

# All Tools at Our Disposal:

Addressing Nuclear Proliferation in a  
Post-9/11 World



## House Policy Committee

*Subcommittee on National Security and Foreign Affairs*

Heather Wilson, Chair

**U.S. House of Representatives**

January 2005

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January 26, 2005

Over the last year, the Subcommittee on National Security and Foreign Affairs of the House Policy Committee has undertaken a review of U.S. nuclear nonproliferation programs and policy. This report is a result of that effort.

From time to time, it is important for the Congress to step back from the day-to-day struggles to pass appropriations, oversee the operation of federal agencies, and craft legislation, to consider what direction we should be heading on major policy issues affecting the nation.

Nuclear nonproliferation has been an issue many in Congress have addressed over the years. It involves many programs, departments, and jurisdictions. Concerns about preventing proliferation of nuclear weapons capabilities have grown as covert activities by both nations and networks have come to light, and have greater urgency since the 2001 terrorist attacks on American soil. Members of our subcommittee felt it was time to review and reconsider these questions.

The recommendations contained in this report have implications across a wide range of departments, budgets, and programs.

I appreciate the involvement of committee members and their staffs in our Subcommittee discussions and in the creation of this report. Phil Goldstone, a Legislative Fellow from the Los Alamos National Laboratory, helped coordinate the work of the Subcommittee this year and provided valuable assistance in the drafting of this report. His effort and expertise made this undertaking possible and I appreciate his thoughtful service.

Heather Wilson  
Member of Congress  
New Mexico

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## Executive Summary

Nuclear nonproliferation has been a policy priority for the United States for many years. International mechanisms to stem the proliferation of nuclear weapons to new states have been developed, repeatedly challenged, and strengthened from time to time. These mechanisms restrained the spread of nuclear weapons. But the challenges to these mechanisms have become more acute, and their current limitations more apparent. The attacks on America on September 11, 2001 highlighted the threat of nuclear terrorism as a present, rather than distant, concern.

Nuclear proliferation is a significant threat to America's security. We need to more consistently prevent the emergence of new nuclear weapons states, and to keep nuclear weapons capability out of terrorist hands. A comprehensive policy approach must address the many pathways that states or non-state actors may use to acquire nuclear weapons capabilities. It will include elements of counterproliferation as well as nonproliferation. The United States has begun several initiatives, but there is work still to do.

The existing treaties and regimes are important, though they are not enough. They need to be strengthened to the extent possible. We need to improve the rules by which these regimes work and by which noncompliance is judged and acted upon. Access to full nuclear fuel cycle capability, including enrichment and reprocessing, should be limited and mechanisms developed to provide fuel services to nations wishing to use nuclear energy.

But international consensus mechanisms have limits. We must strengthen multi-lateral and bilateral efforts to catch trafficking in nuclear materials and technologies. The United States must work jointly with likeminded states to disrupt and eliminate nuclear trafficking networks. The Proliferation Security Initiative is the first step in this effort.

In addition we must continue to secure, remove, or dispose of proliferation-sensitive materials worldwide that could pose risks to our security. These programs require the cooperation of other governments and continued priority within the U.S. government to address threats quickly and thoroughly. Setting goals, strategies, and priorities in this effort will help mobilize support in the executive and legislative branches of the U.S. government.

The United States should invest in improving technical and analytic tools, as well as human intelligence, to detect proliferation activities and networks operating within a sea of legitimate global commerce. The expertise for nuclear intelligence and analysis should be strengthened.

Consequences for states that avoid nonproliferation responsibilities should be credible and contrast with advantages from responsible behavior. Since other states may not have our sense of urgency or balance of interests, policies must provide a realistic range of options for gathering threats while seeking to strengthen others' willingness to act when necessary.

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## The Modern Nuclear Proliferation Challenge

The proliferation of nuclear weapons and materials to non-weapons states, and to non-state actors such as terrorists, is one of the most serious threats to our national security. Existing international mechanisms, such as the Nonproliferation Treaty (NPT), the Missile Technology Control Regime, the International Atomic Energy Agency (IAEA), and Nuclear Suppliers Group, have restrained nuclear weapons development by some countries. But these regimes have been most effective where they are least needed. We face a new environment after 9/11. The threat of nuclear terror, long a consideration, is now an urgent issue.

Nuclear proliferation threats must be addressed in a comprehensive way. Nuclear weapons proliferation to additional countries can significantly threaten regional stability and America's national security. And as we have seen, states that achieve or acquire certain kinds of nuclear infrastructure—uranium enrichment, for example—can make uncomfortably short the time scale in which they might take the additional steps to achieve a nuclear weapons capability. They could try to do so clandestinely, or by leaving the Nonproliferation Treaty. Iran and North Korea are critical current challenges, as states that are moving up to or across the threshold of nuclear weapons capability.

