration. The work that remains to be done in this area is as substantial as the consequences of failure are grave. The government must address not only the challenges of working with sectarian opponents, such as the Awakening militias and Sadr’s remaining fighters, but also the divisions within its own ranks. When the Maliki government ordered troops to take on the Madhi Army in Basra in 2008, at least 1,300 defected to Sadr’s forces or refused to fight.

Withdrawing U.S. troops from Iraq will force self-interested regional powers to invest in Iraq’s future stability. The American presence in Iraq has inflamed tensions in the region. As a result of the war, more than 2 million Iraqi refugees have fled to neighboring countries, particularly Jordan and Syria. The return home of jihadists drawn to Iraq to fight U.S. forces promises to place further strain on Iraq’s relationships with its neighbors. Without the presence of a substantial number of U.S. combat troops in Iraq to keep the lid on the violence, these countries will have an incentive to work with Iraqi officials to manage their own security.

Iran will undoubtedly be a key player in this process. Wary of the proximity of U.S. forces and emboldened by the election of a Shi’a-dominated government, the Iranians already offer training and equipment to several of Iraq’s Shi’a militias. However, Iranians, despite their propensity for intervening in Iraqi affairs, would not benefit from the reemergence of a sectarian civil war on their border. The U.S. withdrawal plan must include a commitment to constructively engage Iran in assuring Iraq’s future stability.

**PREVIOUS ACTION BY CONGRESS AND THE PRESIDENT**

In October 2002, Congress passed the “Authorization for Use of Military Force Against Iraq.” This resolution gave President Bush permission to use the armed forces to defend U.S. national security “against the continuing threat posed by Iraq,” and to “enforce all relevant United Nations Security Council resolutions regarding Iraq.”
In June 2006, the U.S. Senate defeated (13–86) an amendment by Senators John Kerry (Democrat of Massachusetts), Russ Feingold (Democrat of Wisconsin), Barbara Boxer (Democrat of California), and Patrick Leahy (Democrat of Vermont), which would have required that U.S. troops be redeployed from Iraq.

In May 2007, President Bush vetoed a war funding bill, which would have required the withdrawal of U.S. troops to commence by October 1, 2007. In late May 2007, Bush signed an emergency supplemental appropriations bill containing 18 political, military, and economic benchmarks to evaluate progress in Iraq.

In September 2007, the Senate defeated (44–56) an amendment by Senator Jim Webb (Democrat of Virginia), which would have required that soldiers be given dwell time, or time at home, equal to the time spent abroad during their last deployment.

In May 2008, the House defeated (141–149) a bill to continue funding for the war in Iraq. Funding was later reinstated in the Senate version.

**POLICY RECOMMENDATIONS FOR 2009**

➤ The President should begin to withdraw troops as quickly and safely as possible. This can be done responsibly in eight to ten months, sufficient time for U.S. forces to remove all vital equipment and leave Iraq for Kuwait. Once there, they will prepare for redeployment home.

➤ The President should work with the Iraqi government to reach a final agreement on the legal status of U.S. troops, and move forward with a timeline for withdrawal.

➤ The President should initiate a “diplomatic surge” in order to prepare neighboring countries for U.S. withdrawal and encourage them to invest in Iraq’s future peace and stability. He should also commit to hosting regular meetings among defense and interior ministers of countries in the Middle East.

➤ The President should take the lead in establishing a new regional network of government security forces to take on terrorist threats.

➤ The President should devote serious attention to the Iraqi refugee crisis by creating a working group with the UN to address the issue. The President should appoint a high-level coordinator for Iraqi refugee affairs to the UN to expedite work on this key issue, and should increase to 100,000 annually the number of political refugees the U.S. accepts.

➤ The President should support economic cooperation between Iraq and neighboring countries both to support Iraq’s future development and to build its relationships with other actors in the region.

**ADDITIONAL RESOURCES**

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**Publications**


Imam Square at night, Isfahan, Iran (iStockphoto.com)
U.S.–Iran Relations: The Nuclear Program, Iraq, and the Region

BACKGROUND

Over the next four years, presidential and congressional action will be required on two issues that are at the heart of U.S. security policy and Iranian relations: 1) reducing troop levels in Iraq, and 2) the Iranian nuclear program. Absent a serious working relationship with the government of Iran, success with either issue is unlikely, and the costs of failure could be significant.

A bipartisan group of former secretaries of state—Henry Kissinger, James Baker, Colin Powell, Warren Christopher, and Madeleine Albright—has called for talks without precondition with the Islamic Republic. Renewed engagement with Iran is possible but will be difficult. In the United States, some domestic constituencies oppose better relations, though public opinion surveys suggest that a solid majority of Americans favor a diplomatic solution to the U.S.-Iranian dispute—notwithstanding Iranian President Mahmoud Ahmadinejad’s offensive comments about the Holocaust and other issues.

Both the United States and Iran share a complicated history of legitimate grievance and suspicion (e.g., the 1953 U.S.-sponsored overthrow of Mohamaed Mosaddegh, U.S. support for Iraq during the Iran-Iraq War, the taking of American hostages in Tehran, Iran’s concealment of its nuclear activities). A series of missed opportunities has further aggravated relations. Over the years, both countries have extended an olive branch only to be rebuffed by the other side. Today, suspicion dominates the relationship: the United States doubts Iran’s nuclear intentions, and Iranians suspect that the nuclear issue is simply a pretext and that the real American objective is Iranian isolation and eventual regime change. Despite these challenges, the U.S. government will have to engage Iran if it wants to achieve a successful transition in Iraq and prevent Iran from becoming a nuclear weapons state.

TALKING POINTS

➤ Success in Iranian policy will require both a sense of urgency and patience. With each passing month, Iran builds more centrifuges—facts on the ground that become more difficult to reverse the longer the nuclear dispute remains unresolved. Iran is still years away from an ability to manufacture a nuclear weapon, but it is getting better at developing, constructing, and operating centrifuges. The clock is ticking, and it is likely a new President will have to make difficult decisions about Iran within the next four years or less. Serious diplomacy requires time, however, and the longer the U.S. government treads water, the narrower and more costly the options will become over time.

Progress will also require patience. By the time a new U.S. president gets his foreign policy team in place and is ready to move forward, Iran will be in the middle of its presidential election campaign, with elections scheduled for June 12, 2009 and the possibility of a run-off election later in the summer. Launching a major policy initiative in the middle of Iran's campaign season would be both difficult and risky. A new administration can make good use of this time, however, to turn down the volume on U.S.-Iranian relations, take modest steps to signal a readiness for serious discussions at the appropriate time, and prepare a major policy initiative for the fall.

➤ Talking with Iran is necessary but not sufficient. You have to have something to say. There are many examples of negotiations that continued for years without progress. The Tripartite Talks between Iraq,
the United States, and the Maliki government on
the future of Iraq provide a recent and relevant
element. Serious negotiations require serious intent,
a proposal that addresses the interests and concerns
of all the parties, and a game plan for executing the
negotiations. The United States should not expect
that simply showing up will have a transformational
effect. The Iranians will approach any new admin-
istration with caution if not suspicion. (Iranians do
not perceive much difference between American
parties or policy actors when it comes to Iran policy.)
Moreover, both Iraq and the nuclear issue should be
considered in the context of the broader U.S.-Iranian
relationship but without requiring that every issue be
resolved before any issue is resolved.

➤ Military strikes against Iran would be extremely
costly and counterproductive, all but guarantee-
that Iran becomes a nuclear weapons state. The
consequences of military strikes for U.S. forces in
Iraq, for the price of oil, for security in Afghanistan,
Lebanon, and Israel, the burden on an overstretched
U.S. military, human rights in Iran, and the fight
against terrorism are so large and interwoven that
they are difficult to calculate. Perhaps most im-
portantly, the use of military force is just as likely to push
Iran toward the bomb. (This was the case with the
1981 Israeli strike against Iraq's Osirak reactor, which
led Saddam Hussein to give new focus and priority to
his nuclear program and to cloak it in even greater se-
crecy.) An attack on Iran would inflame the domestic
politics of the nuclear issue and help bomb advocates
in Iran press for a weaponization decision.

RECOMMENDATIONS FOR 2009

At various times, President Bush employed differ-
et policy instruments with Iran. These included
UN sanctions, bilateral and allied sanctions, democ-
ramy promotion, threat of military force, contain-
ment, covert operations, and limited or conditioned
diplomacy. A new administration should consider:
1) maintaining sanctions and containment, which
keep pressure on Iran and provides something to of-
er in negotiations, 2) restructuring and or reducing
democracy promotion, threat of force, and covert
operations, whose use runs the gamut from coun-
ter-productive to highly risky, and 3) augmenting
diplomacy.

Diplomacy. Strengthening diplomacy would likely
entail the appointment of a special envoy for Iran,
who can not only talk directly with the Iranians but
also coordinate and rationalize the multiple points of
engagement (e.g., the P5+1, the Tripartite Iraq talks,
the International Atomic Energy Agency, U.S.-Iran
bilateral discussions). The special envoy should be
prepared to participate in direct, bilateral talks with
Iran without precondition and in coordination with
our P5+1 partners.

Regarding the nuclear issue, the United States may
want to continue to push for zero centrifuges on
Iranian soil, but it should be prepared to offer a
bigger incentive (e.g., normalized relations) and a
bigger disincentive. The current range of incentives
disincentives (WTO membership, energy invest-
ment, bank and export credits sanctions, targeting of
particular individuals and firms, etc...) has not proved
compelling and is unlikely to induce Iranian Supreme
Leader Ayatollah Ali Khamenei to reverse a very public
commitment to Iranian enrichment on Iranian soil.
The reality is that the zero option faces an uphill battle
and all the more so given the current downturn in
U.S.-Russian relations.

Accordingly, U.S. negotiators must have a fully de-
veloped, credible, non-zero alternative and a game plan for
when and how to introduce and pursue such an option.
The non-zero options include a multinational or multi-
lateral consortium, an Iranian program capped at some
level, and an acceptance of Iranian enrichment in prin-
ciple but not until a future date commensurate with
the size of its reactor inventory (a concept suggested in
the EU-Iran discussions).

Crisis management. In addition, the United States
should seek to establish communication channels and
institutional mechanisms for preventing, managing
and defusing unanticipated crises. Discussions could begin
on a number of technical areas, such as maritime rules
for navigation in the Gulf or security and confidence
building measures along the Iran-Iraq border.

Focus on the endgame. With Iran, it is easy to get dis-
tracted. There are multiple disputes, points of friction,
and opportunities for spoilers and ideologues to make
relations difficult. For the most part, both Iran and the
United States have focused on tactics and short-term
victories—a sanctions resolution here, a new centrifuge
cascade there. The United States can impose costs on
Iran, but it cannot impose its will. Progress requires a
greater focus on strategy rather than tactics. The United
States needs a realistic theory of victory, a strategy that
will result in an Iran without nuclear weapons and that plays a constructive role in Iraq. Unlike past U.S. policy towards Iran, this strategy has to be realistic: it should not require complete Iranian capitulation in order to have any chance of success.

**Do Not Treat Iran Monolithically.** Iran is a fractious country with multiple players and centers of power, and where leadership changes matter. The supreme leader, the president, public opinion, and other institutions all carry weight, with the Supreme Leader being the most important player. A policy that centers on the president alone will unnecessarily narrow American policy options.

**Adopt a Different Public Voice.** During this initial period, with a new president in the United States and the possibility of a new president in Iran, the U.S. government would do well to turn down the volume on its public pronouncements concerning Iran. When dealing with a proud nation, strong rhetoric can produce intransigent behavior, especially if it reverberates through an election campaign. Lowering the profile, at last initially, will give the policy actors in both countries more room to participate in serious negotiations in the fall. The United States should also stop talking about “carrots and sticks,” which the Iranians find insulting because it implies that they can be bought off or beaten into submission. For many Iranians, “carrots and sticks” conjures up imagery of a donkey and only reinforces Iranian perceptions that they are being treated in ways inconsistent with their self-perception as a sovereign government and great civilization.

**Reassure Arabs and Israelis.** On the one hand, Arab governments worry about Iran’s influence and what the potential for better U.S. relations with Iran imply for their own status in the region. On the other hand, there is an overwhelming consensus that the use of force would be a huge disaster for the region and for Arab governments domestically. Israel considers both Iran and its nuclear program as its top security threat. Neither Arabs nor Israelis see a better U.S.-Iran relationship as in their interest. The United States will have to be firm, steady, and insistent that it is working on behalf of the best interests of its allies, namely that its aim is to prevent the acquisition of nuclear weapons by Iran, and to foster stability in the region.

**UPCOMING DEADLINES AND SIGNIFICANT DATES**

Iran is never far from the headlines or policy calendar. In Congress, there will continue to be a series of legislative proposals for sanctions against Iran. Iran’s Russian-built Bushehr reactor will come on line by the end of 2008 or early 2009. There will be periodic reports of the International Atomic Energy Agency and meetings of the P5+1. On April 9, 2009, Iran will again celebrate its “National Nuclear Day,” and given the electoral context, Iran will certainly try to make this a big event for domestic consumption. Rounding out the transition period will be the Iranian presidential election and run-off election, and the visit of the winner to New York in September for the annual UN meeting. These are some of the predictable events in the calendar, but other events could intrude without warning, for example, a naval encounter in the Persian Gulf, the detention of Americans or Iranians, an incident in Iraq or on the border, or a spy trial.
ADDITIONAL RESOURCES

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U.S.–Russian Relations and Nuclear Nonproliferation

**BACKGROUND**

The United States and Russia together possess the largest stockpiles of nuclear weapons and related materials. The Cold War rivalry that drove the weapons of mass destruction (WMD) build-up has abated since the demise of the Soviet Union, and deployed nuclear weapons and launchers are largely controlled numerically through arms control agreements, though there are many warheads in reserve. The Nunn-Lugar Cooperative Threat Reduction (CTR) program in the Department of Defense and various programs of the National Nuclear Security Administration (NNSA) in the Department of Energy have eliminated some of the old Soviet offensive nuclear infrastructure, and fissile material stockpiles have been made more secure through other CTR- and NNSA-related activities.

