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# Cooperative Threat Reduction beyond Russia

Cooperative threat reduction (CTR) programs have proven among the most effective tools of nonproliferation policy. These programs are designed to help other countries to enhance physical protection of weapons of mass destruction (WMD) and their components; dispose of or eliminate weapons and components; and transition scientists, engineers, and technicians away from weapons work, thus preventing "brain drain," or scientists and others with weapons knowledge from taking their skills to other countries or to terrorist groups. During the past decade, cooperative threat reduction programs, also known as Nunn-Lugar programs after Senators Sam Nunn (D-Ga.) and Richard G. Lugar (R-Ind.), who cosponsored the program's original legislation in 1991, have helped lock up hundreds of tons of weapons-usable nuclear material and deactivate or eliminate thousands of nuclear weapons systems in Russia and the newly independent states (NIS) of the former Soviet Union.[1] They have also helped nuclear scientists, engineers, and technicians in those countries transition into lines of work outside the weapons industry. In so doing, these programs have prevented both the transfer of nuclear weapons and know-how into terrorist hands, and the emergence of a dire, unpredictable threat to the United States.

As important and productive as the programs have been, they are not universally applauded. On Capitol Hill, the programs have historically struggled for funding while their substance and reach are continuously debated. Some members of Congress raise concerns that the money cannot

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be properly spent in the corrupt Russian system. Others argue that the Russians are continuing to modernize their nuclear forces while taking U.S. funds. Those in the executive branch less than enthusiastic about the programs place legal or bureaucratic barriers in the way of their implementation or send them so far down the priority list that their budgets suffer. As a result, during the past five years, cooperative threat reduction funding has increased only modestly.[2]

Enthusiasm varies on the Russian side as well. Russian minister of defense Sergei Ivanov has publicly stated that his country has fully protected its nuclear materials and warheads and that the fences around Russian nuclear storage facilities require no further enhancement.[3] Yet at the same time, Russia's Ministry of Foreign Affairs has insisted that the G-8 Global Partnership against the Spread of Weapons and Materials of Mass Destruction, committing at least $2 billion per year for 10 years since 2003, should direct all its funding toward Russia, including well over $300 million on material and warhead protection in 2004.[4]

Given these contradictions on both sides, how much of a role can one expect cooperative threat reduction programs to play in U.S. and Russian nonproliferation policies toward the NIS and beyond in the years to come? To answer this question, it is worth exploring three different groups' perspectives: the United States, which originally developed the programs; the Russian Federation and the NIS, which were the initial recipients of the programs' funds and efforts; and, finally, the countries and regions beyond the borders of the NIS to which the program could expand, such as Iraq and Libya, India and Pakistan, or even eventually Iran or North Korea. The attitudes of key decisionmakers in all of these countries will determine the potential of the programs to achieve new nonproliferation goals.

## The U.S. Perspective

President George W. Bush's budget request for cooperative threat reduction programs in fiscal year (FY) 2005, although representing only a modest increase over the preceding half-decade, still indicates a certain level of stability in the programs' funding. The request totals about $1 billion, of which $472 million would be designated for programs in the Department of Energy's purview, $409 million for the Department of Defense, and $108 million for the Department of State. These numbers are a far cry from the FY 1992 to FY 1994 period, when the government had the authority to spend $400 million of the Defense Department's funds on CTR programs even though there was no official appropriation in the budget. Thus, the CTR program managers had to negotiate with the Defense Department's

comptrollers to find funds in other programs that were not being utilized. Understandably, this "rob Peter to pay Paul" approach made the programs extremely unpopular within the Defense Department.

The current budget of $1 billion, with a presidential commitment to continue spending at least $1 billion per year through 2012 (or $10 billion over the course of 10 years), is thus a positive development. Under the guidelines of the G-8 Global Partnership, other countries will match that amount with a minimum of $10 billion, for a total of at least $20 billion. Not only is the United States committed, but it also has an array of partners to join in the initiative.

Russia has steadily allowed programs to reach into increasingly sensitive facilities.