In addition there is a new and terrible threat. Nuclear weapons in the hands of terrorists are much more likely to be used. Terrorists are not likely to develop an industrial infrastructure. They are more likely to acquire materials and other technology where and how they can. If there are governments or government agents that are willing to sell it to them, that could be one avenue. It is not the only one.

We need to think about these problems in new ways. The United States has begun some significant initiatives, and achieved some significant successes. Libya's decision to end nuclear weapons development and its other weapons of mass destruction programs, and the disruption of the A.Q. Khan network, are two examples. But the challenges are significant, and will need to remain a priority for Congress and the nation for some time.

Our policy objectives should be:

- (1) to prevent the emergence of new nuclear weapons capable states, and where this cannot be prevented, to contain, mitigate, and ultimately reverse the spread of nuclear weapons and associated technologies; and
- (2) to ensure that no nuclear weapon capability ever gets into the hands of terrorist groups.

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## Pathways for Proliferation, and Tools for a Comprehensive Response

Achieving our policy objectives involves a two-pronged approach: denying access to the technology, materials, and expertise for nuclear weapon capability, and -- where possible -- reducing the 'demand' for that capability where it exists.

There are several pathways to acquiring nuclear weapons. Proliferators may try more than one. Each must be addressed in a coherent nonproliferation policy:

- theft of weapons, components, materials, or buying expertise;
- regime change in a de facto weapons state;
- change-of-heart by a technically capable non-weapons (NPT) state, to develop a weapon program formerly not desired;
- deliberate development of new 'indigenous' nuclear and delivery capabilities by states;
- spread of enabling technology and expertise to new states or groups—through legal means of acquisition including exploitation of treaty benefits for future illegitimate uses, as well as through leaks, or rogue technology marketers;
- links between non-state terrorist actors and rogue weapons-capable regimes and/or with black market networks trafficking in technology, materials, or weapons.

A comprehensive policy approach will include: international regimes and agreements, strengthened where necessary; flexible, responsive multilateral activities; bilateral initiatives and cooperative programs; and unilateral measures when appropriate. It will include elements of counterproliferation as well as nonproliferation.

Treaties and nonproliferation regimes like the NPT provide a basis for international cooperation. They are a foundation for possible United Nations Security Council action and international sanctions. In addition, they reinforce the decisions of non-nuclear powers to remain so. Without them, even more states could seek to acquire nuclear weapons, making terrorist access to nuclear technology easier. These international regimes should be strengthened where needed and possible.

But treaties, international organizations and regimes are not enough. The nations that actively seek nuclear weapons have been largely uninterested in limiting their efforts or in honoring agreements. Terrorist groups and traffickers will seek to evade any controls. IAEA inspections and export controls can be strengthened, but cannot by themselves prevent the emergence of new nuclear weapons capable states or ensure that nuclear weapons capability does not get into the hands of terrorists.

We need to augment these treaties and international regimes with a range of multilateral, bilateral, and national efforts. We must expand information sharing, disrupt proliferation activities, provide assistance to other

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countries engaged in the effort, and develop both disincentives and incentives for potential proliferators.

The Proliferation Security Initiative, cooperative relationships with Russia and other nations to secure nuclear materials, and work with different groups of partners to address the serious challenges posed by Iran and North Korea are examples of cooperative efforts worthy of support.

We should work with willing partners to enhance their internal capabilities to fight nuclear trafficking.

We also need to pursue national and cooperative intelligence and technology efforts to improve the ability to detect covert proliferation activities.

These are tools to help us restrict or disrupt the proliferation activities and desires of nations and networks. But we also need a subjective but critically important tool for dissuading nations from embarking on a nuclear weapons program. We must have the credibility to make sure states believe that there will be consequences if they pursue nuclear weapons capabilities and advantages if they refrain from doing so. The likelihood of significant consequences on the one hand, as well as advantages on the other, will help states like Libya make the right decisions in the future, and will dissuade others from taking the path at all. It is helpful if consequences reflect the will of the international community, but American leadership and willingness to act will be important.

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## An Agenda for a Post-9/11 World

The United States has taken significant steps to address the nuclear proliferation threat in a post-9/11 world.

We have moved to restrict the spread of enrichment or reprocessing capability to new nations. We have launched the Proliferation Security Initiative, now supported by some 60 nations, to uncover and interdict shipments of proliferation concern. We have accelerated work securing some of Russia's nuclear weapons sites, and begun a Global Threat Reduction Initiative to accelerate securing nuclear materials worldwide. We have won adoption of Security Council Resolution 1540, promoting the criminalization of proliferation activities within states. We have proposed ways to improve the IAEA, and expanded partnerships with the G-8 on nonproliferation. We have worked to increase international pressure on Iran, and pressed multilateral diplomatic solutions to reverse North Korea's path. And we have demonstrated national will in Afghanistan and Iraq.

