

4. Input Measures: “Everything in Our Power”?

As we noted above, President Bush pledged in his January 2003 State of the Union address that “we will do everything in our power” to keep terrorists from attacking America with weapons of mass destruction. In this section, we assess whether, today, the U.S. government is in fact doing everything in its power to accomplish that goal. The short answer is no. There is much more that can and should be done to protect America against this threat.

In Washington, the common shorthand for assessing the priority a problem is being given is its budget – how much is the government spending, and is the budget being increased or cut? More broadly, this chapter focuses on the *inputs* to controlling nuclear weapons and materials – leadership, organization, information, and budgets. The next chapter will assess measures of the *outputs* – how much has actually been accomplished, and how much remains to be done. In the area of controlling nuclear warheads and materials, while there are certainly areas where more money could lead to more progress, we argue that the most critically needed input is sustained political leadership, and we begin there.

Leadership

Ensuring that nuclear weapons and materials around the world are effectively secured and accounted for requires forging partnerships with countries around the globe, on subjects every country regards as extraordinarily sensitive. At the same time, to make rapid progress, a huge number of impediments will have to be overcome (see “Impediments to Accelerated Progress,” p. 36). These things simply will not happen without sustained, day-to-day engagement from the White House – the kind of

engagement now being focused, with considerable effect, on the problems posed by Iraq.

The lesson from the history of U.S. arms control and nonproliferation efforts is very clear: when the President is personally and actively engaged in making the hard choices, overcoming the obstacles that arise, and pushing forward, these efforts succeed. When that is not the case, they fail. Lower-level officials may work hard to carry out programs and resolve issues, but without sustained leadership from the top, they routinely encounter roadblocks posed by other offices, Congress, or their counterparts in partner countries. Without sustained, focused leadership targeted on overcoming obstacles as they arise, problems fester and delay progress – sometimes for years at a time.

To date, President Bush has led the way in focusing unprecedented attention on the threat posed by the possibility that terrorists might acquire weapons of mass destruction (WMD).¹ After one alarming briefing on al Qaeda’s nuclear ambitions, President Bush reportedly directed his national security team to give nuclear terrorism priority over all other security threats to the United States.²

The President and other senior officials – particularly the Secretary of Energy – have intervened personally to launch a number of new initiatives to strengthen and accelerate efforts to control weapons of mass destruction. (See “New Bush Administration Initiatives,” p. 40.)

Nonetheless, the President and his administration have not yet closed the gap between the urgency of the threat and the scope of the U.S. response.

¹ See, for example, President George W. Bush, *National Strategy to Combat Weapons of Mass Destruction* (Washington, D.C.: The White House, December 2002; available at <http://www.whitehouse.gov/news/releases/2002/12/WMDStrategy.pdf> as of February 26, 2003), p. 1.

² Barton Gellman, “Fears Prompt U.S. to Beef Up Nuclear Terror Detection,” *Washington Post*, March 3, 2002.

Between occasional initiatives, the level of sustained, day-to-day engagement from the highest levels in accelerating efforts to secure nuclear warheads and materials has been very modest (as, indeed, it was in the previous administration, and the one before that). Improving security for nuclear warheads and materials is a topic which the President, the Vice President, the Secretary of State, the Secretary of Defense, and the National Security Advisor mention only rarely in their public statements.³ It is only occasionally an item for in-depth discussion when they meet with their foreign counterparts. In most cases, the key issues have been delegated to lower levels and are not the focus of sustained high-level attention.