The United States and Russia have cooperated on a number of WMD-related international issues with varying degrees of success, including nuclear security and terrorism, and the Iranian and North Korean nuclear programs. Today, however, the U.S.-Russia relationship is changing once again. The price of oil and natural gas has buoyed the Russian economy and increased Russia’s foreign policy confidence and aggressiveness. The Russian military is in a building phase and the nuclear infrastructure is healthier than during the transition from communism. The invasion of Georgia, the use of its energy resources as a weapon against the Ukraine, the media and political crackdown at home, and its less stringent approach to Iran’s nuclear efforts have raised questions in the United States about whether Russia is really evolving in a democratic and western fashion or whether a new Cold War may be brewing.

The following sections are intended to highlight key issues affecting the U.S.-Russia nuclear relationship, detail the accomplishments and missed opportunities to promote nonproliferation and global security, and provide a list of recommendations and policy initiatives that the new Administration could pursue to further accelerate achievement of nuclear nonproliferation goals. (Note: Both biological and chemical weapons are covered in a separate chapter in this volume.)

**TALKING POINTS**

➤ A new strategic arms treaty should result in dramatically deeper reductions to all types of U.S. and Russian nuclear warheads—to 1,000 or less, should lower ceilings on strategic missiles, and improve verification and transparency.

➤ The United States, Russia and other nuclear powers should move to de-alert their nuclear weapons and increase the time necessary to launch nuclear strikes in order to reduce unnecessary risks and increase crisis stability.

➤ Deployment of a European missile defense system should be deferred until the system is proven effective in realistic tests and shows no capability against Russia.

➤ The United States and Russia should accelerate the down-blending of weapons-grade fissile materials and extend this bilateral program beyond 2013.

➤ The United States and Russia should work together in a true partnership to help create a global common minimum standard of security and expand programs to prevent nuclear terrorism and reduce the risks of nuclear theft; exchange information on the number of tactical warheads each possesses; incentivize the reduction in the use of fissile materials in civil nuclear commerce; and continue to improve domestic and global security for nuclear stockpiles.

➤ The CTR program needs to expand and adapt to the twenty-first century and re-conceptualized from a Russia/Former Soviet Union-focused assistance
program to a government-wide fund that can be used for interagency and multilateral efforts to address global WMD challenges.

➤ The G-8 Global Partnership must fulfill its $20 billion pledge and should be operationally modernized to become more flexible and adaptive to real-time proliferation dangers.

PREVIOUS ACTION BY THE PRESIDENT AND CONGRESS

Nonproliferation Accomplishments

➤ Bilateral arms control agreements — START and SORT will reduce deployed strategic nuclear warheads to 1,700–2,200 on each side by 2012.

➤ Cooperative Threat Reduction (CTR) Program — CTR efforts over the past sixteen years have helped Russia and former Soviet republics destroy some 7,300 nuclear warheads, 1,300 strategic missiles, 155 long-range bombers, and related systems.

➤ Fissile Materials Disposition Program — This program has eliminated over 300 metric tons (MT) of highly enriched uranium (HEU) from dismantled Russian nuclear weapons of the 500 MT planned by the end of the HEU Purchase Agreement in 2013.

➤ HEU Transparency Program — As of the end of FY 2007, this program has monitored the cumulative conversion of 315 metric tons of weapons-useable HEU. This represents the equivalent of 12,600 nuclear weapons permanently eliminated, per International Atomic Energy Agency defined standards.

➤ Nuclear Material Security — Has secured a cumulative total of 193 buildings in Russia containing weapons usable material; completed Material Protection, Control, and Accounting (MPC&A) upgrades to 14 strategic missile sites and 39 Russian Navy nuclear warhead sites.

➤ Redirection of WMD Scientists — Since 1994, various programs have engaged and/or redirected over 75,000 former weapons scientists from Russia and the former Soviet states.

➤ Radiation Detection — Completed installations of radiation detection equipment to detect the illicit trafficking of nuclear and other radiological materials at 150 strategic transit/border crossings, air and sea transshipment hubs in Russia and other countries, and twelve megaports.

➤ Second Line of Defense — Has secured 117 Russian border crossings.

➤ U.S.-Russia Nuclear Cooperation Agreement — The United States and Russia agreed on May 6, 2008 to formally cooperate on civilian nuclear projects. However, the president withdrew the agreement from Congressional consideration on September 8, 2008, as part of efforts to show displeasure with Russia’s military action in Georgia. The pact can be resubmitted to Congress at any time.

Unmet Opportunities

➤ The lack of transparency arrangements for the U.S.-funded Fissile Material Storage Facility in Mayak, Russia.

➤ Chronically inadequate levels of funding for WMD scientist redirection or facility conversion in Russia’s closed nuclear cities.

➤ Expiration of the Nuclear Cities Initiative program, resulting in the demise of the only U.S. government program focused exclusively on shrinking the Russian nuclear weapons complex.

RECOMMENDATIONS AND POLICY OPTIONS FOR 2009

START, SORT, and Missile Defense

➤ A new strategic arms treaty should result in dramatically deeper reductions to all types of U.S. and Russian nuclear warheads—to 1,000 or less—and lower ceilings on strategic missiles. This should require actual warhead and delivery vehicle dismantlement, not simply warehousing of the excess.

➤ SORT should be transformed into a full-scale treaty like START I, and negotiations should begin immediately on a SORT II, which could lead to the reduction of each country’s strategic nuclear arsenal by 2017 to the level of no more than 1,000 warheads.

➤ Each state also should move to de-alert its weapons and increase the time necessary to launch nuclear strikes. This could include lowering of the operational readiness of at least half of the strategic nuclear forces, sharp reductions in the number of nuclear-armed submarines on patrol, the basing of heavy bombers separately from their nuclear weapons, and the removal and separate storage of the nose cones of the larger portion of the ICBMs.
Further ballistic missile defense prohibitions should be required, including on space-based interceptor devices.

Deployment of a European missile defense system should be deferred until the system is proven effective in realistic tests, and a new agreement with Russia delineates the size and capability of strategic missile defense. Completing a joint early warning center to build confidence and avoid miscalculations could also help to avoid renewed strategic conflict with Russia.

Russia and the United States could develop an array of cooperative programs that can help to manage issues related to their strategic offensive arms. This could include holding detailed strategic stability consultations and proceeding with plans to open a long-delayed Joint Data Exchange Center for monitoring missile launches.

Withdrawal of the approximately 150-240 U.S. short-range nuclear weapons in Europe could spur cuts in Russia's far larger arsenal of these smaller and more portable nuclear weapons.

Nuclear Nonproliferation

The United States and Russia should reaffirm that nuclear nonproliferation cooperation is a top priority for both countries and work together to help create a global common minimum standard of security.

Accelerate and extend the down-blending of weapons-grade materials under the Highly Enriched Uranium (HEU) Purchase Agreement, which will end in 2013.

The United States and Russia should collaboratively to strengthen the nonproliferation regime by: enforcing UN Security Council resolutions on Iran, establishing more effective measures for addressing cases of noncompliance, improving security of fuel supply and discouraging the spread of sensitive technologies, and strengthening Nuclear Suppliers Group export criteria, and preparing for the 2010 Treaty on the Non-Proliferation of Nuclear Weapons review conference.

A major initiative should be launched to consolidate and dismantle thousands of U.S. and Russian excess warheads that lack modern electronic locks and sensing devices.

Negotiations with Russia for establishing a moratorium on separating weapons-usable plutonium should be revived.

Efforts should be made to consolidate civilian and military nuclear materials and nuclear warheads in Russia to the smallest number of facilities possible.

A new round of reciprocal initiatives, similar to the Presidential Nuclear Initiatives of 1991–1992, should be launched. These should focus on reducing the risks of nuclear theft, include monitoring to confirm pledges are kept, exchanging information on the number of tactical warheads each possesses, discussing means of reducing total numbers, and ensuring that all stored with the highest possible level of security.

A joint U.S.-Russian study should be undertaken to develop an official plan for consolidating the number of civilian research reactor sites with highly enriched uranium, including incentivizing facility cleanout with plans for alternative economic futures for former site locations.

Cooperative Threat Reduction and Global Nonproliferation Partnerships

CTR programs need to be expanded and adapted into an overall reformulation of what U.S. foreign and defense policy should be in the twenty-first century. Therefore, CTR should be re-conceptualized from a Russia/Former Soviet Union-focused assistance program to a government-wide fund that can be used for interagency and multilateral efforts to secure WMDs and related materials wherever they may be located.

Russia should commit to provide the necessary regulatory and monetary resources to sustain high levels of nuclear security after international assistance is phased out.

The United States and Russia should build upon their February 2005 Bratislava agreement, establishing a common standard of security for all nuclear weapons and materials, and extend this to third countries to convert HEU reactors and secure vulnerable materials.

The G-8 Global Partnership should be operationally modernized to become more flexible and adaptive to real time proliferation dangers including developing joint plans and advance preparations to allow for a coordinated, multilateral, and rapid response to
Peace and Security Initiative

threats; expand its financial, analytical, and operational resources and include relevant private sector and civil society partners; and commit to address proliferation challenges beyond its original 2012 deadline.

➤ Collaborations should be undertaken to modify the Global Nuclear Energy Partnership’s approach to reprocessing to ensure that it does not encourage the spread of plutonium separation facilities.

### ADDITIONAL RESOURCES

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#### Resources


BACKGROUND

The future of U.S.-China security relations will be one of the strategic drivers of global security and stability in the early twenty-first century. For the past seven American administrations, U.S. policy toward China on security issues, and on nonproliferation in particular, has sought to integrate China more deeply into the international constellation of rules, norms and institutions on global and regional security and WMD proliferation. More recently, this approach of shaping Chinese diplomacy through integration was captured under the rubric of encouraging China to become a “responsible stakeholder.”

This U.S. approach has worked well over the past three decades to change China from an active proliferator of WMD technologies—from the mid-1980s to the late-1990s, China exported sensitive materials including nuclear-, chemical- and/or missile-related technologies and know-how to countries such as Iran, North Korea, Pakistan, Saudi Arabia, and Syria—to an active supporter of nonproliferation norms and institutions. Over the past 10 years, by contrast, Chinese proliferation of sensitive weapons and related materials, equipment and technologies, has significantly declined. Beijing has joined and is a member in good standing of nearly all the major arms control and nonproliferation agreements and treaties. China has steadily developed, in cooperation with the United States and other international partners, a set of robust domestic institutions to implement and expand its current nonproliferation commitments, including a comprehensive and transparent export control and monitoring system. Beijing has been instrumental in helping move the multilateral six-party process forward to realize the goal of the denuclearization of North Korea. The United States still has some proliferation concerns about China and continues to sanction Chinese companies and individuals for chemical- and ballistic missile-related exports to countries such as Iran.

Despite this positive progress on nonproliferation, a variety of other security issues have caused problems for U.S.-China relations. In late 1995 and early 1996, large Chinese military exercises along the Taiwan Strait, including the firing of ballistic missiles into waters around Taiwan, prompted the deployment of two U.S. carrier battle groups toward the area. The accidental bombing of the Chinese embassy in Belgrade by a U.S. warplane in 1999, the collision of a U.S. EP-3 reconnaissance aircraft and a Chinese fighter jet over the South China Sea in 2001, and the successful Chinese anti-satellite weapon test in 2007 all raised tensions in the U.S.-China security relationship and highlighted the absence of crisis management mechanisms and conflicting norms of behavior. Chinese intelligence-gathering in the United States is also on the rise, often targeting sensitive areas of U.S. national security and defense-industrial capabilities.

Looking ahead, while the United States and China will see increasing convergence on proliferation issues, the overall security relationship will continue to present a mixed picture. China is neither close security partner nor a determined adversary. Washington and Beijing will find common ground on some security questions, but not on others. This dynamic will become all the more complicated in the years ahead for at least three major reasons.

First, China is conducting a major military modernization effort that is in part directed at U.S. forces in the Western Pacific given the possibility of a U.S.-China conflict over Taiwan. China's build up has led to U.S. countermoves, such as augmenting its presence in the Western Pacific by strengthening the U.S.-Japan security alliance and increasing the air assets based...
in Guam. Second, China’s growing economic and diplomatic influence gives it greater maneuverability and leverage to achieve its own advantage on a range of security questions of concern to the United States in Asia and beyond. Third, most of the big security challenges facing the world for the near- to medium-term are likely to be “non-traditional” and “trans-national” in nature—terrorism, international crime, climate change, resource scarcity, disease, and environmental degradation—requiring multilateral responses which major powers such as the United States and China are often poorly-suited to pursue.

TALKING POINTS

China is likely to become more assertive during the next decade. Beijing’s external security profile will show more confidence and more muscle. It may even make a concerted attempt to narrow the military gap with the United States. The next administration will have to adjust to this significant transformation by maintaining US strength without creating a new Cold War.

The U.S.-China security relationship is increasingly complex and fraught with both challenges and opportunities. A highly adversarial relationship with China is not inevitable. As China has become more globally involved its interests have focused more on fostering regional stability and prosperity. The United States needs a China policy that reflects both the competitive and cooperative aspects of U.S.-China security relations. A core U.S. policy goal should be to ensure that its China policy does not treat China as an implacable adversary, rendering such an outcome almost inevitable.

The traditional compartmentalization of U.S.-China relations into security, economic, and diplomatic strands is increasingly ill suited to the realities of the bilateral relationship. The blurring of issue areas needs to be recognized, especially the intertwining of economic and security dynamics.

Successful relations with China will increasingly demand effective consultations with U.S. security partners and greater investments in regional multilateral cooperation. A future U.S. China policy needs reflect America’s broader strategic interests in Asia as well as China’s growing global role. This means strengthening and improving consultations with U.S. alliances and security partnerships in Asia and Europe, and ensuring that key U.S. allies such as Japan, South Korea, Australia, and NATO partners play a leading roles in ensuing regional stability and prosperity. The United States should also supplement its bilateral partnerships by embracing regional multilateral security cooperation as an effective mechanism for shaping Chinese actions and enhancing U.S. influence in the region.