Experts and government officials are debating, however, whether $20 billion is enough. Some analysts and officials look at the above figures and conclude that the government has appropriated a large enough budget already—in fact, perhaps so much that it cannot spend its funds fast enough. These people have begun to argue for more modest increases or, in some cases, to hold the line against new appropriations. Others, however, assert that the U.S. government should be spending much more to keep nuclear weapons and other WMD out of terrorists' hands. In 2001, for example, a bipartisan task force convened by the secretary of energy called for much higher appropriations. The resulting Baker-Cutler report, named for its two chairmen, former Senate Majority Leader Howard Baker (R-Tenn.) and former White House counsel Lloyd Cutler, outlined U.S. expenditures of $30 billion over 10 years to achieve rapid success in securing nuclear materials and warheads.[5]

Although the United States cannot solve the problem of nuclear security merely by throwing money at it, the tempo of the programs could be stepped up through judicious increases in funding, coupled with improvements in management. In recent years, implementation has become significantly more routine, with project managers and agency officials increasingly racking up successes. They have had less need to appeal to political leaders and decisionmakers in either Washington or Moscow for help in breaking through barriers to implementation.

One example of this phenomenon is the persistently difficult issue of access to secret facilities in Russia. The United States requires such access to check that work that it is paying for is being properly completed, but Russia resists because of the sensitivity of the sites. Arrangements derived both on the ground and through agency to agency working groups have brought about some progress with Russia on this issue.[6]

Success in the implementation of U.S.-Russian projects, however, has not always extended to the other members of the G-8 Global Partnership. Countries new to collaborating on cooperative threat reduction projects with Russia frequently have found the learning curve to be steep and difficult. Methods of contracting and managing projects that are well accepted in their own countries have not translated well into the Russian environment. For example, defining project tasks and then ensuring that they are finished according to agreed schedules have been difficult problems.

Iraqi or Libyan scientists might help reconstruct economic and educational systems.

As a result, both the Russian participants and their G-8 partners have become frustrated with the slow pace of implementation. In fact, the Japanese Diet has an ongoing threat in place to revoke Japan's G-8 funding if it does not discern real progress in joint Russian-Japanese projects. Developing a means to communicate the success of the U.S. experience to other G-8 partners, therefore, should be an important goal of both U.S. and G-8 policy.

Furthermore, complications still exist between the United States and Russia. Indeed, new political barriers have arisen that in some cases make the programs more difficult to implement. For example, issues concerning liability protection in cooperative threat reduction programs have essentially halted the plutonium disposition program, which was established to reduce the dispose of Russian weapon plutonium. This slowdown has occurred despite strong and continuing support from key leadership figures such as Senator Peter Domenici (R-N.M.).

Another key program, the Nuclear Cities Initiative, which was established to help the Russians accelerate the closure of nuclear weapons facilities and manage the transition of nuclear scientists and engineers to non–weapons-related work, has found itself subsumed into other programs with different purposes. Overall, however, cooperative threat reduction programs have become well established as a tool of U.S. policy toward Russia and the NIS. Likewise, the prognosis for the future seems fairly stable, with a predictable amount of funding planned until 2012.

Yet, despite this certainty, several unanswered questions remain. Can the programs be implemented faster in Russia and the NIS, and are more funds required to do so? If the programs do not achieve a faster pace of implementation, will the global commitment to their funding become shakier, perhaps even causing some countries to withdraw from the G-8 partnership? By contrast, if positive progress continues in Russia and the NIS, should the United States encourage the development of cooperative threat reduction programs

in countries beyond the borders of the former Soviet Union? Can such programs serve broader goals of U.S. nonproliferation policy?