This level of sustained leadership stands in sharp contrast to the efforts President Bush and his national security team have made in other areas. Compare, for example, the few instances in which controlling nuclear weapons and materials has been explicitly discussed to the massive attention – what one press report described as “nearly eight weeks of administration arm-twisting, cajoling, and concessions” – devoted to the task of winning U.N. Security Council approval for a forceful approach to inspections in Iraq.⁴ For months, a

day has not gone by in which the national security team has not been intensely focused on working out the next steps with respect to Iraq. Much the same can be said for the war on terrorism more broadly.⁵

Even more limited efforts, such as the negotiation of the short Moscow Treaty on strategic arms reductions, followed by the withdrawal from the Anti-Ballistic Missile (ABM) Treaty and the decision to deploy a limited national missile defense, drew hundreds of hours of sustained engagement from the most senior officials of the government – a claim that controlling nuclear warheads and materials simply cannot make. On missile defense, as Secretary of State Powell himself pointed out, “we took 10 months to discuss that issue with the Russians, discuss that issue with our European friends. We made the case, some people agreed with the case, some people did not. But it wasn’t a matter of the United States not sharing, not talking, not listening.”⁶ The administration has made sure, moreover, that there would be no financial obstacles for missile defense. In late 2002, the administration announced that it would add \$1.5 billion to the \$16 billion previously planned for the next two years for the missile defense effort.⁷

³ President Bush, for example, devoted a line to the topic in his 2003 State of the Union address – “We’re working with other governments to secure nuclear materials in the former Soviet Union, and to strengthen global treaties banning the production and shipment of missile technologies and weapons of mass destruction.” – but did not mention it in his 2002 State of the Union or his 2001 inaugural address, and has mentioned it in speeches only a few other times during his administration. Perhaps his strongest speech on the subject since becoming President was his address on December 11, 2001, to the cadets at the Citadel Military Academy in South Carolina: “Working with other countries, we will strengthen nonproliferation treaties and toughen export controls. Together, we must keep the world’s most dangerous technologies out of the hands of the world’s most dangerous people. ...A crucial partner in this effort is Russia — a nation we are helping to dismantle strategic weapons, reduce nuclear material, and increase security at nuclear sites. Our two countries will expand efforts to provide peaceful employment for scientists who formerly worked in Soviet weapons facilities.” All of these speeches can be found at The White House, “Presidential News and Speeches” (available at <http://www.whitehouse.gov/news/> as of February 7, 2003). From this page, click on the relevant month and year for the particular speech, and then scroll down to the particular date of the speech.

⁴ Karen DeYoung and Colum Lynch, “U.S., France Agree On Iraq; Resolution Vote May Come Today,” *Washington Post*, November 8, 2002. For just one description of the level of seniority involved and the time being committed, see Colum Lynch and Karen DeYoung, “U.S. Officials Meet on Bolstering U.N. Effort,” *Washington Post*, October 16, 2002.

⁵ For a window into the intense focus of Bush’s national security team on the war on terrorism, see Bob Woodward, *Bush at War* (New York: Simon & Schuster, 2002).

⁶ President George W. Bush, “President Speaks on War Effort to Citadel Cadets: Remarks by the President at the Citadel, Charleston, South Carolina” (Washington, D.C.: The White House, Office of the Press Secretary, press release, December 11, 2001; available at <http://www.whitehouse.gov/news/releases/2001/12/20011211-6.html> as of December 19, 2002)

⁷ Bradley Graham, “Missile Defense in 2004; Bush Commits U.S. to Initial System,” *Washington Post*, December 18, 2002.

IMPEDIMENTS TO ACCELERATED PROGRESS

Dramatically increasing the pace of progress in improving controls over nuclear weapons, materials, and expertise will require intensive leadership to overcome a huge number of impediments to progress. The following is an illustrative list of some of the most important:

Bureaucracy. Bureaucracies around the world tend to follow their standard operating procedures, and to have difficulty moving quickly to pursue a new mission in a new way. The incidents of threat reduction efforts being substantially delayed or bogged down by bureaucratic procedures, interagency infighting, and the like – both in Washington and in Moscow and other recipient capitals – are legion. When an expert on physical protection of nuclear facilities is spending his time doing the twelfth revision of a contract proposal requested by headquarters, he is not spending his time actually implementing security upgrades.

Lingering distrust and lack of partnership.