China as responsible stakeholder. The United States welcomes the emergence of a stable and prosperous China that makes an increasingly valuable contribution to the international community commensurate with its growing global role. Indeed, this has been the overarching aim of U.S. China policy for the past thirty years or more. This will mean working with China to assure we move forward as responsible stakeholders to address the challenges we face in the twenty-first century.

Uncertainty about China’s military build-up. China’s regional security situation is one of the most stable it has known in more than a century. Hence we need to ask why the Chinese military is undertaking such a significant modernization effort. Because questioning from the United States and Asian countries is unlikely to dissuade China from enhancing its military capabilities, we must concentrate on clarifying Chinese intentions. The Chinese military remains opaque at best about its longer-term intentions—how it plans to use its increasing military capabilities. Such uncertainties can undermine stability. U.S.-China security ties would greatly benefit from greater Chinese transparency about its military, including through stepped up military-to-military exchanges and consultations which are truly reciprocal and conducive to confidence-building and cooperation.

Remaining proliferation concerns. China has taken important steps to greatly improve its commitments and contributions to the international nonproliferation regime. However, numerous concerns persist that Chinese companies and individuals continue to violate those commitments as well as Chinese national law through their export of sensitive weapons and materials. China needs to invest further resources to strengthen its domestic export controls and make clear at a high political level that stemming WMD-related proliferation is a top priority. China’s modest but ongoing buildup of its nuclear arsenal also demands clarification and runs counter to growing international calls for serious disarmament efforts on the part of nuclear-weapon states.
PREVIOUS PRESIDENTIAL AND CONGRESSIONAL ACTION

Among the core U.S. executive and legislative and branch actions related to U.S.-China security and nonproliferation relations, the most important include:

Taiwan Relations Act (U.S. Code Title 22, Chapter 48, Sections 3301-3316, enacted April 10, 1979). This legislation governs U.S. relations with Taiwan, including arms sales and security commitments.

Nonproliferation sanctions and export controls. Between 2001 and 2007, the United States imposed new or continued ongoing nonproliferation sanctions against Chinese entities on nineteen occasions. These do not target the Chinese government, but are aimed at specific Chinese companies and citizens, and largely involve chemical- and missile-related exports to Iran. In 2007, the Commerce Department issued a new rule (Federal Register, volume 72, number 117, June 19, 2007) which revised licensing requirements on exports and re-exports to China to require exporters to seek a license for certain high-technology items not otherwise prohibited for export to China, in order to verify that Chinese end-users of these items are not military-related.


RECOMMENDATIONS

➤ Conduct a comprehensive review of U.S. China policy with an aim to more clearly recognize the linkages and properly balance the contending priorities of our economic, political and security interests in relations with China. There are more than sixty separate dialogue channels between the United States and China. These need to be streamlined and coordinated.

➤ Conduct a comprehensive policy review of U.S. strategy in East Asia. Such a study has not been undertaken since the late-1990s and it is far overdue given the changes in the region, including, but certainly not limited to, China’s growing regional and global role. This review should include U.S. policy towards Taiwan and the significant changes in the political and military dynamic in cross-Taiwan Strait relations.

➤ U.S. China policy should include initiatives that improve U.S. domestic competitiveness. One of the best ways to address the economic and technological challenges China poses is to make the United States more competitive at home through worker training, trade and investment support for small and medium sized enterprises, export promotion, and encouraging Chinese investment in the United States.

➤ Upgrade the level of diplomacy with China, putting the ongoing “Senior Dialogue” at the level of secretary of state. Expand the U.S. diplomatic presence in China and dramatically expand training of foreign service staff in Chinese language and other preparations for service in greater China.

➤ Increase the level and intensity of effective military-to-military exchanges with China, including increased flag officer exchanges, defense college exchanges, port visits, maritime security deliberations, and strategic nuclear dialogue. Include the defense science, technology and industrial establishments in this exchange, as well as the space sector. Some increased activity will require Congress to revisit and revise the restrictions presently placed on military-to-military exchanges between the United States and China.

➤ Increase intelligence and counter-intelligence resources in the United States to improve understanding of Chinese security policies and practices, and stem illicit activities by Chinese services in the United States.

➤ Invest in China-related research and education at both governmental and nongovernmental levels. China presents enormous potential challenges and opportunities to the United States, but we lag far behind in the public and private sector in our ability to rise to them.

➤ Congress should seriously consider and pass bipartisan legislation aimed at these goals, including the legislation put forward under the leadership of Representatives Mark Kirk (Republican of Illinois) and Rick Larsen (Democrat of Washington) in their “U.S.-China Competitiveness Agenda of 2007” which aims to expand American influence in China and increase U.S. competitiveness globally and regarding China in particular.
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Publications


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BACKGROUND

North Korea is a secretive, bellicose, Stalinist state that has in the past engaged in terrorist acts. Thus, the North Korean nuclear weapons program has long been of grave concern to its neighbors and the United States. Nuclear weapons require nuclear explosive material, either plutonium or highly enriched uranium, and North Korea has acquired the first and seems to have attempted to acquire the second. In 1986, the North Koreans started up a five megawatt nuclear reactor at Yongbyon that is of a type ideally suited for producing plutonium. In the same year the North Koreans built a nearby reprocessing facility, indicating intentions to separate the plutonium from the used reactor fuel. In 2002, the United States confronted North Korea with evidence of the importation of specialized aluminum alloys that could be used to manufacture gas centrifuges that could, in turn, produce highly enriched uranium. The North Koreans readily admitted to importing the aluminum but claim they have not built centrifuges. Physical evidence suggests, however, that they may have enriched at least small amounts of uranium. Even now almost nothing is known publicly about the uranium program.

North Korea signed the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in 1985, but the Yongbyon reactor was placed under International Atomic Energy Agency (IAEA) safeguards only in 1992. Several national intelligence services believe that North Korea removed some fuel rods and some quantity of plutonium was separated before safeguards were in place. While all estimates are uncertain, most analysts believe that North Korea then had enough plutonium for one or two nuclear bombs. In 1993, a crisis developed when the IAEA proposed, and the Koreans refused, tougher safeguards. The United States seriously considered conventional air strikes against the nuclear facilities. The crisis was resolved diplomatically through the Agreed Framework, where the Koreans agreed to shut down their nuclear facilities in return for various concessions by the United States.

One year after taking office, President Bush discarded the diplomatic framework constructed under President Clinton, taking a much more confrontational approach, and U.S.-North Korean relations deteriorated. In response, in 2003, the Koreans “suspended” their participation in the NPT, which the rest of the world interpreted as equivalent to abrogation. Later that year, the United States organized the six-party talks, so called because they included North and South Korea, the United States, Japan, China, and Russia. That same year, the North Koreans restarted the Yongbyon reactor and began reprocessing spent fuel which increased their stocks of plutonium by at least half a dozen bombs’ worth.

In October 2006, the North Koreans conducted a nuclear explosive test. One Chinese official reported that the Koreans had provided advance notification of the test to the Chinese government and predicted a yield of four kilotons (equal to four thousand tons of TNT). The actual test turned out to be less than one kiloton, most likely half of one kiloton. Some analysts have said this shows the test was a failure. Others have suggested that the Koreans built the best bomb they could that would fit atop the likely delivery missile. If this was the case, then the test was more of an experiment to determine what the yield would be rather than an outright failure.

Within a couple of months of the test, U.S. and North Korean negotiators met bilaterally and in February 2007 a six-party meeting produced a new agreement with North Korea. Recent progress in the talks has been, judging by the standards of past difficulties,
encouraging. The North Koreans have agreed, in principle, to stop their nuclear program, first disable and then dismantle their reactor and reprocessing facilities, account for all their plutonium production, and discuss any uranium program. North Korea has taken certain actions to disable its reactor, which some argue is of limited significance because the reactor is most likely at the end of its useful life anyway. The North Koreans have missed deadlines for handing over information and the information packages have never been completely adequate. But negotiations continued and progress was made. As the Australian Prime Minister Kevin Rudd recently said, the best one can hope for when dealing with North Korea is two steps forward and one and a half steps back. As of October 2008, the United States has delisted North Korea as a state sponsor of terrorism, while North Korea has agreed to U.S. verification requests and continues work on dismantling the Yongbyon reactor, resolving the most recent stalemate.

North Korea’s nuclear weapon program is particularly worrying because it has also developed missiles that could deliver warheads to South Korea and Japan and is developing longer-range missiles that eventually could reach the United States.

Finally, there is substantial evidence that North Korea assisted Syria in constructing a plutonium production reactor that Israel subsequently destroyed by air strike in September 2007 before it was fully operational.

TALKING POINTS

➤ **Don’t isolate, engage.** The North Koreans present one of the most challenging diplomatic tasks currently facing the United States. Some argue that the regime is so vile that the United States should not even talk to it, but the United States has tried both engagement and isolation and, as appalling as the government of North Korea is and as unpleasant as dealing with the regime is, the evidence is clear that engagement has been the more productive route.

➤ **Keep nuclear negotiations focused and the highest priority.** Nuclear weapons are not the only problem the outside world has with North Korea. The totalitarian regime is guilty of ongoing human rights abuses and economic mismanagement that has resulted in deadly famine. It has been charged with smuggling, and money laundering. It sells long-range ballistic missile technology to other dangerous governments and may have supplied nuclear reactor technology to Syria. In the past it has engaged in terrorist attacks against South Korea and made occasional military incursions, and it once had a program to kidnap Japanese citizens (an unresolved and contentious issue for Japan). While none of this behavior should go unchallenged, the nuclear danger is clear enough and great enough to be dealt with as a separate problem and given highest priority.

➤ **Develop a comprehensive diplomatic approach.** While nuclear weapons are the greatest immediate danger from North Korea, they are only a large part of a greater problem. North Korea is so withdrawn from the community of nations that it seems to feel it has little left to lose. The United States, in cooperation with North Korea’s neighbors, should develop a comprehensive picture of what the future for North Korea could look like, including trade, aid, security, and, of course, denuclearization.

➤ **Military strikes are not now an option.** At certain points in the past, conventional attacks on North Korean nuclear facilities could have set back their plutonium weapon program but the situation has changed. Future plutonium production could be blocked, but extracted plutonium from the reactor has a tiny volume and can be hidden almost anywhere. The same is true of nuclear weapons. The location of the uranium program—if it exists—is unknown and, in any case, it could be protected against attack.

➤ **Verification is possible, with North Korean cooperation.** Given adequate access to the Yongbyon reactor and radioactive waste storage sites, IAEA inspectors can develop quite accurate estimates of total plutonium production. Reasonable estimates of the amount used in the 2006 nuclear test are possible. All of these measures require complete cooperation from North Korea and outside powers should continue to press them for such cooperation. With the disablement of the reactor, the North Koreans have no means to produce new plutonium. Some observers believe that the uranium enrichment program is at an early stage and, if this turns out to be true, then verification that the North Koreans do not have dangerous quantities of uranium is also possible. Verifying the output of an advanced uranium enrichment program will be more difficult.

➤ **Be patient.** With the Yongbyon reactor shut down, the plutonium situation is at least not getting worse so even slow progress is valuable.
RECOMMENDATIONS FOR 2009

➤ The most urgent and critical threat to U.S. security coming from the North Korean nuclear program follows from the possible transfer of nuclear weapons, fissile material or sensitive nuclear technology to a terrorist group. Therefore, the United States needs to make clear to North Korea that such actions are intolerable and to insist that they clarify what was involved in cooperation with Syria. The president should continue the current course of engaging North Korea both within the six-party talks forum and through formal and informal direct bilateral communication.

➤ The president should work to maintain a consistent position on the legitimacy of the North Korean government. While the behavior of the North Korean government has been dreadful, challenges to its right to exist are counterproductive.

➤ The president should, along with other regional powers, continue to press for verification of North Korea’s denuclearization. Because of North Korea’s past behavior, other nations, particularly Japan, will not accept assurances on trust. Verification measures should, however, be carefully tailored to confirming the technical steps of denuclearization and should not be used as an indirect means of increasing openness in the North or undermining the regime.

➤ The president should make clear that security guarantees to South Korea and Japan are unshakable whether or not North Korea has a nuclear weapon. At the same time, the president must not fall into the trap of suggesting that U.S. guarantees must include nuclear weapons, further enhancing the nuclear cachet.

➤ Congress should be ready to appropriate funds to support North Korean denuclearization and its verification. An argument can be made that the North Koreans developed the illegal nuclear program so they should pay to abolish it. While stopping the program should be in the North Korean’s interest, the verification of that denuclearization is clearly in the interest of the outside world. The dollar amounts required are tiny by U.S. standards and the security payoff could be huge.

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Publications
Reducing the Risks From Pakistan’s Nuclear Complex

BACKGROUND

Pakistan has developed and tested nuclear weapons, mastered uranium enrichment centrifuge and plutonium separation technology, produced stocks of highly enriched uranium and plutonium sufficient for fifty to one hundred weapons, and established a nuclear complex employing many thousands of scientists, engineers, technicians, and security personnel. Pakistan’s nuclear program is currently undergoing a large expansion, including two new nuclear reactors under construction to make plutonium for weapons. This growth in the nuclear complex is driven by Pakistan’s determination to maintain strategic parity with India, with whom it has fought four wars. The nuclear and conventional arms race between the two has been accelerating over the past decade.

Pakistan’s long standing sense of insecurity has intensified as the United States has been seeking to develop a new strategic partnership with India. The U.S.-India nuclear cooperation agreement forms a key element in this relationship. In August 2007, Pakistan’s National Command Authority, which has responsibility for its weapons program, announced that “the U.S.–India Nuclear Agreement would have implications on strategic stability as it would enable India to produce significant quantities of fissile material and nuclear weapons from un-safeguarded nuclear reactors” and expressed “firm resolve to meet the requirements of future credible minimum deterrence.” This would seem to imply a Pakistani decision to maintain if not increase its own fissile material production capacity.