## The Russian and NIS Perspectives

Russian political players are of two minds when it comes to threat reduction cooperation. As noted above, Ivanov has strongly denied that Russian nuclear materials and warheads need better physical protection. During an August 2004 exercise to test response to a nuclear emergency, he said, "Unfortunately, in different regions of the world the myth is propagated that Russian nuclear weapons are guarded badly and weakly. This is a myth.... We give this question the highest priority because Russia understands its responsibility to protect nuclear weapons and to prevent possible accidents."[7] While the defense minister asserts this view, other Russian officials have insisted that Russia needs all of the G-8 Global Partnership funding, including funds to protect nuclear materials and warheads. Russia's official position has been that G-8 funding should not go to other countries in the NIS or to countries in other regions of the world. Still other Russian officials, however, particularly those who have been actively implementing the threat reduction programs, understand that establishing new cooperative projects in countries outside the NIS could be an important growth direction for the program. Were such expansion to occur, these individuals would like to have an opportunity to participate.

Different attitudes toward cooperative threat reduction also are present in other NIS countries. In Kazakhstan, for example, President Nursultan Nazarbayev has taken the position that his country's positive experience in denuclearization should be developed as a model for other countries to follow. He and his senior ministers would like to see Kazakhstan in a leadership position, working with new countries in new regions. They have also expressed an interest in providing education and training on nuclear material security and related nonproliferation topics.

The Russian perception of its role in the programs is also changing sharply. In the 1990s, the Russians acquiesced to a supporting role, essentially letting the United States set priorities and take the lead in managing the projects. In the past two years, however, the Russians have increasingly demanded an equal role in the relationship, by which they mean not only that Russia will bring resources to the table to pay for projects, but also that it will take part in setting priorities and managing projects. This switch in roles from an aid recipient to an equal partner requires improving a number of implementation mechanisms. Managers, for example, would have to have better communications capabilities, such as efficient and reliable electronic

mail, which would enable them to communicate in real time. It also means that U.S. managers will have to expend more time and energy working with their Russian counterparts.

At various points in the implementation of the cooperative programs, something akin to full partnership has developed. The international nuclear safety program designed to improve the safety of Chernobyl-style reactors after the disastrous 1986 accident provides one example. In the early 1990s, the United States and Russia developed a routine arrangement for making decisions on funding and priorities for this program inside Russia. This process was possible because all responsible parties, both in Russia and the United States, had regular access to an up-to-date, web-based database and felt like they had a role in technical and other decisions associated with project funding.[8] Russia currently aspires to this type of relationship in other cooperative programs.

**Working with Pakistan or India might be closer to the Russian case than Iraq.**

Yet, because of the potential for more delays and difficulties in project implementation if the Russians become full partners, some U.S. managers do not greet the possibility of stronger Russian partnership positively. They express concern about the firmness of the Russian commitment to the threat reduction program. This question persists because of continuing problems that the United States has experienced with access to Russian facilities and uncertainty stemming from constant reorganization of the Russian bureaucracy. The resurgence of the Federal Security Service (FSB) and uncertainties about the role that the presidential administration can play have raised a question: Does President Vladimir Putin want these programs to succeed or not? At times, Putin has tended to hand problems with the programs back to his bureaucracy, which was not able to resolve them in the first place.

Nevertheless, Russia has steadily, if slowly, allowed the reach of these programs to extend into increasingly sensitive facilities. In contrast to the early days, when the United States was only able to work in non–Ministry of Defense and non–Ministry of Atomic Energy facilities, projects have now been extended into the bailiwick of both agencies. The United States has even been able to embark on a pilot project to secure facilities at a serial production plant for nuclear warheads—the most sensitive sites in the Russian nuclear weapons complex. Coupled with the Russians' interest in a renewed partnership and at least expressed willingness to provide resources, this trend points to a considerable Russian commitment to the cooperative threat reduction programs. It is not perfect, however, as evidenced by the continued Russian bureaucratic resistance to certain program initiatives.

## The Internationalization of Cooperative Threat Reduction

Cooperative threat reduction programs in Russia and the NIS have proven to be the most effective tool of nonproliferation policy to emerge since the end of the Cold War. They can now be developed as an effective nonproliferation tool for use in other countries and regions, including even the toughest proliferation cases of Iran and North Korea. The FY 2005 Senate defense authorization bill included an amendment supporting this broad goal of cooperative threat reduction expansion beyond Russia and the NIS.[9] In May 2004, Secretary of Energy Spencer Abraham also embodied this goal when he called for $450 million during the next decade to fund a new "Global Threat Reduction Initiative," designed to move highly enriched uranium and spent fuel out of vulnerable reactor sites and other facilities around the world.[10] Such "global clean-out" efforts are at the forefront of internationalization of the cooperative threat reduction programs.