These initiatives resulted in some major successes, including uncovering the A.Q. Khan network, and the decision by Libya to renounce its WMD programs.

Yet major challenges remain in all of these areas, and there is work still to do to strengthen nonproliferation policy for a post-9/11 world.

In light of these initiatives and challenges, a broad and robust approach

to nuclear nonproliferation policy is called for. There are seven strategies we have identified for doing so.

1. *Strengthen the Rules: Strengthen international regimes and controls to limit the legal spread of proliferation-enabling technology.*
2. *Cooperate to Catch Trafficking: Expand flexible, responsive multilateral activities to find, disrupt, and eliminate networks and trafficking.*
3. *Secure Nuclear Materials and Expertise Worldwide: Engage multi- and bi-lateral initiatives to quickly secure materials and keep expertise off the market.*
4. *Make the Choices Clear: Assure the credibility of consequences, as well as advantages of positive behavior.*
5. *Improve Tools for Detection: Advance technical and analytic tools and improve human assets to detect proliferation activities, networks and materials.*
6. *Deal with Different Views: Work with, and influence, other nations' perceptions of urgency and willingness to act firmly.*
7. *Assure Our Allies: Continue to assure non-nuclear allies they can rely on American strength.*

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## **Strengthen the Rules:**

### **Strengthen international regimes and controls to limit the legal spread of proliferation-enabling technology**

International regimes centered around the NPT are an essential “architecture” for nonproliferation, but have had limited success against determined states, and the NPT was designed to address states, not terrorists. The Nuclear Suppliers Group (NSG) and other export and supplier controls can help limit the spread of critical technologies to non-state actors as well as to nations. Both the IAEA and supplier regimes operate by consensus.

International regimes are not a panacea, but the United States should focus efforts to strengthen them in several key areas:

- improving the rules and the effectiveness of the NPT and IAEA;
- controlling the nuclear fuel-cycle and other technology; and
- strengthening the global basis for action against WMD black-market activities.

The United States should pursue strong diplomatic efforts to achieve these goals. But there is disagreement with some other states that may slow or limit their implementation. The United States must continue to enhance other tools against proliferation while it works to strengthen these international regimes.

#### *Strengthening the NPT*

The NPT and the IAEA have been repeatedly challenged, and are being challenged today. Halting Iran’s progress toward weapon capabilities—or the failure to do so—will test and help

shape this regime, as will the outcome of separate diplomacy on North Korea. On a smaller scale, so will adequately resolving the disagreements with Brazil, a Nuclear Suppliers Group member, which wants to limit IAEA visual access to some of its new enrichment capabilities. But beyond these immediate cases there are policy steps that should be pursued to strengthen the NPT and IAEA, particularly as the 2005 Review Conference for the NPT approaches. Congress will have little direct role in these diplomatic efforts, but should support them and actions that would help support the United States position.

Broad adoption of the Additional Protocol to the NPT, which allows for more extensive and short-notice inspections would strengthen the IAEA’s capabilities to find and address prohibited activities or materials. However, although the IAEA has repeatedly demanded that Iran do so, the adoption of the Additional Protocol by states generally remains voluntary. The United States (which ratified the Additional Protocol in March, 2004) should continue to press for and support efforts to accelerate adoption of the Additional Protocol and expanded safeguards by additional states.

Currently, countries may serve on the IAEA Board of Governors even while being investigated for violations of their responsibilities under the NPT. The United States has proposed changes to the IAEA to prohibit this possibility. The United States also proposed to

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create a special committee of the 35-member Board that is focused on the safeguards and verification part of IAEA's mission. These changes would help the IAEA be more effective, consistent, and credible. The United States should work with its allies and other members to implement these changes.

The United States must be a strong participant at the 2005 NPT Review Conference and with the IAEA Board. It should engage its allies and other nations in seeking additional ways to strengthen implementation of the NPT and to address weaknesses in the current regime. It should explore the possibility of strengthening the framework, assumptions, thresholds, and methods that the IAEA uses in its inspections and reviews. And it should explore the possibility of adjusting the burden of proof for referrals to the Security Council, though this will likely meet opposition. Refusal by a non-weapons state to implement an Additional Protocol could be considered as one reason to view questions of compliance with added concern.