The United States has been concerned about Pakistan’s nuclear weapons program since its inception in the early 1970s. For much of this time, however, successive administrations have chosen to focus on other priorities involving Pakistan. The Reagan Administration provided military and economic aid in exchange for Islamabad’s assistance in the war in Afghanistan against the Soviet Union in the 1980s. After September 11, 2001, to obtain Pakistan’s support for the war against the Taliban and Al-Qaeda, the Bush Administration lifted the sanctions imposed after the 1998 nuclear tests.

When the United States has chosen to focus on Pakistan’s nuclear program, the concern has been the risk of proliferation of nuclear weapons, materials, technologies and knowledge from Pakistan to other states. Pakistan acquired key elements of its nuclear weapons capability through tapping the international market in nuclear technology and services over two decades. Its uranium enrichment program, led by A.Q. Khan, organized purchases of key components, materials and in some cases entire facilities, from companies in Western Europe, Canada and the United States. Having acquired a nuclear weapons capability, Pakistan moved from being a client to a supplier, transferring uranium enrichment technology, components, materials, and information to Libya, Iran and North Korea, and making similar offers to other countries. A.Q. Khan’s confession in 2003 taking sole responsibility for sharing nuclear technology has since been largely retracted. He has suggested other senior officials, especially in the military, knew of the transfers and may have authorized them.

A second U.S. concern, especially after 9/11, is the risk that radical Islamic groups, with help from sympathetic scientists or military insiders, may be able to gain access to Pakistan’s nuclear weapons and materials. Several former senior Pakistani nuclear scientists are known to have met with the Al Qaeda leadership before 2001; one of these scientists publicly expressed his admiration for the Taliban as a model for Pakistan. The Pakistan

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Army and its intelligence agency have longstanding ties with Islamist political parties, and have organized, armed, trained and supported militant groups that fought in Afghanistan and against India. Led by a major general, Islamist army officers with ties to radical groups attempted a coup in 1995.

Since 9/11, the United States has sought to help Pakistan secure its nuclear weapons complex, providing funds, equipment and expertise. Pakistan claims its nuclear weapons, materials and personnel are now subject to tight control. The chairman of the U.S. Joint Chiefs of Staff, Admiral Mike Mullen, said in September 2008, “I am comfortable that the right controls are being applied to the safety and security of the nuclear weapons in Pakistan.” But as the recent U.S. record of problems in ensuring the safety and security of its own nuclear weapons suggests, even long-established systems for managing nuclear weapons cannot be taken for granted.

Moreover, confidence in the management of nuclear weapons by some sections of Pakistan’s military may not extend to the security of weapon materials and expertise in the production complex. Pakistan’s interest in denying outside access to its nuclear facilities and personnel has limited U.S. engagement. Other Pakistan government agencies and parliament have no oversight of the nuclear complex. Pakistani public interest groups and the media have no access and there are no instances of significant whistle blowing. There is, in effect, no independent evidence about the state of security in the complex.

The uncertainty about the effective security of Pakistan’s nuclear complex will grow as Pakistan increases its production and stockpiles of weapons and weapon-materials. This long term danger is compounded by Pakistan’s current political, economic and social crisis, a legacy of decades of military rule, powerless and inept civilian government, and a U.S. policy of privileging security interests over support for democracy and development in Pakistan. The country now faces a grave threat from a growing Islamist insurgency, fueled in large part by the spillover from the U.S. war against the Taliban and Al-Qaeda in Afghanistan. Many Pakistanis are alienated from their government, do not support the war against the Islamist militants, and see the United States as a threat.

There is a growing realization among Pakistani policy makers, including in the nuclear weapons complex, that religious extremism may now a more pressing threat to Pakistan’s security than India. It is possible that Pakistan may consider significant restraints on its nuclear program, provided that these are presented as part of an international agreement rather than unilateral concessions elicited under pressure.

**TALKING POINTS**

- **The risk of proliferation from Pakistan’s nuclear complex would be reduced by a verified international ban on producing fissile material for weapons.**

The most serious cases of proliferation involving Pakistan have involved its program to make highly enriched uranium (HEU) for weapons. It also has a growing plutonium production complex. These fissile material production facilities are closed to outside inspection and there are no reliable figures for how much HEU or separated plutonium Pakistan has produced. Pakistan is one of only three states still producing highly enriched uranium and/or plutonium for weapons—the others being India and perhaps Israel. The United States, United Kingdom, Russia, France, China, and North Korea have all ended production.

An international treaty to verifiably ban the production of fissile materials for weapons, as called for by the United Nations in 1993, and supported by the Clinton administration, would serve to cap the amounts of fissile materials that are available, improve national monitoring and regulation of these materials, and provide international inspectors access to all production facilities. The Bush administration in May 2006 proposed a draft FMCT that did not contain any provisions for international verification. This would not offer any means to inspect fissile material production facilities and would therefore offer no benefits in terms of monitoring the security of facilities and accounting for materials.

In the case of Pakistan, a verifiable FMCT would for the first time bring its fissile material production facilities under safeguards. International inspections would provide independent oversight of these facilities and so reduce the risk of the diversion of nuclear weapon materials and technologies. It would not end, however, the risk from the diversion or threat or use of existing weapons in a future conflict.

Effective verification of a production cutoff would also require measures to ensure that there are no covert production sites. This would require states, including Pakistan, to accept international inspections to detect clandestine production activities and would act as a
check on the diversion of technology or material. A FMCT could also require all states to declare their total inventory of HEU and separated plutonium and to meet agreed international standards for accounting and securing these materials. The United States and United Kingdom have declared their total stocks of HEU and plutonium.

➢ To restrain Pakistan’s nuclear program, address Pakistan’s insecurities regarding India, and reduce U.S. support for the role of the military in Pakistan’s politics.

Pakistan and India are in the midst of a nuclear and conventional arms race that involves large military expenditures, production of nuclear weapon materials, the development of long-range missiles, and aggressive military doctrines and postures. The status of Kashmir, the focus of three of the four India-Pakistan wars, remains a source of continuing friction and potential conflict.

For most of the past fifty years, Pakistan has used its political, economic and military relationship with the United States to garner resources to counter India. The United States, for its part, has helped strengthen Pakistan’s armed forces as part of a Cold War strategy to build alliances to confront the Soviet Union and more recently to fight the Taliban and Al Qaeda. A recent expression of this dynamic is Pakistan’s pursuit of additional US F-16 fighter jets, which can deliver nuclear weapons, by citing their possible use as ground attack aircraft against the Taliban in Pakistan tribal areas.

Islamabad’s security concerns about India have been sharpened recently by the U.S.-India strategic partnership pursued by the Bush Administration. This new relationship, codified in the 2004 U.S.-India “Next Steps in Strategic Partnership” agreement, includes the U.S.-India nuclear deal, and U.S. efforts to sell advanced conventional weapons, ballistic missile defense, and dual-use technology to India. U.S. support for improving Indian military capabilities may lead Pakistan to expand further its reliance on nuclear weapons including producing more weapon material, and deploying its nuclear weapons. This raises the risk of diversion of material, as well as the theft or inadvertent or unauthorized use of assembled weapons.

U.S. policy should seek to counter the drivers of the India-Pakistan arms race. This will require the United States to move away from its support for the Pakistan army and limit its strategic partnership with India.

The administration should adopt a policy to not sell weapons or dual-use technology to Pakistan or India; to redirect military aid to Pakistan to development assistance that strengthens democratic institutions, local government, and civil society; to promote the free movement of people, goods, and services between India and Pakistan; and work towards an equitable settlement of the Kashmir dispute.

➢ Reducing and ending the nuclear danger in Pakistan necessitates ending the South Asia nuclear rivalry and that will require in turn the worldwide abolition of nuclear weapons.

Pakistan’s nuclear weapons program is tied fundamentally to its security concerns with regard to India. Pakistan has said it would only sign the Comprehensive Nuclear-Test-Ban Treaty, consider a Fissile Material Cutoff Treaty, and give up its nuclear weapons if India were also to do so. Pakistan also insists that each country’s respective conventional military forces become more balanced.

India has made clear it will not relinquish its weapons short of the global abolition of nuclear weapons in a time-bound framework through an international treaty.

A declaration by the United States of a policy to begin talks on the verifiable elimination of nuclear weapons would encourage India and Pakistan to halt expansion of their respective nuclear weapon programs and to prepare to end them in a verifiable way. Nuclear disarmament would require the verified dismantling of all weapons, the shut-down and decommissioning of all military fissile material production facilities, and irreversible disposition of all nuclear weapon materials.

RECOMMENDATIONS FOR 2009

➢ Announce U.S. support for immediate negotiations at the United Nations Conference on Disarmament (CD) on a verified international ban on producing fissile material for weapons (Fissile Material Cutoff Treaty). This will require the United States to lift its block on parallel talks at the CD on arms control agreements (e.g. a ban on the weaponization of space) seen as a priority by key states such as China and Russia.

➢ A declaration by the United States, perhaps in the form of a National Security Presidential Directive,
of a policy to achieve the timely and verifiable worldwide elimination of nuclear weapons. Under Article XI of the Treaty on the Non-Proliferation of Nuclear Weapons, the United States and the other nuclear weapon states party to the treaty are obligated to eliminate their nuclear weapons. Israel, India and Pakistan, who are outside the treaty, could be brought into the negotiating process if talks on eliminating nuclear weapons are convened through the United Nations CD.

Redirect U.S. policy towards Pakistan and India to strengthen democratic institutions, economic cooperation, and peace. This shift will need to include U.S. support for an international ban on the sale of weapons and dual-use technology to both Pakistan and India; economic aid that promotes the free movement of people, goods, and services between India and Pakistan; and U.S. support for India-Pakistan talks on an equitable settlement of the Kashmir dispute.

### ADDITIONAL RESOURCES

**Pakistan's nuclear program and proliferation risks**


**The role of a Fissile Material Cutoff Treaty**

**The United States and Pakistan**


**The elimination of nuclear weapons**
BACKGROUND

On October 8, 2008, President George W. Bush signed into law congressional approval for a peaceful nuclear cooperation agreement with India. This has been a key foreign policy objective for President Bush since at least July 2005, when he and Indian Prime Minister Manmohan Singh issued their Joint Declaration to establish a global partnership on issues of mutual interest. It also sets an extremely damaging precedent for the nuclear nonproliferation regime, calling into question the bargain that non-nuclear weapon states have made under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

The agreement is controversial because India has never joined the NPT, tested nuclear weapons in 1974 and 1998, and has a nuclear arsenal. Since 1978, the United States has not engaged in nuclear cooperation with states that have not signed the NPT, precisely as a result of India's 1974 test. The Nuclear Suppliers Group (NSG) adopted the same requirement in 1992. In 1995, the NPT Review and Extension Conference reaffirmed that full-scope safeguards were a necessary precondition for nuclear supply.

In 2005, President Bush, citing the desire for a broader, global partnership with India to promote stability, democracy, prosperity and peace, announced that he would “work to achieve full civil nuclear energy cooperation with India” and would “also seek agreement from Congress to adjust U.S. laws and policies.” President Bush also promised to seek an exception for India from NSG guidelines.

The Bush Administration promoted the deal as bringing India into the “nonproliferation mainstream.” Most critics believe that far more should have been demanded of India, including signing the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and halting production of fissile material for weapons. Under the current deal, India has reiterated its unilateral nuclear test moratorium, agreed to place eight power reactors under safeguards, promised to negotiate an Additional Protocol agreement with the International Atomic Energy Agency (IAEA) to strengthen and expand existing safeguards and verification measures, and offered to harmonize its export control system with that of the NSG and the Missile Technology Control Regime (MTCR). India continues to produce fissile material for weapons, has not placed its breeder reactor program under safeguards and has insisted on the right to take “corrective measures” if fuel supplies are cut off (e.g., if India tests a nuclear weapon again).

TALKING POINTS

➤ The United States initiated strategic cooperation with India in several areas during the last few years. A key initiative, particularly for India, has been to lift the ban on nuclear cooperation—in place for the United States since 1978 and for all nuclear suppliers since 1992—with respect to states that have not joined the NPT.

➤ This decision has been controversial because India is one of three states outside the NPT (the others are Pakistan and Israel). India tested nuclear weapons in 1974 and 1998. It has now declared a unilateral test moratorium but continues to make fissile material for nuclear weapons.

➤ In order to lift the ban, the Bush Administration sought waivers from existing U.S. law and an exception for India from current NSG guidelines. In the 2006 Henry J. Hyde United States-India Peaceful Atomic Energy Cooperation Act, which provided waiver authority from requirements in the Atomic
Energy Act, Congress required an NSG decision as a prerequisite for its own approval.

The NSG decided on September 6, 2008 to make an exception for India from its guidelines. The exception contained no restrictions on trade with India, despite reservations by several states about the wisdom of sensitive nuclear transfers (uranium enrichment and spent fuel reprocessing) and continuing nuclear supply even after a future Indian nuclear test.

In exchange for swift congressional approval, Secretary of State Condoleezza Rice promised House Foreign Affairs Committee Chairman Howard Berman (Democrat of California) that the United States would pursue a decision at the November meeting of the NSG that would bar uranium enrichment and spent fuel reprocessing-related transfers to states that were not members of the NPT and did not have an Additional Protocol in force. This would effectively rule out such transfers to India. India can be expected to protest assiduously, since it considers any restrictions on nuclear trade to contradict its requirements for “full civil nuclear cooperation.”

Any such transfers would set an extremely damaging precedent for the nonproliferation regime, as India has not accepted safeguards on enrichment and reprocessing plants, continues to make fissile material for weapons, and can be expected to transfer any technical know-how from any safeguarded enrichment or reprocessing activities to its unsafeguarded military program.

India signed a statement of intent in September 2008 that suggested it might buy as many as ten large nuclear power plants from U.S. vendors. However, India also has existing and new agreements with Russia and France and is likely to prefer suppliers that require the fewest nonproliferation commitments, such as Russia and France.