The United States must undertake such an expansion of programs carefully. Despite the useful lessons learned from the Russian and NIS cases, exercising some degree of caution in adapting programs is warranted because the situations in other countries and regions can be quite different. The tough cases of proliferation are not all alike, and U.S. policy goals may vary according to specific circumstances. As policymakers consider expansion to new countries and regions, they should therefore be very precise about the goals of each program and should engage key elites in the countries involved, develop their cooperation, and convince them to buy into the effort. Otherwise, the programs will fail. In the case of U.S.-Russian cooperation, mutual confidence has grown slowly, and nothing indicates that it will grow more quickly in other countries. In essence, the United States seeks to engage countries in areas that affect their most sensitive security interests. Therefore, the United States must be crystal clear about its goals and motives and cautious in its attempts to sell the program, especially in countries where public opposition to the cooperation might develop.

### Appealing to Key Elites

Several arrangements can, however, facilitate cooperation. For example, projects with utility and appeal to key elites can foster and then expedite engagement. In the case of Russia, the Energy Department worked with the Russian Ministry of Atomic Energy and Ministry of Emergency Situations to develop "situation crisis centers"—24/7 watch centers that could provide emergency communications in the event of a nuclear accident or incident. Leaders in the Russian ministries had great interest in this cooperation because they wanted to improve the communication system that the 1986

Chernobyl disaster had proven woefully inadequate. Cooperation with the United States enabled them to solve a difficult problem in a way that was both visible and comprehensible to important political elites in Moscow. The confidence gained in this project in turn paid dividends for future cooperation between the United States and these two ministries.

Other confidence-building techniques are available and have proven their utility in the joint U.S.-Russian cooperation. For example, starting slowly with pilot projects and hiring local companies as subcontractors have engaged the interests of Russian participants. Another method that might be especially useful for programs implemented in countries with which the United States does not have good relations would be to use "buffers" to execute a project. For example, projects might be run through the International Atomic Energy Agency (IAEA) rather than on a bilateral basis.[11]

For the United States, the use of "tiger teams" is another approach especially worth incorporating into large, multiple-site projects such as the Global Threat Reduction Initiative. Tiger teams are small, multidisciplinary teams that have the authority as well as the technical knowledge and logistical savvy to complete complicated jobs. They are often interagency in nature, although that is not necessary. Tiger teams were critical to Project Sapphire, which urgently moved more than 500 kilograms of highly enriched uranium out of Kazakhstan in the winter of 1994.[12] To be successful, tiger teams have to have a well-defined goal; a hard, tight deadline; and the authority to move resources quickly. They also must have the ability to move decisions quickly up the chain of command to break logjams. Their operating style is the antithesis of normal bureaucratic procedures, but they can be very practical and effective in achieving urgent results.

## Identifying Practical Methods

The United States has sought and should continue to seek to identify issues that are unique to specific countries. This process will be important to avoid the pitfalls of simply trying to graft U.S. experience in Russia onto other settings. Programs such as those that are being planned for scientists, engineers, and technicians in Iraq and Libya can serve as an effective model. These countries are beginning a political transformation, and the United States is considering how to engage Iraqi and Libyan scientists and engineers to reconstruct the economic infrastructures and rebuild the educational establishments in their countries. In Iraq and Libya, such goals are at least as important as the brain drain goals that were emphasized in Russia. Of course, such efforts will only be fully engaged in Iraq once the security situation there improves.

Can the cooperative threat reduction programs engage Iraqi or Libyan scientists and engineers in a way that helps reconstruct and transform their nation's industries and infrastructures? Can the programs give scientists and engineers new roles to renew the educational system, especially science education? These cases are different from the experience with the former Soviet Union, where the United States was not involved in reconstructing Russian industry or infrastructure. Rather, the primary objective of the programs in Russia was to ensure that former Soviet weapons scientists received adequate funding to pursue research so that they would not be tempted to seek employment in countries of proliferation concern.