The United States should continue to explain how U.S. nuclear defense policy supports its commitments under Article VI of the NPT. Since 2000, the United States has taken steps to cut its total nuclear arsenal almost in half, to the smallest it has been in several decades. When the Treaty of Moscow reductions are complete in 2012, it will have reduced its deployed strategic force by about 80% compared to 1991. It has already eliminated most of its non-strategic weapons. The 2001 Nuclear Posture Review was revolutionary in shifting strategic emphasis from

deployed nuclear forces to other means, including conventional forces, missile defenses, and a responsive infrastructure to fix problems and deal with contingencies. The United States is not now developing any new nuclear weapons and does not plan to conduct a test. The United States no longer routinely targets other countries with nuclear weapons. The nuclear threshold remains high.

Some, both domestically and internationally, have recommended that penalties be created for withdrawal from the NPT. Clearly, there is a problem when an NPT signatory has used the treaty to gain nuclear technology for the purpose of leaving it to pursue nuclear weapons. The United States should be willing to argue for sanctions and penalties to apply to states that are intent on such behavior or that have carried it out, like North Korea. These should be applied in a way best suited to restraining, or containing and reversing, an individual case. But we should prevent such misuse of the Treaty in the first place by working with allies and like-minded states to change the rules of the international regimes to reduce the potential for this, and make it less likely to occur without being detected.

#### *Controlling the Fuel Cycle and other technology*

Nations that have signed the NPT can gain civilian nuclear technology as part of "Atoms for Peace". However, some of that technology can allow a rapid shift from a civilian program to a nuclear weapons program (or a covert parallel development). Nations can manipulate the NPT to this end, or use it in part to develop options, or they might

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simply be tempted later. The largest issues are the spread of “fuel cycle” technologies—such as uranium enrichment and fuel reprocessing—that could be adapted to provide weapon materials. This has been a key challenge with Iran.

The United States should continue to work with allies and others to prevent development of enrichment or reprocessing technology in states that do not already have a complete fuel cycle. These technologies are provided by or from supplier states involved in the Nuclear Suppliers Group control regime. The United States should continue to press and Congress should support efforts to modify the Nuclear Suppliers Group guidelines to limit export of those technologies, building on the G-8 moratorium on transfer of enrichment technology that the United States achieved in 2004.

To make this initiative work, mechanisms need to be developed to provide guaranteed fuel cycle services from a select marketplace of suppliers, with appropriate and adequate safeguards, to states that wish to gain the domestic advantages of nuclear power production but do not currently have a full fuel cycle capability including enrichment or reprocessing. Such a mechanism is implied by the proposal made to Iran in October 2004 by members of the European Union. Different arrangements may be more effective for different cases or regions. Congress should support these arrangements to enable effective restraints on the spread of fuel cycle technology.

Nuclear power will increasingly be attractive to developing and developed nations as energy demand grows worldwide. The United States should continue, and Congress should support, domestic efforts and international cooperation to develop safe, proliferation-resistant next-generation reactor technologies that could further limit proliferation risks in the future.

Though consensus does not yet exist, the United States should continue to pursue strengthening the nuclear supplier guidelines to prohibit transfer of nuclear technology to states that have not implemented the Additional Protocol. This would augment its efforts to encourage adoption of the Additional Protocol, and enhance technology controls, by limiting the transfer of technology to states that embrace more rigorous inspections and safeguards. It might also be desirable to clarify with NPT signatories an understanding that the support of atomic energy for “peaceful purposes” as contemplated in the NPT does not include a blanket right for non-weapon signatories to develop new uranium enrichment or fuel reprocessing capabilities—a right Iran has claimed. However, it will be difficult to build that consensus as well.

Different views of the need or urgency of action may complicate consensus in supplier control regimes like the Nuclear Suppliers Group. Yet these regimes have at times strengthened their guidelines. The United States must engage other countries at the highest level about the need to control critical exports and work with allies to ensure that these regimes are active and energized.

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The United States recently re-opened discussion of a Fissile Material Cutoff Treaty that would ban production of new fissile material for nuclear weapons. For some this treaty has long been a hoped-for bulwark against a future arms race. Post-Cold-War and post-9/11, with America and Russia planning to dispose of excess materials, it should be viewed with a greater emphasis on limiting new materials sources for proliferation. The United States should continue to work toward a treaty that is effective and verifiable.

*Removing legal cover for traffickers*

In many states the actions of terrorist groups or black-market networks trafficking in WMD technology, materials, or even weapons have not been illegal.

The United States should pursue efforts to criminalize these activities. We should also provide foreign assistance to strengthen the effectiveness of other countries' law enforcement and export activities against nuclear and other WMD trafficking. Enhancing national law enforcement and export controls can also make the Proliferation Security Initiative more effective, since participants operate within their national authorities.

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## **Cooperate to Catch Trafficking: Expand flexible, responsive multilateral activities to find, disrupt, and eliminate networks and trafficking**

Uncovering the A.Q. Khan black-market network was a huge revelation and will profoundly affect the way we address the risks of nuclear proliferation.