RECOMMENDATIONS FOR 2009

It is possible that the Bush Administration will fail to achieve agreement at the November 2008 NSG meeting on additional criteria for enrichment and reprocessing transfers. If this happens, it will be important to redouble efforts in the next administration. In addition to the nonproliferation risk of such transfers to India, consensus has eroded within the NSG about enrichment and reprocessing transfers. In a perverse response to the 2004 Bush administration policy of restricting any enrichment and reprocessing transfers to states that do not already have functioning capabilities, several other countries are considering embarking on enrichment projects, including Canada, Ukraine, and South Africa. In addition to specifying NPT membership and Additional Protocol requirements, the United States needs to reach agreement on other criteria currently under consideration in draft form, including provision of plants only under a “black box” arrangement under which no technology is transferred.

Given the utter failure of the U.S.-India nuclear initiative to reap any real nonproliferation benefits from India, the next president should focus on real measures to bring India into the nonproliferation mainstream. These would include lobbying India to sign the CTBT and fresh initiatives at the Conference on Disarmament or elsewhere to pursue an internationally and effectively verifiable fissile material production cutoff treaty. Part of the CTBT push would obviously rely on U.S. efforts in Congress to get the CTBT ratified.

On negotiations for a Fissile Material Cutoff Treaty (FMCT), India would be a critical party in that ef-
fort. Short of achieving an FMCT, every effort should be made to lobby India to halt production of fissile material for use in nuclear weapons, either unilaterally or in conjunction with Pakistan and China. A first step would be to procure a national statement from China that it has stopped producing fissile material for weapons, which the Chinese have said privately but not yet publicly. A second step would be to approach Pakistan, or to approach both India and Pakistan at the same time. With a new government in Pakistan, fresh avenues of discussion might be possible. Pakistan should be urged to consider several options: a unilateral moratorium, bilateral talks with India on the matter or trilateral (with the United States) talks with an eye toward confidence building measures that could begin with declarations. Given the NSG waiver for India, it is possible and perhaps desirable that a similar step could be considered for Pakistan if it signed the CTBT and halted fissile material production for weapons. It would be necessary to obtain Indian agreement both to the CTBT and a cutoff in advance of the Pakistani steps to ensure the success of this approach.

Other steps to bring India into the nonproliferation mainstream could also include getting India to join the Proliferation Security Initiative (if this survives the Obama administration) and the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies.
### ADDITIONAL RESOURCES

**Contacts**

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
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<tr>
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</tr>
</tbody>
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**Publications**

BACKGROUND

Reversing a thirty-year practice of not separating weapon-grade material from nuclear waste due to cost and proliferation concerns, the Bush Administration in February 2006 unveiled a plan for reprocessing U.S. and foreign nuclear waste as part of its Global Nuclear Energy Partnership (GNEP) program. Dubbed a non-proliferation initiative, GNEP contains several provisions related to nuclear power, including the establishment of a reliable international supply of uranium fuel and the take-back of spent fuel from recipient countries. However, major aspects of the GNEP proposal related to reprocessing and plutonium re-use exacerbate the risk of nuclear proliferation, are expensive, and fail to provide a viable solution to the problem of nuclear waste.

Reprocessing separates weapon-usable plutonium from nuclear waste (spent fuel that has been “burned” in a reactor) to use in fabricating fuel for nuclear power plants. India and North Korea used reprocessing to produce fuel for their nuclear weapons, using technology assistance that had been intended for peaceful purposes. The U.S. effort to reprocess nuclear waste at a time when the United States is seeking to prevent the spread of this sensitive technology weakens nuclear nonproliferation efforts to stop other countries from engaging in this practice and would make weapon-usable material accessible to terrorists seeking to acquire nuclear weapons.

Reprocessing alone does not solve the problem of nuclear waste. The proposed “re-use” of plutonium in the GNEP program would be through transmutation in fast reactors. However, fast-neutron reactors are not commercially viable and under a best-case scenario would take decades and significant government subsidies to deploy. Therefore, the Department of Energy (DOE) has proposed to re-use the plutonium in existing light-water reactors in the near-term (as France does) even though this process exacerbates the nuclear waste problem, is expensive, and poses proliferation risks.

The United States reprocessed for six years before stopping in 1972, and has not resumed due to proliferation concerns and costs. President Ford declared a policy of no reprocessing in 1976 which was codified by President Carter. President Reagan repealed this ban but costs and proliferation concerns stymied active interest in reprocessing for decades.

TALKING POINTS

➤ Reprocessing increases the risk that bomb-grade material will fall into terrorist hands. By engaging in steps that remove many of the necessary barriers that prevent terrorists from acquiring material for a bomb and increasing the production of nuclear weapons-usable material (or material that could be easily converted to pure plutonium), reprocessing increases the risk that this dangerous material will fall into the hands of terrorists. As long as the plutonium remains in spent fuel, it is extremely difficult to steal and handle because of the intense radiation emitted by the fission decay products in the spent fuel. France, the United Kingdom, and Japan have accumulated more than 192 metric tons of plutonium from commercial reprocessing (including foreign-owned plutonium), enough for 24,000 nuclear weapons. As nuclear terrorism remains one of the gravest threats to U.S. security, the United States should pursue policies that will reduce global stockpiles of plutonium, rather than create additional plutonium (or material that is easily separated to yield nuclear weapons-usable plutonium).
Reprocessing weakens U.S. nonproliferation efforts. Focusing on reprocessing and fast reactor technology significantly undermines U.S. and international efforts to prevent the spread of reprocessing and uranium enrichment technologies to other countries. GNEP’s vision of supplier countries that would be allowed to reprocess has already encouraged other countries to seek this technology. In addition, the position that a handful of countries, including the United States, can engage in this process while all other countries should forego these technologies—because of the risk that they could use them to produce material for nuclear weapons—directly undermines decades of nuclear nonproliferation efforts. As an example, the United States successfully helped convince countries such as Brazil, Germany, South Korea and Taiwan not to reprocess. As a result, today, Japan is the only non-weapon state that reprocesses. Since 2006, when GNEP was announced, South Africa and South Korea, have both expressed interest in acquiring reprocessing technology.

Reprocessing increases the cost of nuclear waste disposal. A 1996 National Academy of Sciences report concluded that reprocessing and plutonium re-use would cost taxpayers at least an additional $100 billion for waste disposal. The DOE has not released any lifecycle cost estimate for reprocessing and plutonium re-use since a 1999 report that estimated such costs at $280 billion. The economics of reprocessing do not justify a change from the current “once-through” fuel cycle practice. Furthermore, GNEP envisions the deployment of dozens of fast reactors. These fast reactors are more expensive than the proliferation-resistant light water reactors that the United States and most countries with nuclear power currently use, and pose more safety risks to operate. The U.S. nuclear industry has not expressed willingness to share in the costs of—or make any investments in—reprocessing, thus the costs would be borne entirely by taxpayers and rate-payers.

Reprocessing is not a solution to the nuclear waste problem. Reprocessing by France, the United Kingdom, and Japan fails to deal with the waste problem, resulting in larger and more dangerous waste streams than spent fuel that is not reprocessed. Reprocessing does not negate the need for a permanent geological repository, and the promise that reprocessing and plutonium re-use will prove a solution to the nuclear waste problem is still an illusion as the technology is not available despite years of international research. The fast reactors that are necessary to reduce the radioactivity of the nuclear waste are not economically competitive and several decades away at best.

Past attempts at reprocessing and plutonium re-use have been abandoned. In 1972, the sole operating reprocessing plant in the United States, located in West Valley, New York, was shut down after only six years of troubled operation in which it reprocessed the equivalent of only four months’ worth of the spent fuel currently produced in by U.S. nuclear power plants. It left major environmental contamination, the commercial reprocessing part of which is costing more than $5 billion to clean up. Congress terminated plans to build the Clinch River fast breeder reactor in Tennessee in 1983 after costs increased to $8 billion, twenty times greater than the original projected costs of $400 million. Most fast reactors in the world have been shut down because of safety and operating problems, high costs, and local opposition.

Both a 2007 National Academy of Sciences report and a 2008 Government Accountability Office report criticized the DOE’s premature plans for reprocessing and fast reactors. In addition, a 2007 Keystone report, endorsed by representatives from the Nuclear Energy Institute and nuclear utilities including as Exelon, Entergy, Southern Nuclear, GE Energy-Nuclear, Duke Energy, and FPL, concluded that GNEP “is not a strategy for resolving either the radioactive waste problem or the weapons proliferation problem” and that “critical elements of the GNEP are unlikely to succeed.”

PREVIOUS ACTION BY THE PRESIDENT AND CONGRESS

Since 2006, the Bush administration has proposed plans to:

- Significantly increase the funding for reprocessing and fast reactor R&D;
- Build a commercial reprocessing plant that would separate from nuclear waste plutonium (or material that could be readily converted to pure plutonium) that can be used to make nuclear weapons;
- Build fast reactors that will re-use the plutonium as fuel (long-term objective);
- Re-use the separated plutonium in existing light-water reactors (near-term goal); and
➤ Assemble an international coalition of now numbering twenty-five countries (as of the last GNEP Ministerial in October 2008 when four countries—out of 25 invited new countries—joined the coalition) to support closing the fuel cycle.

Ten national laboratories have received funding for reprocessing and fast reactor research and development (R&D), with Los Alamos, Idaho, and Argonne National Laboratories receiving most of the funding.

Congress (both the House and Senate Energy and Water Development Appropriations Subcommittees) repeatedly cut much of the funding that the administration requested for reprocessing, though the funding for R&D has doubled compared to 2005 levels. Congress also barred the use of funding for the construction of reprocessing or fast reactor facilities, and expressed skepticism about DOE’s plans. The House subcommittee called GNEP “rushed, poorly-defined, expansive, and expensive” and the House version of the 2009 Defense Authorization Bill said “The Committee is concerned about the proliferation risks associated with GNEP.”

### RECOMMENDATIONS FOR THE NEXT ADMINISTRATION

➤ Re-affirm the U.S. practice of not reprocessing commercial spent fuel by issuing an executive order that bans reprocessing in the United States;

➤ Continue the once-through fuel cycle (no reprocessing) rather than the closed fuel cycle as it is the most cost-effective, safe, and proliferation resistant process for nuclear power;

➤ Terminate funding beyond nominal research until an independent assessment of the impact on the cost of nuclear power, proliferation and the environment can be done;

➤ Terminate international cooperation on reprocessing and fast reactors, including on-going R&D with non-nuclear weapon states such as South Korea; and

➤ Strengthen diplomatic efforts and pressure to prevent the spread of sensitive nuclear technologies by promoting alternatives for spent fuel storage and disposal that do not pose proliferation risks.

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<tr>
<th>Fiscal Year</th>
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<tr>
<td>2003</td>
<td>$18.2 million</td>
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<td>2006</td>
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<td></td>
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<td>(including $80 million Advanced Fuel Cycle Initiative (AFCI) and $40 million planning and site determination)</td>
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<td>2007 (GNEP unveiled in Feb. 2006)</td>
<td>$250 million</td>
<td>$167 million</td>
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<td>(FY 2007 continuing resolution provided $80 million for AFCI and an additional $41 million for the overall Energy Supply &amp; Conservation account; DOE reprogrammed additional funding from other programs in Energy Supply &amp; Conservation to GNEP)</td>
</tr>
</tbody>
</table>
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The cooling tower at Trojan nuclear power plant in Ranier, Oregon. Trojan operated for sixteen years before being decommissioned and dismantled, a task completed in 2006. (iStockphoto.com)
Department of Defense (DOD) plans for establishing missile defenses in Europe have caused a serious strain in U.S.–Russian relations not seen since the Cold War. Dealing with this controversial project will be the most pressing item on the missile defense agenda for the next U.S. president.

BACKGROUND

Missile defense is the most expensive defense acquisition program in history. Since President Reagan’s famous ‘Star Wars” speech in 1983, the United States has spent at least $120 billion on missile defense. Over the next five years, the Pentagon has requested another $62.5 billion for missile defense, with no end in sight. If the next U.S. president and Congress support this level of spending on missile defense, by the end of 2013 over $110 billion will have been spent just since 2003, not counting U.S. missile defense spending in the previous twenty, forty, or sixty years.

In FY 1985, two years after Reagan’s speech, his administration’s missile defense budget was still only $1.8 billion. In 1986 it jumped to $3.7 billion, and then to about $5.0 billion per year for the last two years of his administration. The average during the Clinton administration was about $3.5 billion per year. Under President George W. Bush it has run about $10 billion per year. The President’s request for FY 2009, was the highest amount to date requested for missile defense by any president—$13.2 billion DOD-wide, including $9.4 billion for Missile Defense Agency (MDA) itself.

The United States has been trying unsuccessfully to develop effective missile defenses for 64 years, since German V-2 ballistic missiles terrorized London during World War II. The first U.S. defensive missile program, called Project Thumper, began in November 1944. Later Project Thumper would be replaced by the Army’s Project Nike, which in the early 1950s evolved into Nike-Ajax and Nike-Hercules which were anti-aircraft systems, not ABM (anti-ballistic missile) systems. In 1956 the Nike-Zeus ABM program was launched. Its more advanced missiles were designed to carry a 400 kiloton nuclear warhead.

In 1963 Nike-Zeus, which first linked radar systems for target tracking, morphed into Nike-X. Five years later, Nike-X became the Sentinel system, which in turn was renamed Safeguard. The Safeguard system, whose Spartan and Sprint interceptor missiles both carried nuclear warheads (five megatons in the case of Spartan), was deployed briefly in 1975. In 1976 the U.S. Congress shut it down because it was not effective and could be overwhelmed by Soviet ballistic missiles.

Large DOD management organizations have been created to plan and direct U.S. missile defense development. Beginning in 1958, the DOD Advanced Research Projects Agency was given primary responsibility, mostly to end intraservice squabbling. However, the Army maintained a large presence in missile defense.