If the United States has the opportunity to embark on a threat reduction program with Pakistan or India, however, the focus might be closer to the Russian case than that of Iraq. Goals for the program in Pakistan and India might involve a long-term effort to engage key elites to create a sense of shared responsibility for nonproliferation goals such as protecting nuclear materials and abstaining from nuclear commerce. Establishing a long-term commitment to arms control and reduction programs, including the eventual elimination of nuclear weapons on the subcontinent, would also be important.

> Russia or China could perhaps take the lead in working with North Korea.

To accomplish this, the United States would have to be clear about its own commitment to continuing reductions in nuclear weapons. This would be an important first order of business in engaging India and Pakistan. As the engagement became established, the United States could then develop joint project work under lab-to-lab or scientist-to-scientist arrangements focusing, for example, on technologies to enhance the physical protection of warheads or nuclear materials. Discussions on best practices for such protection could be part and parcel of these projects. The policy goals for working with scientists in Pakistan and India would thus be much different from those in Iraq and Libya. The United States would be emphasizing working with the scientists to establish a nonproliferation culture, rather than reconstructing infrastructure or rebuilding the education system.

This effort would be a wholly new direction for policy not only in the United States, but also in India and Pakistan because these two countries have for a long time been cut off from most cooperation in the nuclear arena. Both countries have refused to sign the Nuclear Non-Proliferation Treaty (NPT), and they both tested nuclear weapons in 1998. Even prior to 1998, however, their non-NPT status meant that trade with them in nuclear tech-

nologies, including for civilian nuclear power programs, was sharply constrained by the NPT.

India, in response, developed a considerable indigenous technical capacity in the nuclear arena. Pakistan, while also stressing indigenous capacity, developed a large international network of clandestine suppliers for nuclear-related technologies—the infamous A. Q. Khan network. The net result in both countries has been that their nuclear scientists and engineers have operated in a vacuum, outside an international scientific community that has, since the days of Albert Einstein, worked on the problems of controlling nuclear weapons and preventing their proliferation.

A pilot project approach with Russia and even the EU-3 might have special utility in Iran.

For the United States to cooperate with India and Pakistan to develop a nonproliferation culture, it would have to create some new policies for doing so, ensuring that it continued to abide by the obligations of the NPT. India and Pakistan, in their turn, would have to accept some new commitments to develop and implement nonproliferation policies in cooperation with the international community, beginning in this case with its scientific component.

Although North Korea is a more radical case of a country that has been cut off from the outside world, cooperative threat reduction programs might also play a role in affecting sea change in the "hermit kingdom." North Korea is one of the world's most closed societies. To engage it effectively requires a coherent plan that includes economic, energy, humanitarian, and other types of assistance, as well as political and security measures. The broader aspects of this plan can only be implemented, however, if North Korea agrees to take required steps to shut down and eliminate its nuclear program.

Such a trade-off has been under negotiation in the six-party talks with North Korea, which also involve China, South Korea, Japan, Russia, and the United States. In considering how cooperative threat reduction programs might contribute to the solution of the North Korean nuclear problem, the United States should develop close cooperation with partners in the six-party talks with whom the North Koreans are familiar and perhaps more comfortable. Historically, Russia was closely involved in the North Korean nuclear program and could perhaps take the lead in removing the plutonium and fuel rods from North Korea for storage in Russia. In addition, China has had a leading role in the six-party talks and a long-standing relationship with the Pyongyang government. It might be willing to lend its experience to working with North Korea to shut down the nuclear facilities there. The United States should also consider going beyond its partners in the six-party talks. For ex-

ample, Kazakhstan, which also has a close tie to Korea extending back to tsarist times, could perhaps use its experience shutting down the Aktau reactor on the Caspian Sea to help shut down North Korea's Yongbyon reactor.