Even a perfect “legal” system prohibiting national programs, controlling exports, and criminalizing black-market activities will not ensure that this kind of trafficking does not exist. We need capabilities to find such networks, disrupt and interdict them, track them down and eliminate them before they can put nuclear capabilities in the hands of terrorists or new weapons states.

This is an enormous challenge and requires flexible, rapid action that is best applied by states, engaged in global, voluntary cooperation—not a bureaucratic or consensus-driven non-governmental organization. These kind of cooperative initiatives work in parallel with international regimes but need no formal links to them.

### *The Proliferation Security Initiative*

Cooperation among states is what led to exposure of the A. Q. Khan network. Libya’s decision to abandon its nuclear weapons program was also a cooperative effort. U.S. and British intelligence cooperated to uncover a shipment to Libya, and German and Italian authorities interdicted it. Pieces of this network are still being pursued and prosecuted.

The Proliferation Security Initiative (PSI), launched by the United States and now supported by some 60 nations, is arguably the most important innovation to address the limits of negotiated international agreements. It encourages cooperative activities worldwide to prevent the flow of weapons of mass destruction, their delivery systems, and related materials to and from states and non-state actors of proliferation concern.

Countries that participate support a Statement of Interdiction Principles that respects international law. They undertake actions consistent with international law and their own national statutes. Participants can agree to boarding of vessels in their territorial waters or operating under their flag to interdict suspect shipments. Liberia and Panama, two of the world’s most common flags, have joined the United States in ship boarding agreements – a very positive sign. The participants in the PSI also share essential intelligence information on a case by case basis, and train together in joint exercises.

To work, the PSI must remain a flexible, consensual activity among states, rather than a bureaucratized non-governmental function. It is a mechanism for national agencies to work together as information warrants consistent with those agency functions and applicable law. Congress should continue to support this approach.

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### ***Deepening and Expanding the Proliferation Security Initiative***

The United States should strengthen the Proliferation Security Initiative in ways that build on its success.

Initially, the Proliferation Security Initiative focused on cooperation to interdict international shipments. Other kinds of national cooperation are not only possible but desirable if we are to thoroughly disrupt trafficking in nuclear weapons.

President Bush has called for an increasing cooperation among national law enforcement agencies, and use of Interpol, to disrupt the activities, seize the materials, and bring to justice traffickers in nuclear weapons within national borders. This would help nations to take the offensive against proliferation, and could have important benefits. This initiative involves voluntary cooperation among states within their own legal authorities to stem proliferation. Congress should support appropriate expansion of this kind of cooperation.

Though the Proliferation Security Initiative does not have “members”, it is more effective at denying safe havens and hiding spaces for nuclear trafficking as additional states decide to participate. However, it should be recognized that numbers tell only part of the story, and the quality of cooperation among countries is important. Nations that have not explicitly supported the Statement of Interdiction Principles for the Proliferation Security Initiative, or participated in exercises may nonetheless voluntarily cooperate on

specific cases. The United States and its allies should continue to seek such deepened and expanded cooperation, recognizing that information sharing and military or law enforcement cooperation will generally be determined on a case by case basis.

### ***Defense of the United States***

The United States must use its intelligence resources and technological capabilities to overtly and covertly disrupt the development of nuclear weapons by countries or sub-state groups. The PSI is one means to amplify and extend our ability to do so. As in the interdiction of the *BBC China* (a German-owned ship carrying centrifuge parts bound for Libya) by German and Italian authorities working with American and British intelligence, other nations may well take the lead in such actions.

The United States must defend itself and its citizens. Multilateral cooperation is highly desirable and should be sought, and the preemptive use of force should be justified only in highly unusual circumstances. The United States should also be capable and willing to use appropriate national means—law enforcement, intelligence, or military operations—to disrupt such threats within its limited right of anticipatory self-defense.

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## **Secure Nuclear Materials and Expertise Worldwide: Engage multi- and bi-lateral initiatives to quickly secure materials and keep expertise off the market**

One of the highest-risk pathways by which non-state actors and terrorist groups could obtain nuclear weapons or the materials to make them is by stealing them—or buying them on the black market. Ensuring that weapons and high-risk materials are secure, and disposing of excess materials, must be done as quickly as possible, prioritizing those efforts appropriately. Weapons experts formerly employed to develop technologies that enable nuclear weapons development, in countries that have terminated or reduced their programs, also should be provided options for peaceful work to help avoid their skills being marketed to other weapons efforts.