In 1984 the Strategic Defense Initiative Organization was created. It was independent from the services and answered only to the Secretary of Defense. It was replaced in 1993 with the Ballistic Missile Defense Organization which in turn was renamed the MDA in 2002.

Generally, ballistic missiles are considered in four categories: short-range, with a range of less than 1,000 kilometers (less than 620 miles); medium-range, with ranges between 1,000 kilometers and 3,000 kilometers.
(620 miles to 1,860 miles); intermediate-range, with 3,000 to 5,500 kilometers (1,860 to 3,410 miles); and intercontinental ballistic missiles (ICBMs) with ranges greater than 5,500 kilometers (greater than 3,410 miles).

The Bush administration had hoped to develop missile defenses to deal with missiles of all ranges, in all phases of flight, with interceptors launched from land, sea, and air (the Airborne Laser), and from space. Particularly controversial is the Bush administration’s proposal to establish a missile defense network in Europe with interceptors in Poland, a fixed radar in the Czech Republic, and a second portable radar somewhere in southeastern Europe (location to be determined).

Congress has withheld funding for these proposed sites two years in a row, and has required that no funds be obligated or expended for the system until the secretary of defense has certified “that the proposed interceptor to be deployed as part of such missile defense system has demonstrated, through successful, operationally realistic flight testing, a high probability of working in an operationally effective manner.” Since the system doesn’t exist, has not been tested, and won’t be until mid-2010 at the earliest, the secretary cannot issue such a certification.

**TALKING POINTS**

- Iran is not so reckless as to attack Europe or the United States. There is no believable threat to Europe from Iran to justify U.S. missile defenses in Europe, and North Korea is negotiating an end to its nuclear programs.
- Proposed U.S. missile defenses in Europe are threatening to Russia, and are threatening to reignite Cold War-style tensions with Russia. Proposed space-based missile defenses are also threatening to Russia, as well as China.
- The MDA claims to be able to handle at best one or possibly two missiles from Iran, assuming Iran does not use decoys or countermeasures. If Iran believed that U.S. missile defenses were effective, they would simply build more missiles. This would not lead to a safer world.
U.S. missile defenses have no demonstrated effectiveness to defend Europe or the U.S. under realistic operational conditions. U.S. missile defenses lack the ability to deal with decoys and countermeasures, lack demonstrated effectiveness under realistic operational conditions, and lack the ability to handle attacks involving multiple missiles. MDA Director Lt. Gen. Henry Obering testified before Congress in 2007 that 40 Aegis ships (at a cost of about $2 billion each, not including 20 interceptors per ship) could protect only half of Europe and none of Central Europe. He also testified that 80 Terminal High Altitude Area Defense (THAAD) batteries could protect only key assets in Europe, not all of Europe, and would cost about $4 billion with recurring costs of roughly $2.4 billion per year. He warned that “the current configurations of Aegis BMD and [THAAD] do not have the ability to counter intercontinental ballistic missiles (ICBMs) without extensive and costly modifications.” Furthermore, “mobile system sensors for Aegis BMD and THAAD cannot provide equivalent radar coverage of Europe.”

While carried mostly in the research and development portion of the DOD budget, the DOD missile defense program is the largest procurement program in history. MDA is planning to buy hundreds of new interceptors between now and 2013. This includes 40 interceptors for the Ground-Based Midcourse Defense (GMD) system in Alaska and California (24 are already deployed), 111 SM-3 interceptors and 100 terminal sea-based interceptors for the Aegis BMD system, 96 THAAD interceptors, about 400 new Patriot PAC-3 interceptors, and 10 new interceptors for the proposed missile defense system in Poland. This adds up to purchasing about 635 new interceptors in the next five years. The cost for these new interceptors does not include new Navy ships to be bought or modified, two dozen new Patriot batteries, new THAAD fire control systems and forward-based X-brand radars, proposed new satellite systems, all the ground support equipment connected to these systems, or annual operating expenses.

**PREVIOUS ACTION BY THE PRESIDENT AND CONGRESS**

When Democrats have controlled Congress, they have consistently appropriated less for missile defense than the president has requested. For example, during the administration of President George H.W. Bush, the Congress appropriated about $4 billion less than the President’s requests, $1 billion less per year.

Since the George W. Bush administration proposed deploying missile defenses in Europe, the Congress has restrained spending on the proposed system and zeroed funding for site preparation and construction in Europe.

The National Missile Defense Act of 1999 (Public Law 106–38) has been used time and again by the Congress and the Pentagon to justify the deployment of unworkable and undependable missile defense systems. Signed into law on July 22, 1999, it states, “It is the policy of the United States to deploy as soon as is technologically possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack (whether accidental, unauthorized, or deliberate) with funding subject to the annual authorization of appropriations and the annual appropriation of funds for National Missile Defense.” (Emphasis added.) Unfortunately, the importance and significance of the word “effective” in this Act is regularly ignored.

**RECOMMENDATIONS FOR 2009**

The next president and/or the Congress should cancel the U.S. missile defense system proposed for Europe. To minimize the embarrassment to Poland and the Czech Republic for buying into an unworkable system, and to avoid criticism that the administration is buckling under to Russian pressure, the president should undertake a sequence of scientific and technical reviews, policy and budget decisions. The Congress could do this through annual appropriations and authorization bills.

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**YEAR MISSILE DEFENSE AGENCY BUDGET**

(PRESIDENT’S REQUEST)

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<tr>
<th>Year</th>
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<td>2002</td>
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<td>2008</td>
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<tr>
<td>2009</td>
<td>approximately $9.4 billion*</td>
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* These numbers do not include missile defense spending in the budgets of the individual services. In FY 2008 the total was roughly $10.9 billion, and in FY 09 roughly $12.4 billion.
Because of their vulnerability to decoys and countermeasures, and to attacks with multiple missiles, the GMD system and THAAD should be returned to a true research and development status with no further procurement or deployment of hardware. And given their limited area of coverage as well as vulnerability to decoys and countermeasures, and multiple attacking missiles, further procurements and deployments of Patriot and Aegis systems should also be put on hold. Before being permitted to purchase or deploy any more missile defense hardware in the United States or abroad, the DOD should be required to demonstrate through realistic operational testing the ability of any proposed system to deal effectively with decoys and countermeasures under realistic operational conditions. The Airborne Laser lacks a credible operational concept and should be canceled.

Working together, the president and the Congress should require the MDA to adhere to the same rules and regulations that apply to other major DOD acquisition programs.

### ADDITIONAL RESOURCES

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**Publications**


See www.cdi.org for regular missile defense updates.
BACKGROUND

Over the past eight years, the U.S. Department of Defense (DOD), the Joint Chiefs of Staff (JCS), and the U.S. Air Force have issued a number of policy, strategy, and doctrine documents aimed at both offensive and defensive warfighting in, from, and through space. In particular, the Air Force has embraced the mission of “offensive counterspace operations”: that is, preemptively attacking potential enemy (and even third-party) space assets. Indeed, the Bush administration’s 2006 National Space Policy (NSP) explicitly states not only that the United States will “deny” adversaries the use of space, but also will seek to “deter” others from gaining “capabilities” to impede U.S. “rights” in space. Proponents of space warfare have argued that the protection of American military and civilian satellites necessitates both ground-based weapons to target satellites and weapons based in space to target enemy missiles and antisatellite (ASAT) weapons. Opponents, however, argue that ASATs and space-based weapons will make satellites more, not less, vulnerable, and that offensive warfare in space would likely be economically catastrophic and actually weaken U.S. national security.

The Bush NSP, while borrowing heavily from its predecessor drafted by the Clinton administration, more pointedly articulates U.S. intentions to guard its “freedom of action” while attempting to limit that freedom for others. It also, for the first time in the history of the space age, rejects “new legal regimes or other restrictions that seek to prohibit or limit U.S. access to or use of space.” The unclassified version does not mandate ASATs and/or space-based weapons, nor does it rule them out. But there clearly has been a shift during the Bush administration away from negotiations and toward the weaponization of space. Indeed, doctrine and strategy documents that have emerged from the DOD, the JCS, and the Air Force during the Bush administration appear to embrace the use of such weapons.

One indicator of the Bush Administration’s view regarding space weapons comes in its voting record at the U.N. General Assembly. Previously, when resolutions to pursue talks to ban space weapons were considered, the United States abstained from voting. From 2005 onwards, the United States became the only country to vote against resolutions favoring negotiations to limit the weaponization of space (160 countries voted in favor; Israel abstained). The unwillingness to discuss diplomatic measures aimed at underpinning future space security has isolated the United States from allies and friends, while raising Chinese and Russian suspicions regarding U.S. intentions in space.

Currently, the United States has the ability to destroy a satellite by re-targeting its ground- and sea-based missile defense interceptors—as demonstrated by the Navy’s February 2008 destruction of a de-orbiting U.S. reconnaissance satellite. The Air Force is further experimenting with lasers on the ground that could disable, disrupt, and destroy satellites. The United States also currently has the capability to launch a microsatellite designed to maneuver into a larger target satellite. Finally, the Missile Defense Agency (MDA) continues to push for funding to develop space-based interceptors, while experimenting with technologies to enable them.

Other countries are currently free to develop similar weapons capabilities, and indeed China tested a ground-based kinetic energy ASAT in January 2007. The Chinese test—which created more than 2,000 pieces of trackable debris and hundreds of thousands of smaller but still dangerous pieces—more than amply illustrated the threat to all space assets posed by such weapons. The Chinese test suggests that if the 2006 NSP was meant to deter potential competitors from

By Theresa Hitchens, Director, Center for Defense Information.
peace and security initiative

technologies during the cold war, both sides eventually experimented with ASATs and space-based weapons. While the United States and the Soviet Union openly might wish to test ASAT technologies while avoiding precedent establishing an excuse for other nations that might wish to test ASAT technologies while avoiding major political fallout.

While the United States and the Soviet Union openly experimented with ASATs and space-based weapons technologies during the Cold War, both sides eventually backed away from that competition, fearing both the affect on nuclear stability and that their own interests in space would be threatened. The cost/benefit calculus regarding ASATs in confrontations between major powers has not changed.

**Talking Points**

- The national security and economic benefits that satellites provide are jeopardized by an over-reliance on military space power. The United States has benefited the most from the peaceful development of space. Traditional U.S. space policy sought a balance of civil, commercial and military capabilities, recognizing our interests in utilizing space as a tool of both soft and hard power. Thus, from Eisenhower to Clinton, every U.S. administration implemented a space policy and strategy predicated on a relatively equitable mix of multilateral diplomacy, economic engagement and prudent measures to safeguard military capabilities. The Bush administration has veered dangerously from that successful approach, with its emphasis on military space power, distain for multilateral diplomacy and disinterest in civil space cooperation.

- ASATs and space-based weapons do not protect U.S. satellites; in fact, testing and deploying such weapons would undercut U.S. national and economic security. ASATs have no defensive value. They are offensive weapons, aimed at others’ space assets. U.S. pursuit of ASATs likely will result in similar efforts by other nations as a means of deterrence. Space-based weapons and/or missile defenses are themselves vulnerable to attack, and their deployment will simply spur others to find methods to attack them. Thus, development and/or deployment of ASATs and/or space-based weapons will cause more harm than good for U.S. security interests in space.

- The United States cannot secure its space assets on its own. Space is a unique environment, where actions by any one entity affect all others, for better or for worse. The Bush administration’s rejection of multilateral approaches to safeguarding space has encouraged political, economic, and military strategies by allies and potential competitors alike that either ignore or actively seek to undercut U.S. interests in space. This stance has furthered perceptions of the United States as unilateralist, militaristic, and uncooperative, perceptions that are diminishing U.S. leverage on the world stage.

- Pursuit of a warfighting strategy in space will be economically costly; war in space even more so. The budgetary viability of a “space-control” and “counterspace” strategy remains in question. The United States currently does not have the capability to carry out this declared strategy, and it will take decades and billions of dollars to develop the new military systems needed to do so. If others pursue a similar strategy, the United States will incur even greater costs in attempting to safeguard its space assets. Warfare in space involving the destruction of satellites would create vast fields of space debris that could not only result in the loss of billions of dollars in economic investment and commerce, but could also render space unusable for decades.

**Previous Action by the President and Congress**

Because the DOD does not release top-line planned space spending, oversight of DOD space spending is difficult to nearly impossible. Although the DOD created a “virtual Major Force Program” to track overall spending on national security in space, it does not explain what programs/agencies are included. Indeed, DOD has refused to release to the Congressional Research Service detailed budget and spending numbers since FY 2006. NASA has not submitted its required annual report on space spending to Congress since 2004. Because of this, Congress in the FY 2008 Appropriations bill ordered DOD to develop a Major Force Program budget category that would aggregate space spending in a single budget line. So far, the DOD has been resisting this mandate.
At the same time, Congress has so far been careful to include restrictions and conditions on funding for suspected space weapons programs. For example, since FY 2007 congressional committees have refused to fund the MDA’s requests to launch a space-based test bed that would experiment with space-based interceptors.

**ESTIMATED DEPARTMENT OF DEFENSE SPACE SPENDING**

(CLASSIFIED AND UNCLASSIFIED)

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated Budget</th>
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<tbody>
<tr>
<td>2000</td>
<td>approximately $15 billion</td>
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<tr>
<td>2004</td>
<td>approximately $20 billion</td>
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<tr>
<td>2008</td>
<td>approximately $29 billion*</td>
</tr>
<tr>
<td>2009</td>
<td>approximately $28 billion*</td>
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</tbody>
</table>

* These numbers are “best guesses” from available information. The DOD does not formally publish aggregate space budget requests or spending.

**RECOMMENDATIONS FOR 2009**

- Declare that the United States will not be the first to pursue space-based weapons, and that it will not resume testing of or use destructive ASATs.
- Craft a new National Space Policy that commits the United States to seek diplomatic measures to ensure the long-term sustainability and security of space.
- Take the lead in advocating multilateral negotiations on a treaty to ban testing and use of debris-causing ASATs.
- Seek an international code of conduct to define responsible behavior in space and discourage irresponsible activities.
- Oppose funding for a space-based missile defense test bed and focus on making terrestrially-based missile defenses work.
- Task the State Department, DOD, and NASA with providing options for potential confidence-building and cooperative measures regarding space activities with China as a means toward reducing Sino-American tensions in space.