The United States will have to decide whether it has the trust and confidence to work with partners, letting them take the responsibility for projects and perhaps also paying for the project's work in cooperation with other countries, without being the lead manager. Such a decision would be unprecedented in the history of U.S. cooperative threat reduction programs. It would require close coordination and good communication among all of the countries involved, including North Korea—an extremely difficult goal to achieve.

A similar need for partners would arise in Iran's case because of the longstanding difficulties between Washington and Tehran. A pilot project approach might therefore have special utility in Iran, as a complement to the work of the IAEA and Iran's implementation of the Additional Protocol, which allows for monitoring visits to nuclear sites. One pilot project might be a special transparency regime associated with the Russian fuel services contract at the Bushehr nuclear reactor site, which the Russians are constructing under contract to Iran for electricity generation purposes. As a condition to begin fueling the reactor, a transparency regime that permitted both additional visits to the site and remote monitoring could be negotiated on a tripartite basis among Russia, Iran, and the United States. Both Iran and the United States might respond well to such a pilot project, as long as active efforts to resolve questions about the Iranian nuclear program continue through the IAEA.

The pilot project could also engage the United Kingdom, France, and Germany, which have been very active as the so-called EU-3 in trying to develop an overall solution to the conflict over Iran's nuclear program. Thus far, the EU partners have achieved a freeze in the development of fuel cycles facilities in Iran and are negotiating further ways to engage Iran, particularly on the economic front. It would therefore be natural as well as potentially beneficial to the EU-3 negotiations to involve these countries in a special transparency regime at the Bushehr reactor site.

## The Future of Cooperative Threat Reduction

Cooperative threat reduction provides a new and practical set of tools to prevent WMD proliferation in Russia as well as in other countries around the world. They are an important means—the most successful and progressive to emerge in recent years—to prevent nuclear weapons and materials from falling into the hands of terrorists and national leaders who wish to use them to cause harm.

In considering the broad application of cooperative threat reduction to the challenges of proliferation, one must also consider the imperfections of the programs. The work in Russia has by no means been easy. The programs continue to encounter barriers and impediments—some political in nature, others legal or technical, still others related to the protection of sensitive information. Honing these tools for future success in nonproliferation efforts will therefore require continued effort, whether in Russia or in new settings elsewhere in the world.

Can work continue in Russia and simultaneously expand internationally?

The United States must also consider differences among candidate countries for cooperative threat reduction programs. The Russian model cannot be assumed to be a good fit for other countries and regions, and adaptation will be necessary. In some cases, the participation of Russia itself, or NIS states such as Kazakhstan, as the partner country might ease the way to smoother, faster cooperation. In the end, the United States will face perhaps the most critical set of decisions. It must decide whether it is able to maintain its two priorities: continuing the important work in Russia and expanding threat reduction cooperation on the international scene. The United States must also decide whether it feels comfortable yielding the leadership role to another country or entity. In certain circumstances, such as working with Iran or North Korea to eliminate their nuclear programs, the United States might find it advantageous for other countries to do so. Of course, for the United States thus to yield to others, it would have to be absolutely confident that cooperative threat reduction goals could be achieved in a timely and comprehensive manner.

Finally, threat reduction cooperation cannot achieve success on its own. To advance nonproliferation goals, it must be part of a larger system, including diplomatic efforts to strengthen and extend the nonproliferation regime; continuing work to bolster export controls; and international measures, among them military, to strengthen enforcement. Cooperative threat reduction is a tool of great promise, but one that cannot and should not stand alone.

## Notes

1. As of May 7, 2004, the cooperative threat reduction, or Nunn-Lugar, programs in the Department of Defense had deactivated 6,312 nuclear warheads and destroyed 535 ballistic missiles, 459 ballistic missile silos, 11 ballistic missile mobile launchers, 128 bombers, 708 nuclear air-to-surface missiles, 496 submarine-launched ballistic

missiles, 408 submarine missile launchers, and 27 strategic missile submarines. It had also sealed 194 nuclear test tunnels. For additional information on program accomplishments in the Departments of Defense, Energy, and State, see Michael Roston, "Reported Accomplishments of Threat Reduction and Nonproliferation Programs, By Agency," *RANSAC Policy Update*, July 2004, http://www.ransac.org/PDFFrameset.asp?PDF=2004_accomplishments_final.pdf (accessed January 30, 2005).