### *Threat Reduction Programs*

There are a number of cooperative programs for nuclear threat reduction, including nuclear aspects of the Nunn-Lugar Cooperative Threat Reduction Program in the Department of Defense, and international material control and accountability programs in the Department of Energy. Since 1991, when Nunn-Lugar was initiated, cooperative programs have helped deactivate and destroy former Soviet missile systems, improve security of warhead or material storage, and help engage weapon scientists in peaceful work. These programs have reduced the likelihood that weapons or materials would end up in the wrong hands. Hundreds of tons of fissile materials now have increased security or have been blended to a low level of enrichment, for example. But these efforts have often

been bureaucratic, there has been difficulty negotiating needed agreements and access with Russia, and for some projects, accountability and business practices have been a concern.

At the same time, the principle of cooperative nuclear threat reduction is both sound and important. Weapons and materials not under adequate control pose security risks to Americans should they be stolen. Cooperative programs should be strengthened and energized by focused efforts of the United States in several areas:

- Reinvigorate cooperative programs with Russia to overcome reluctance within the Russian government to reaching agreements necessary to secure remaining sites and materials and dispose of excess materials. Seek agreement to improve how such programs are managed. Accelerate progress toward the goals of these programs as much as possible.
- Expand cooperative programs to other nations beyond the former Soviet Union, while retaining a major focus on Russia. Congress has expanded the range of countries where cooperative nuclear material protection and accountability may be executed.
- Rapidly secure or repatriate proliferation-sensitive materials, and replace all proliferation-attractive reactor fuels, developing acceptable technical solutions for the most

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challenging cases as soon as possible.

- Expand international support for threat reduction. Seek to fulfill and implement (and if possible surpass) the \$20 billion/10 year target in pledges by the G-8 Global Partnership to fund and accelerate cooperative threat reduction activities. Work with these partners to have the tasks that are supported best address the United States' and other partners' nonproliferation priorities and complement each other in measurable ways.

The goals of threat reduction programs are worthy, but support has been undermined by concerns in some cases about accountability for funds and questionable business practices. There are also concerns that United States assistance could replace rather than supplement resources that a recipient state spends, allowing them to use their money for things we would not want to support. We should not simply accept problems with accountability, or be blind to possible shifting of funds. But these problems must be balanced against the potential security benefit of the programs.

We need to focus on the results we want from cooperative nuclear threat reduction activities, while continuing to address where needed the business practices used to implement them. To help guide planning and Congressional oversight, the United States should:

- Establish meaningful goals, strategies, and priorities for and across our cooperative nuclear threat reduction efforts, and develop a

working consensus in the Executive branch and Congress regarding those goals.

- Track progress in enhancing security of (strategic or tactical) weapons, securing or destroying plutonium, and securing highly enriched uranium, spent highly enriched fuel, and other materials to help evaluate progress against United States goals.

In any year, these efforts may appropriately be a mix of difficult high priority tasks and lower priority targets of opportunity, as well as efforts that build the willingness to cooperate further. Establishing goals and priorities will help us evaluate progress, inform diplomacy and negotiation of agreements, and help achieve the results we want.

We need to make vulnerable materials secure and keep weapons expertise from the market. This should be the main focus of threat reduction programs after 9/11—though cooperative programs can also help cement dismantling current nuclear capabilities when a nation agrees to do so. The United States should keep these programs a high priority while addressing management concerns.

### *Russia*

Russia is an important partner in cooperative programs for two reasons. It has the largest stocks of weapons or materials that need more security protection—hundreds of tons of fissile material and tens of warhead sites—and excess plutonium that it has agreed with the United States to dispose of. In addition, returning fuel and high-risk

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materials to Russia from other countries will enhance their security against theft or diversion.

Critical issues that need to be addressed with Russia include liability agreements, including those covering plutonium disposition programs and the extension of the Nunn-Lugar umbrella agreements, which expire in 2006. Observers need adequate access to some sites to confirm that the expected activities are going on, while respecting Russian security needs. The United States should continue to strongly encourage Russia to include its tactical nuclear weapons in measures for improved security. Improved business controls and transparency should be sought, while ensuring measurable progress toward United States strategic goals for these programs.

Resolving current obstacles will require continued high-level bilateral attention and interest in cooperation. American priorities may not always mesh with current Russian views, and the backdrop of Russian perceptions and economic realities has been changing. Approaches to cooperative efforts and obstacles will have to be developed and pursued recognizing this, and tactics may evolve to best achieve United States goals.

#### *Experts*

When a nation reduces or ends its nuclear weapons program, like Russia, Libya, or Iraq have done, there remain a number of scientists, engineers, and

technicians with expertise that could help develop nuclear weapons programs elsewhere. These experts can be enticed to market those skills. The United States should assist other nations to redirect these experts to the extent feasible to reduce the likelihood that this expertise will spread. It should also expand its intelligence capabilities to identify and locate expertise that has migrated to new programs and networks.