*The International Space Station in orbit over Western Kazakhstan, as seen from the Space Shuttle Endeavour on June 15, 2002. (NASA photo)*

*The Department of Defense space spending (Classified and Unclassified)*

2000: approximately $15 billion
2004: approximately $20 billion
2008: approximately $29 billion
2009: approximately $28 billion

*These numbers are “best guesses” from available information. The DOD does not formally publish aggregate space budget requests or spending.*
➤ **Reconstitute the National Space Council**, with a chairperson reporting directly to the Vice President or another senior official with the President’s trust, as a coordinating body for overarching U.S. space policy, strategy and spending, with a particular eye toward avoiding duplicative R&D and acquisition programs.

➤ **Create order out of the chaos of DOD and intelligence community space budget and scheduling overruns.**

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### ADDITIONAL RESOURCES

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**Publications**

Biological and Chemical Weapons

BACKGROUND

Biological and chemical weapons have long been viewed as dangerous, indiscriminate, and inhumane weapons of mass destruction. Although their first use in war was outlawed by the 1925 Geneva Protocol, the United States, Soviet Union, Japan, Britain, France, and other major powers actively researched, developed, and stockpiled these deadly weapons for decades both before and after World War II.

In 1969, President Richard Nixon reaffirmed the long-standing U.S. renunciation of the first use of lethal chemical weapons and extended this renunciation to incapacitating chemicals as well. He also announced the unilateral U.S. renunciation of bacteriological (biological) methods of warfare. Nixon’s efforts helped bring about the 1972 Biological Weapons Convention (BWC), the first international treaty to outlaw the development, production and stockpiling of an entire class of weapons. Both the BWC and the Geneva Protocol were ratified by the U.S. Senate in 1975.

The use of chemical weapons in the Iran-Iraq War in the 1980s again raised the specter of the use of deadly agents in warfare. After over a decade of international negotiation, the Chemical Weapons Convention (CWC) was signed in Paris in 1993 and ratified by the U.S. Senate in April 1997. While the Geneva Protocol prohibits the first use of biological and chemical weapons, both the CWC and BWC expand this international legal ban to development, production, stockpiling, transfer, and use of chemical and biological weapons. Both treaties allow limited research and development for “prophylactic, protective, or other peaceful purposes.”

While the BWC required all biological weapons stockpiles to be destroyed within nine months of entry into force of the treaty in 1975, the CWC allowed ten years for chemical weapons (CW) possessor states to eliminate their stockpiles. This longer timeframe, 1997–2007, was due to the enormous size and complexity of existing CW stockpiles, especially in the United States and Russia. Of the total tonnage of chemical agents declared by six countries (Russia, the United States, South Korea, India, Libya, and Albania), roughly 40 percent has been eliminated over the past 18 years. However, neither the United States (which has incinerated and neutralized nearly 55 percent of its declared stockpile) nor Russia (which has neutralized about 28 percent of its stockpile) are expected to even come close to meeting the extended treaty deadline in 2012 for completing the destruction of their stockpiles.

Meanwhile, globalization and scientific and technological advances in the life sciences are simultaneously offering enormous potential benefits for public health and economic development, and posing increasingly significant threats to the same. The use of nerve agents by the Japanese terrorist group, Aum Shinrikyo, in 1995, the anthrax attacks in the United States in 2001, and recent evidence of Al Qaeda’s interest in chemical and biological weapons, have increased concerns about terrorist and criminal use of biological and chemical weapons. The massive expansion of the U.S. biodefense research and development enterprise has also raised concerns about its potential negative effect on international nonproliferation efforts and about the increased access and training it is providing to individuals working with deadly pathogens. All of these developments are posing significant challenges to international nonproliferation efforts. They emphasize the high importance of fully implementing both the BWC and CWC and of pursuing additional cooperative international
Peace and Security Initiative

action to better prevent the development and use of chemical and biological weapons anywhere.

TALKING POINTS

➤ Chemical and biological weapons have been widely condemned as indiscriminate and inhumane over the last century and must be permanently banned globally.

➤ The full implementation of both the 1972 Biological Weapons Convention and the 1993 Chemical Weapons Convention is critical to a global ban on these two classes of weapons of mass destruction. The BWC today has 162 States Parties, and the CWC has 184 States Parties. The treaties require an additional 33 countries and 11 countries, respectively, to become truly universal. In the case of the CWC, at least four non-member countries are suspected of harboring chemical weapons stockpiles—Egypt, Israel, North Korea, and Syria.

➤ The sixteen-year-old Cooperative Threat Reduction (CTR or “Nunn-Lugar”) program, and the six-year-old G-8 Global Partnership, have both targeted the security, nonproliferation, and elimination of chemical and biological agents and weapons in the former Soviet Union. Unfortunately, these vital nonproliferation programs have been reduced in recent budget requests by the Bush administration, although Congress has sought to expand them. They need additional expansion in both funding and geography to help eliminate these global threats.

➤ The Bush Administration stopped funding of Russian chemical weapons destruction in FY 2008 and 2009, although the United States had previously promised to complete the construction of the Shchuch’ye CW destruction facility on the Kazakhstan border to neutralize approximately 14 percent of Russia’s stockpile of chemical agents. This long-standing U.S. commitment to the nonproliferation and threat reduction of CW must be restarted to support safe and timely elimination of CW subject to theft, diversion, and proliferation.

➤ U.S. funding for safe and sound destruction of its own chemical weapons stockpiles is inadequate to meet the new CWC deadline for complete elimination of chemical weapons stockpiles by 2012. Annual funding must be expanded from $1.5 billion to at least $1.7 billion to shorten the current schedule, which stretches out to 2023, and thereby to
limit risks to homeland security and better fulfill our treaty obligations.

➤ The Bush Administration continues to underfund annual dues and contributions to the Organization for the Prohibition of Chemical Weapons (OPCW) in The Hague. The OPCW implements and verifies destruction and nonproliferation of chemical weapons under auspices of the CWC. The United States, which contributes about $23 million in annual dues to the OPCW, must appropriate sufficient annual funds in the State Department budget to pay its commitment in a timely way in order not to impose serious cash-flow circumstances on the OPCW.

➤ The BWC does not have an international implementing and verification agency, such as the CWC has with the OPCW. In fact, its office in Geneva consists of only 2.5 full-time employees. Moreover, due to U.S. resistance, there is no mechanism for states parties to take decisions more frequently than every five years at review conferences of the BWC. The United States, which has opposed most significant prior efforts to strengthen the BWC, needs to take a new and more supportive approach towards strengthening the BWC as the threat of terrorist use of biological weapons becomes more visible.

➤ New revelations about the 2001 anthrax attacks, the only significant biological attacks on the United States in history, indicate that they originated from within the U.S. biodefense establishment. The U.S. government needs to conduct a rigorous new assessment of bioweapons threats and a thorough re-examination of its biodefense strategy to ensure that it decreases, rather than increases, the threats we face.

RECOMMENDATIONS AND POLICY OPTIONS FOR 2009

Make the nonproliferation, arms control, and disarmament of nuclear, chemical, and biological weapons a top international policy priority for 2009 and beyond. Appoint new directors of the Cooperative Threat Reduction Program in the Defense Department and of the National Nuclear Security Administration in the Department of Energy.

Increase annual funding for the Cooperative Threat Reduction (CTR) Program accounts in the FY 2009 and FY 2010 defense authorization and appropriations bills by at least $100 million (including $50 million for chemical weapons destruction in Russia) to support threat reduction and demilitarization of chemical, and biological weapons and agents.

Increase annual funding for the military construction accounts in the FY 2009 and FY 2010 defense authorization and military construction appropriations bills by at least $200 million for accelerating construction of chemical weapons destruction facilities at Blue Grass, Kentucky, and Pueblo, Colorado.

Increase annual funding for the international organizations accounts in the FY09 and FY10 State Department appropriation bill by at least $100 million in order to fully fund U.S. annual dues and contributions to the OPCW, the Comprehensive Nuclear-Test-Ban Treaty Organization, the International Atomic Energy Agency, and other critical international arms control and verification organizations in a timely way.

Exert strong support and oversight in the Congress and the National Security Council of international threat reduction, nonproliferation, and homeland security programs and of international arms control and disarmament organizations to help keep weapons of mass destruction out of the hands of terrorists.

Recommit to strengthening the BWC by fully engaging in the 2009 Meetings and laying the groundwork for significant advances at the 2011 Five-Year Review Conference, including a robust and continuous work agenda with decision-making authority for annual meetings of States Parties, improved exchange of information via the annual confidence building measure mechanism, and greater utilization and expansion, as necessary, of the Implementation Support Unit to vigorously advance the implementation of the convention.

Actively promote the establishment of an international capability within the United Nations to investigate allegations of biological weapons acquisition, development, and use. The establishment of such a capability has received broad support, such as from the U.S. Task Force on the United Nations in 2005.
ADDITITIONAL RESOURCES

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Publications


Small Arms/Light Weapons and Arms Export Controls

BACKGROUND

The illicit proliferation and misuse of conventional weaponry, particularly small arms and light weapons, is one of the most pressing national and international security threats of the twenty-first century. The illicit trade in small arms contributes to the civil and regional wars that have ravaged large swaths of the developing world and the violent crime that continues to plague countries of all development levels. At the same time, the detritus of past wars—landmines and other unexploded ordnance—continue to threaten people for months, years, even decades after conflicts have ended. The result is hundreds of thousands of deaths and injuries each year, unbearable strain on inadequate medical systems, and economic recovery and development deferred.

Conventional weapons are also the weapons of choice for terrorists. Of particular concern are man-portable air defense systems, or MANPADS. These portable guided missiles have been used by terrorists to shoot down twenty-eight civilian aircraft in the past thirty years, killing more than 800 people. While none of these attacks occurred in the United States, the barriers to a successful attack are hardly insurmountable. The RAND Corporation estimates that the direct costs of a successful attack on a U.S. airliner would approach $1 billion, and indirect economic losses would be at least an order of magnitude higher.

Similarly, the illicit arms trade undermines the U.S. military’s technological advantage on the battlefield and the effectiveness of U.S. arms embargoes, which are a key element of U.S. foreign policy toward Iran, North Korea and other regimes of concern. In 2005, the Defense Security Service received nearly 1,000 reports of suspected attempts by governments and nationals from 160 countries to illicitly acquire U.S. military and dual-use technology.

TALKING POINTS

➤ The illicit proliferation and misuse of small arms and light weapons contributes directly to the deaths and suffering of hundreds of thousands of people each year.

➤ U.S. conventional weapons threat reduction programs are a proven and cost-effective means of addressing the threat from surplus and poorly secured weapons. Since 2001, the U.S. government has facilitated the destruction of more than one million surplus small arms and light weapons, including 26,000 MANPADS in twenty-five countries.

➤ The U.S. arms export control regime is an essential component of ongoing efforts to prevent the diversion of American weapons and military technology to unauthorized end-users. Major changes to these controls should be pursued only after a systematic, interagency assessment of possible deleterious effects on diversion prevention, law enforcement and congressional and public oversight.

➤ The U.S. government has stood outside several major conventional weapons control initiatives undertaken in the past decade. Constructive re-engagement is warranted, to protect both U.S. troops and humanitarian interests, and to reestablish America’s reputation as a global leader in the pursuit of multilateral solutions to transnational security threats.

**Previous Action by the President and Congress**

*Illicit Small Arms/Light Weapons*

In recent years, the U.S. record on small arms control has been mixed. The military’s decision to go outside traditional security assistance programs to “train and equip” foreign government forces (see below) has led to widespread stockpile security and accountability failures, the consequences of which are still not fully known. Yet, at the same time, the United States established or expanded programs for securing and destroying insecure foreign weapons and strengthening foreign transfer controls that are now among the largest and most successful in the world. Since 2001, the U.S. government has facilitated the destruction of more than one million surplus or poorly secured small arms and light weapons, including 26,000 MANPADS in twenty-five countries, and secured thousands of additional weapons. Also notable are the recent arrests of Monzer al Kassar and Viktor Bout—two of the world’s most notorious and seemingly untouchable arms dealers—in multinational law enforcement operations led by the U.S. Drug Enforcement Agency.

**Lax Controls on Non-traditional Security Assistance Programs**

Since 2001, the Bush Administration has trained and equipped thousands of foreign government forces outside of traditional security assistance programs, such as the Foreign Military Sales Program. Scandals involving U.S.-supplied arms to Iraq and Afghanistan revealed gaping holes in the controls on arms distributed through these channels. In 2007, the Government Accountability Office (GAO) documented several serious record-keeping and accountability failures regarding weapons distributed in Iraq. As a result of these failures, the GAO concluded that the Defense Department “…cannot fully account for at least 190,000 weapons reported as issued to Iraqi forces….” Several months later, media and congressional investigations uncovered additional problems with arms shipments to Afghanistan, including the illegal procurement and transfer of forty-year-old Chinese firearms ammunition and a failure to check parties to arms transfers against watch lists of bad actors. The Defense Department has reportedly taken several steps to address the problems in Iraq, including better supervision, improved data collection and accountability procedures, and the assignment of additional security assistance personnel. However, it remains unclear how broadly and consistently these steps have been implemented in Iraq, and whether arms transfers and military aid to other destinations or through other avenues are afflicted with similarly lax controls.