2. Although there has been a 35 percent increase in funding for the programs since 2001, the vast majority of those funds will be spent not in Russia but in the United States, for disposition of U.S. weapons plutonium. For further detail and commentary on these issues, see Russian-American Nuclear Security Advisory Council, "Time for Action on Nuclear Threats," November 23, 2004, http://www.ransac.org/Publications/News/News%20Releases/index.asp (accessed January 30, 2005); Anthony Wier, William Hoehn, and Matthew Bunn, "Threat Reduction Funding in the Bush Administration: Claims and Counterclaims in the First Presidential Debate," October 6, 2004, http://www.ransac.org/PDFFrameset.asp?PDF=funding_debate_100604.pdf (accessed January 30, 2005).
3. See "CDI Reception for Russian Defense Minister Sergey Ivanov," April 8, 2004, http://www.cdi.org/program/document.cfm?DocumentID=2168&StartRow=1&ListRows=10&appendURL=&Orderby=D.DateLastUpdated%20deSC&programID=29&IssueID=0&Issue=&Date_From=&Date_To=&Keywords=Ivanov&ContentType=&Author=&from_page= documents.cfm (accessed January 30, 2005).
4. Budget data may be found at http://www.nti.org/e_research/cnwm/securing/mpca.asp#budget (accessed January 9, 2005).
5. Russia Task Force, The Secretary of Energy Advisory Board, U.S. Department of Energy, "A Report Card on the Department of Energy's Nonproliferation Programs with Russia," January 10, 2001, http://www.seab.energy.gov/publications/rpt.pdf#search='Report%20Card%20on%20the%20Department%20of%20Energy%C2%92s%20Nonproliferation%20Programs%20with%20Russia' (accessed January 30, 2005).
6. For a useful discussion on this issue, see National Research Council of the National Academies, "Overcoming Impediments to U.S.-Russian Cooperation on Nuclear Nonproliferation: Report of a Joint Workshop," 2004, http://www.nap.edu/books/0309091772/html/R1.html (accessed January 30, 2005).
7. "Russia Says No Militant Threat to Nuclear Arsenal," *Russia Journal Daily*, August 4, 2004, http://www.russiajournal.com/print/russia_news_44911.html (accessed August 10, 2004). See Pavel Felgenhauer, "Nuclear Security Is a Myth," *Moscow Times*, August 10, 2004.
8. For an interesting Russian commentary on this cooperation, see "Overcoming Impediments to U.S.-Russian Cooperation on Nuclear Nonproliferation," pp. 70–71.
9. William Hoehn, "Update on Congressional Activity Affecting U.S.–Former Soviet Union Cooperative Nonproliferation Programs," *RANSAC Policy Update*, July 2004, http://www.ransac.org/PDFFrameset.asp?PDF=ransaclegupdate07072004.pdf (accessed January 30, 2005). This report provides a thorough analysis of the budget prognosis for programs in fiscal year 2005.
10. For the text of Spencer Abraham's speech to the International Atomic Energy Agency announcing the Global Threat Reduction Initiative, see http://www.energy.gov/engine/content.do?PUBLIC_ID=15949&BT_CODE=PR_SPEECHES&TT_CODE=PRESSSPEECH (accessed January 30, 2005).
11. A more detailed discussion of these options may be found in Rose Gottemoeller with Rebecca Longsworth, "Enhancing Nuclear Security in the Counter-Terrorism

Struggle: India and Pakistan as a New Region for Cooperation," *Carnegie Endowment for International Peace Working Papers* no. 29, August 2002, http://www.ceip.org/files/pdf/wp29.pdf (accessed January 30, 2005).

12. For a description of Project Sapphire, see http://www.nti.org/db/nisprofs/kazakst/fissmat/sapphire.htm (accessed January 30, 2005).