#### *Bilateral Assistance for Border Controls*

Though not threat reduction programs, there are some other bilateral initiatives that support detection and interdiction of nuclear trafficking. The United States should continue to support bilateral initiatives to improve national controls within states that could be used as transshipment points for proliferation sensitive technology or materials, and to improve the ability of other states' export and customs personnel to identify items of concern.

We should continue cooperative efforts to control the flow of proliferation technology and improve the ability to detect nuclear materials at international border crossings or ports, through programs like the Export Control and Related Border Security Assistance Program in the Department of State and the Second Line of Defense Program at the Department of Energy. We should seek to improve the capabilities of other willing nations, recognizing the lessons of the A.Q. Khan network.

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**Make the Choices Clear:  
Assure the credibility of consequences, as well as advantages of positive  
behavior**

Countries debating whether or not to pursue nuclear weapons programs, or to strengthen export controls or criminalize trafficking in nuclear materials, should face a clear choice.

States that consider avoiding their nonproliferation responsibilities must believe that there will be deliberate but timely consequences to those actions. Preferably, these consequences will be taken up internationally and will be both robust and unified in their application. But, if necessary, the U.S. must be willing to lead with its allies to impose consequences that could include targeted financial or diplomatic pressures such as freezing of assets, stiff sanctions, or other means appropriate to the circumstance.

At the same time, there should be clear advantages to forgoing nuclear weapons capabilities. These advantages may or may not center around the United States directly, depending on regional issues. Even when not directly involved, the United States can influence other states to make sure there are clear advantages for states that forgo nuclear capability.

The United States must work to influence other nations, and work in partnership with them, to develop and

apply a variety of tools. These tools can include economic trade and cooperative projects on the one hand, and interdiction, sanctions, and—where necessary to protect vital United States interests—military action.

Where sanctions are helpful they should be designed to gain results by targeting bilateral leverage points, or to gain wide international participation. Sanctions are more effective when pursued by many nations including key trading partners. Sanctions have been applied to Syria and were apparently one factor in Libya's calculations to renounce its WMD programs. At the same time, we must significantly improve intelligence capabilities and ensure that adversaries understand they have no sanctuaries to help dissuade countries from seeking to pursue clandestine programs.

The credibility of international consequences will hinge a great deal on the way that Iran's, and even Brazil's disagreements with the IAEA, along with the diplomatic efforts to dismantle North Korea's program, are resolved. The United States must work to ensure other nations understand the stakes in resolving these conflicts successfully, and deal properly with different perceptions or interests.

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## **Improve Tools for Detection: Advance technical and analytic tools and improve human assets to detect proliferation activities, networks and materials**

The lessons of the A.Q.Khan network, the revelations of Iran's hidden nuclear facilities by dissident groups, and the uncovering of North Korea's cheating on its past agreements, emphasize something we have long known. We need better tools to find the traces of nuclear proliferation before they get too far.

It is vital that as we transform the intelligence community we reinvigorate our human intelligence capabilities. And we must ensure that our nuclear intelligence and analysis capabilities are strong and appropriate to post-Cold-War threats.

The United States must also invest in advances in detection, sensors, analysis, modeling, and pattern recognition tools, to better find the signatures of clandestine proliferation activities by nations or non-state networks or individuals. These activities can span across the globe, and hide within legitimate global commerce. Our ability to detect them must be up to that task. In addition we must invest in security and monitoring technology, to help protect proliferation-sensitive assets worldwide from being diverted.

In addition to stronger domestic programs to advance these technologies we should consider joining forces with other nations with similar concerns about nuclear terrorism and technical capability, like Russia, to explore technologies to help detect and stop movement of nuclear materials and technology. We also need to continue to

improve means to share selected intelligence among partners, since that will often be needed to 'connect the dots' to find and weed out trafficking in nuclear weapons technology.

We should approach the problem of identifying the signatures of proliferation very broadly, not only looking for contraband at checkpoints.

We may also want to consider as items of suspicion, materials or packing that could be an attempt to shield objects of concern against detection, and could explore the feasibility of controls on shipments configured in this way and technologies focused on the cloak—as well as on the dagger. For example, we may want to develop international standards for shipping containers, such as prohibiting shielding with materials impervious to proliferation detection capabilities used at ports.

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**Deal with Different Views:  
Work with, and influence, other nations' perceptions of urgency and willingness to act firmly**

In creating the certainty of consequences for states that would seek nuclear weapons technology, and in strengthening the international rules to limit legal avenues that make proliferation too easy, the United States will face differences of viewpoint with other nations. Even while supporting nonproliferation goals, they may have different perceptions of the threat, balances of interests, senses of urgency, or thresholds for action. They may have different perspectives on the use of international—or American—power.