**Export Control “Reform”**

At least since the late 1990s, the defense industry and its allies have pursued various proposals aimed at streamlining the licensing process for commercial arms exports, which they claim is too slow, opaque and unpredictable. These proposals range from tweaking existing regulations to scrapping the current arms export control regime altogether and replacing it with a tiered system that would eliminate most licensing requirements for all but the least trustworthy countries. Of the initiatives that could come to fruition in the near term, the most significant are the Defense Trade Cooperation Treaties with the United Kingdom and Australia. The treaties, which were signed last year and are currently awaiting Senate approval, would eliminate most licensing requirements for arms exports to an “Approved Community” of government and pre-screened private entities in the United Kingdom and Australia. While a lack of detailed information on implementation plans precludes a definitive assessment of their likely impact on arms export controls and law enforcement, the treaties raise several concerns that have not been adequately addressed, at least publicly. These concerns range from a possible increase in the risk of diversion to the Bush administration’s disregard for congressional mandates and oversight responsibilities.

**Multilateral Agreements and Initiatives**

On the multilateral front, the Bush administration has spearheaded action on certain issues while rejecting other, internationally popular initiatives. The United States was the driving force behind the negotiation of several important multilateral agreements on MANPADS. At the same time, the Bush administration shunned or ignored other multilateral initiatives, including the UN small arms process and the OAS Firearms Convention. Inaction on the OAS convention is particularly puzzling given that the United States was instrumental in its drafting and is already largely in compliance with its provisions.
RECOMMENDATIONS AND POLICY OPTIONS FOR 2009

➤ Continue to expand U.S. conventional weapons threat mitigation programs while ensuring that the implementing agencies have the staff and infrastructure required to handle the additional projects.

➤ Conduct a comprehensive review of U.S. arms exports, with a particular focus on exports arranged outside of traditional security assistance programs. The review should assess (1) the scope, rigor and implementation of pre-license checks, transportation security requirements, and post-shipment end-use monitoring; (2) adherence to congressionally-mandated restrictions on exports to abusive, anti-democratic and corrupt regimes and unstable regions; and (3) barriers to Congressional and public oversight, including a lack of transparency and inadequate reporting requirements.

➤ Before pursuing any major changes to U.S. arms export controls, the Obama administration should ensure that the changes will not increase the risk of diversion, hinder law enforcement efforts, place an undue burden on border security resources or undermine congressional oversight. The administration should also review the list of weaknesses and inefficiencies in the U.S. export control system identified by the GAO over the past decade and their recommendations for correcting these problems. Immediate action should be taken on those recommendations that have not yet been implemented.

➤ Re-evaluate the current U.S. position on the major multilateral initiatives rejected or ignored by the Bush administration, including the UN small arms process, the OAS Firearms Convention and the Landmine Ban Treaty.

Demonstrators at the May 2008 Dublin Diplomatic Conference on Cluster Munitions that produced the Convention on Cluster Munitions.
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Conventional Weapons Threat Mitigation


Non-traditional Security Assistance Programs

“Hearing on Examination of AEY Contracts with the U.S. Government,” hearing transcript, Committee on Oversight and Government Reform, House of Representatives, June 24, 2008.

Export Control Reform


Multilateral Agreements and Initiatives


Peace and Security Initiative
Arms Transfers and Security Assistance

BACKGROUND

Sales of U.S. military goods and services will top $32 billion this year, nearly three times the level that obtained just three years ago. This surge in sales has been driven by a variety of factors, from the push to train and equip the Iraq and Afghan armies, to the increased buying power of oil rich states in the Persian Gulf, to the growth of sales and assistance to countries that have been deemed key partners in the “Global War on Terror.”

While some of these deals may be justified in terms of cementing partnerships with key allies, the potential negative consequences of runaway arms transfers have been largely ignored. Arms transfers can be used to bolster friends and deter enemies, but they can also serve to enable human rights abuses, to fuel regional and local conflicts, and to strengthen governments and non-state actors that may end up becoming U.S. adversaries. What has been missing in the arms transfer policy of the Bush administration is a sense of how best to balance the costs versus the benefits of large scale arms trading.

In addition to the security risks inherent in transferring increasingly sophisticated weaponry to an ever-broadening range of countries, the decreasing level of transparency and oversight of security assistance programs poses a serious challenge in its own right. According to a recent report from the MIT Security Studies program, new security assistance programs that have been created during the Bush administration generated over $39 billion in spending from FY 2002 through FY 2008. This figure amounts to more than one-third of all security assistance financing over that time period. Some of the new programs have been generated directly in response to the demands posed by the wars in Iraq and Afghanistan. Others are intended to function on a global level. All of these new programs are being authorized and implemented by the Defense Department rather than the State Department, and there is far less information available about them than has been the case for traditional security assistance programs.

Even as U.S. arms exports have grown dramatically, U.S. involvement in efforts to minimize the negative impacts of weapons transfers has stagnated. From the global ban on cluster munitions to the effort to craft a global Arms Trade Treaty (ATT), the United States has been missing in action with respect to key global efforts aimed at curbing the worst excesses of the arms trade.

The new Obama administration needs to take a close look at current arms transfer policies and practices with an eye towards creating a more balanced approach. A new policy should take greater account of the risks of weapons exports, while also ensuring greater accountability and transparency across the full spectrum of security assistance programs.

TALKING POINTS

➤ Arms transfers should be provided in keeping with overriding U.S. interests in promoting democracy, stability, and prosperity in key regions.

➤ U.S. weapons transfers to undemocratic regimes and human rights abusers diminish the reputation of the United States as a responsible global leader, undermining Washington’s ability to work effectively with other nations to solve major global problems from terrorism to instability to climate change.

➤ In some cases, the best way to promote U.S. interests may be to forego a particular weapons transfer in favor of another, non-military form of engagement with the country in question.

By William D. Hartung, Director, Arms and Security Initiative, New America Foundation.
➤ U.S. security assistance programs need to be made more accountable to the Congress and the public. An important first step in that direction would be to reform the wide array of programs that have been initiated over the past eight years, with an eye toward providing more transparency and more effective mechanisms for Congressional oversight.

➤ The best way to ensure that arms transfers and security assistance take account of broad U.S. foreign policy interests is to put primary responsibility for them in the State Department, not the Defense Department.

➤ The Obama administration should issue a new policy directive early in its tenure, with an eye towards putting human rights and humanitarian concerns at the center of the policymaking process.

➤ The United States would have far more leverage over the direction of the global weapons trade if it were to join in efforts like the global ban on cluster munitions and the movement for an Arms Trade Treaty rather than opposing or ignoring them. Unilateralism in arms sales policy is counterproductive from the standpoint of long-term U.S. interests.

PREVIOUS ACTION BY THE PRESIDENT AND CONGRESS

Removing Restrictions in the Name of Fighting Terrorism

Perhaps the most important action taken by the Bush administration with respect to arms transfers and security assistance has been its move to lift restrictions on transfers based on human rights and non-proliferation concerns. A wide range of countries, including India, Pakistan, Yemen, Ethiopia, Djibouti, Georgia, Uzbekistan, the Philippines, and Indonesia have seen either a resumption or a sharp increase in security assistance from the United States based on their purported value as allies in the war on terrorism.

Creating New Security Assistance Programs

The Bush administration has presided over the greatest increase in the sheer number of security assistance channels since World War II. The largest of these programs—including the “train and equip” programs for the Iraq and Afghan armies and Coalition Support Funds for countries with military contingents in Iraq—have been created by the president as part of the emergency supplemental spending bills for Iraq and Afghanistan. Congress has by and large accepted and funded these programs as requested by the administration. A second set of programs with longer-term implications includes the Pentagon’s Section 1206 arms and training initiative and the Counterterrorism Fellowship Program. These new efforts are less transparent than traditional security assistance programs, in some cases requiring the filing of Freedom of Information Act requests just to get an accounting of which countries are receiving aid under a given program, and at what levels.

OPPOSING INTERNATIONAL RESTRAINTS

With a few exceptions, U.S. policy over the past eight years has run against the grain of growing international interest in establishing practical controls over weapons transfers. The most immediate example of this opposition to multilateral controls has been Washington’s unwillingness to support the new global ban on the export and use of cluster munitions—devastating weapons that leave behind large numbers of unexploded “bomblets” that wound and kill civilians. With respect to longer-term initiatives, the Bush administration has gone on record against the notion of crafting a global Arms Trade Treaty that would enhance and codify international restrictions on weapons exports based on concerns for human rights, humanitarian law, and military sufficiency.

RECOMMENDATIONS AND POLICY OPTIONS FOR 2009

➤ The Obama administration should follow the leads set by the Reagan, Carter, and Clinton administrations by putting forward a new arms transfer policy directive within its first six months in office. The directive should establish clearer criteria for arms transfer decision making that strike a balance among military, political, economic, human rights, and nonproliferation objectives.

➤ Congress should establish common standards of transparency and accountability for all arms transfer and security assistance programs, including required reporting on amounts disbursed, countries served, and weapons systems and training provided.

➤ The president and Congress should reverse the trend towards situating security assistance programs within the Defense Department budget, on the grounds that the State Department is best equipped to mesh the competing interests that U.S. foreign and military policies are meant to address.
The president and the Congress should endorse and/or ratify key international initiatives like the land mines treaty, the Convention on Cluster Munitions, and the nascent global Arms Trade Treaty.

**ADDITIIONAL RESOURCES**

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**Publications**


Appendix A: Arms Control Agreements—Status and Issues

Strategic Arms Reduction Treaty (START I)—START I was signed by the United States and the Soviet Union on July 31, 1991. It included an extensive verification regime and required each country’s deployed strategic offensive arms not to exceed 1,600 delivery vehicles, carrying no more than 6,000 warheads in accordance with the agreement’s counting rules. START I reductions were completed in December 2001, and the treaty will expire in December 2009 unless both countries agree to extend it (see the START I and U.S.-Russian Relations briefing papers in this volume).

Strategic Arms Reduction Treaty II (START II)—START II was signed in January 1993 and used similar counting rules to START I for reducing deployed strategic arsenals to 3,000-3,500 warheads, destroying delivery vehicles, and banning multiple-warhead, land-based missiles. Though both the U.S. Senate and Russian Duma approved START II, it never formally took effect. The Duma linked its formal implementation to Anti-Ballistic Missile (ABM) Treaty amendments and a protocol to extend START II’s implementation date that were not ratified by the U.S. Senate.

Strategic Arms Reduction Treaty III (START III)—In March 1997, a framework for START III negotiations that included a reduction in deployed strategic weapons to 2,000-2,500 and the destruction of delivery vehicles was agreed to by the United States and Russia. However, formal negotiations for START III never began because of the delay in the entry into force of START II.

Strategic Offensive Reductions Treaty (SORT)—The United States and Russia signed SORT, also known as the Moscow Treaty, on May 24, 2002. SORT will reduce the aggregate number of both countries’ warheads to a total of 1,700–2,200 by December 31, 2012. However, SORT includes no timetable for implementation, no mechanism for verification, or requirement for the physical destruction of decommissioned warheads.

Anti-Ballistic Missile (ABM) Treaty—The ABM Treaty was signed by the United States and Soviet Union on May 26, 1972. Though modified by amendments, common understandings, and protocols, the ABM treaty remained in force until June 13, 2002, when the United States unilaterally withdrew. The United States is deploying a strategic missile defense system in Alaska and signed agreements during the summer of 2008 to build a more limited missile defense system in Poland and the Czech Republic. Russia has strongly objected to the radar station in the Czech Republic and interceptors in Poland.

Intermediate-Range Nuclear Forces (INF) Treaty—Signed on December 8, 1987, by the United States and Soviet Union, the INF Treaty entered into force on June 1, 1988. By June 1991, INF had fulfilled its goal of eliminating nuclear-armed ground-launched ballistic and cruise missiles with intermediate ranges (300-3,400 miles) and their infrastructure through the destruction of 846 qualifying weapons in the United States and 1,846 in the Soviet Union. In October 2007, then-President Vladimir Putin told U.S. officials that the treaty should be globalized to cover the missile programs of other countries.

Cooperative Threat Reduction (CTR) Program—The CTR program was created in 1991 to assist Russia and the former Soviet republics with securing and dismantling their stockpiles of nuclear, chemical, and biological weapons. Building on the successes of CTR, the Group of Eight (G-8) industrial countries launched in 2002 the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction intended to provide up to $20 billion to Russian WMD security and demilitarization programs thru 2012. Just as CTR

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broadened the scope of its activities beyond the former Soviet states, the Global Partnership’s mandate was expanded to address WMD threats globally at the 2008 G-8 summit.

**Bratislava Nuclear Security Initiative** — At a February 2005 summit in Bratislava in the Slovak Republic, Presidents George W. Bush and Vladimir Putin agreed to expand their nuclear security cooperation. Such cooperation includes exchanges on best practices, security culture, research reactor conversion to low-enriched uranium fuel, and security upgrades at Russian nuclear facilities by the end of 2008.

**U.S.-Russian Strategic Framework Declaration** — The U.S.-Russian Strategic Framework Declaration was issued on April 6, 2008, including steps to prevent the spread of WMD, combat global terrorism, and engage in economic cooperation. The Declaration states intentions to develop a legally-binding arrangement following the expiration of START I.

**Iranian Nuclear Program** — The United Nations Security Council (UNSC) has passed three rounds of sanctions, and is considering a fourth, demanding that Iran suspend its enrichment program which could produce weapons-grade nuclear material. Russia and China have repeatedly sought to water down UNSC sanctions against Iran. Russia also is assisting Iran with the construction of a light-water nuclear power plant in the southern Iranian city of Bushehr and will supply nuclear fuel for the plant which Iran has agreed to return as spent fuel to Russia. In 2007, former Russian President Vladimir Putin also proposed setting up international nuclear enrichment centers in Russia that Iran could join.

**Six-Party Talks to Address the North Korean Nuclear Program** — As a result of Democratic People’s Republic of Korea (DPRK) withdrawing from the Treaty on the Non-Proliferation of Nuclear Weapons in 2003, the United States, China, South Korea, Japan, and Russia began a process to find a peaceful solution to the security concerns resulting from North Korea’s nuclear weapons program. After the DPRK nuclear test in October 2006, the six parties reached a joint agreement with North Korea on February 13, 2007 to verifiably disable and dismantle the North’s nuclear program. North Korean began dismantling its Yongbyon reactor in the summer of 2008.