Unfortunately, for states that wish to avoid consequences while pursuing nuclear weapons, such differences broaden the ground on which ambiguity can be a tool to frustrate international consensus.

The United States must address these differences by working to influence other nations to a greater willingness to act when action is necessary. American leadership will

remain essential in this cause. We must reinvigorate diplomacy to construct a broad willingness to embrace the needed changes to international regimes and strong, unified action on Iran and North Korea. We should develop possible incentives for states to act firmly, when such firm actions though necessary for global nonproliferation goals, conflict with their economic or other domestic interests.

At the same time the United States must draw its policies against the realistic backdrop of such differences, so that our nation retains a range of effective options to prevent gathering proliferation threats from becoming imminent dangers. Since consensus in international institutions may be slow or difficult to achieve, we must develop and broaden multilateral activities and coalitions that can act responsively to impose diplomatic, economic, or stronger measures, against would-be proliferators.

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## **Assure Our Allies:**

### **Continue to assure non-nuclear allies they can rely on American strength**

The focus of nonproliferation policy is properly aimed at nations that seek to develop or expand nuclear weapons capabilities, and to the risk of nuclear terrorism.

The United States must continue to recognize that American security assurances are among the reasons that several nations with significant technological capability refrain from pursuing nuclear weapons capabilities of their own. The NPT and domestic views may play critical roles for many such states. The impetus to change their non-nuclear status would have to be significant. But sustained American weakness or vacillation, if it occurred, could lead to recalculations of national interest that could affect immediate American interests as well as undermine nonproliferation regimes themselves.

The United States nuclear arsenal combined with clear security guarantees to our allies has prevented some states from developing nuclear weapons of their own.

Consistent with longstanding national security policy, the United States must work to assure allies of its continued commitment and capability. It must work with those allies to ensure that regional nuclear threats are addressed. National defense strategy and strategic nuclear postures include assuring our allies as a key goal. This defense strategy also supports a comprehensive nonproliferation agenda. The nation should act to ensure that this goal is met as it reviews and implements its defense strategies.

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## Recommendations for the 109<sup>th</sup> Congress

1. Support nuclear nonproliferation programs as a priority, to address the strategies outlined in this report. Since the concerns are urgent, support authorizations and appropriations needed to provide the timely ability for the United States to successfully and aggressively pursue these strategies.
2. As part of efforts to control the spread of proliferation-sensitive fuel cycle technology, fund domestic programs and support international cooperation to develop safe, proliferation-resistant next-generation technologies. Support appropriate United States roles in multinational mechanisms to guarantee fuel cycle services to non-supplier states that want to use civilian nuclear energy.
3. Fund programs providing foreign assistance to strengthen other nations' export and border controls, and law enforcement tools to criminalize and combat proliferation.
4. Support foreign assistance and bilateral initiatives that will further United States diplomatic efforts to strengthen the Nonproliferation Treaty and supplier guidelines.
5. Continue to support flexible, consensual cooperation among states in the Proliferation Security Initiative (PSI) to find and disrupt nuclear trafficking.
6. Support expansion and deepening of the PSI toward greater cooperation among national law-enforcement agencies, while providing appropriate oversight of such cooperation.
6. Authorize and fund cooperative nuclear threat reduction activities focused on making vulnerable materials secure and keeping weapon expertise from the market as a high priority, while seeking to improve business practices where needed. Authorize further expansion of such programs beyond the former Soviet Union while retaining a major focus on Russia.
7. Work with the Executive Branch to establish a working consensus regarding goals and priorities for all nuclear cooperative threat reduction activities. Fund these programs to achieve these goals. In addition to existing Executive Branch elements, the National Counter Proliferation Center just provided for by Congress may contribute to these strategies once it becomes operational.
8. Support and accelerate the Global Threat Reduction Initiative and associated efforts to secure or repatriate proliferation-sensitive materials as soon as agreements can be established. Support efforts to rapidly replace all proliferation-attractive reactor fuels. To address reactors lacking a

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- suitable replacement fuel that supports the host country's peaceful application, accelerate the research to develop and demonstrate acceptable technical solutions as soon as possible.
9. Improve our intelligence capabilities to detect nuclear proliferation and trafficking by sub-state actors, by investing in rebuilding human intelligence and strengthening the expertise involved in nuclear intelligence and analysis for the community.
  10. Invest in advances in detection, sensors, analysis, and pattern recognition tools to find the signatures of clandestine proliferation activities by states, networks, or individuals worldwide. Seek appropriate cooperative technology development with nations that share American proliferation concerns and have technical capability.
  11. Support efforts to ensure the deterrent capabilities of the U.S. nuclear arsenal are sustained, as part of assuring our non-nuclear allies of our continued commitment and capability so they need not consider future nuclear weapons programs of their own.