Whatever the relationship at the top political levels, distrust and suspicion remain throughout substantial sections of the U.S. and Russian nuclear establishments. Russian officials suspect U.S. experts are out to spy on sensitive facilities; U.S. officials suspect that Russia is using threat reduction assistance to free up resources to spend on threatening military forces. U.S. concerns over Russian nuclear cooperation with Iran have also undermined confidence, and will be a major obstacle to accelerated progress until they are resolved. Across a wide range of programs, there is often a lack of real partnership to move these joint efforts forward – including a U.S. tendency toward “made in America” approaches designed with only modest consultation with

Russian experts, and a Russian tendency to rely on the United States to pay virtually the entire cost of these joint efforts. There are exceptions, of course – and it is those exceptions that have been most successful.

Secrecy. Keeping some nuclear information secret is essential to preventing the spread of nuclear weapons. But the scale of secrecy, particularly in Russia, is far beyond what is needed, and frequently slows or stops ongoing threat reduction cooperation. Cooperation to secure nuclear warheads, materials, and expertise is inevitably difficult when it is impossible to exchange information on how big the nuclear stockpiles are, where they are located, and what the most dangerous vulnerabilities are.

Disputes over access to sensitive sites.

One particular manifestation of secrecy – and of lingering distrust – has been the extended dispute over access to sensitive sites. To ensure that a particular site really holds dangerous materials, to assess the kinds of upgrades needed at that site, and to ensure that installation work is done to contract specifications, U.S. officials often demand direct access by U.S. personnel, even at highly sensitive locations – which Russian officials have often rejected. Work at most of Russia’s nuclear warhead storage sites and several of its most important nuclear material sites has been delayed for years over such disputes, and different programs have pursued a patchwork of different approaches to resolving them.

Liability concerns. Given the serious safety hazards in working with these dangerous materials, before being willing to start work, U.S. and inter-

Thus, with other priority items such as Iraq or missile defense, the President has made clear what he wants to happen and when he wants it to happen, and he and his senior advisers have devoted extensive time to providing the resources and clearing away the obstacles needed to meet that goal. For the job of securing the world’s stockpiles of nuclear weapons and weapons-usable materials, the full breadth and depth of White House leadership and support has not been brought to bear to nearly the same degree.

Organization and Planning

Beyond sustained political leadership, the next most critical inputs for accomplishing any complex high-priority government mission are some one in charge, with an effective organization devoted to that mission, and an integrated plan for meeting the objective.

President Bush and the Congress have now worked together to establish an entire cabinet Department

national companies have wanted to be sure that they would not be sued if an accident occurred during the course of threat reduction cooperation. While the original Nunn-Lugar umbrella agreement included blanket liability protection, Russian officials have often balked at providing such blanket protection in subsequent agreements, and officials from the United States and other donor countries have balked at accepting anything less. Negotiations over liability provisions have been contentious and lengthy – and even where the agreements are strong, most firms have still asked their national government for indemnification.

Taxes. Countries providing their taxpayers' money for programs to dismantle or secure weapons of mass destruction want the money to go for that purpose, and not into the general coffers of the recipient state – and hence have insisted that their assistance be tax free. Most recipient countries have agreed to this in principle, but in many countries projects face a complex set of local, regional, and national tax collection agencies which have sometimes been reluctant to implement such exemptions. Negotiating tax exemption provisions and ensuring that they are implemented in practice has taken up an enormous amount of energy that could otherwise have been devoted to the work at hand.

Travel restraints. Travel restrictions have been an area where bureaucratic logjams have had a particularly severe effect. In the case of an expert from a Department of Energy laboratory, a typical trip requires laboratory approval, DOE headquarters approval, State Department approval, a Russian visa, and Russian permission to visit a closed area (which typically

requires at least 45 days advance notice). These approvals usually take at least two months to arrange, and can often fall through at the last moment. Participants from former Soviet countries coming to visit the United States face similar problems – severely exacerbated, since September 11, by the new intensity of review of visa applications, which routinely delays such visits for months at a time. All told, a substantial fraction of the time of participants in threat reduction programs is spent making travel arrangements, rather than getting the work done.¹

In their statement launching the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, the leaders of Russia and the other members of the G-8 agreed on a set of implementation principles designed to overcome some of these logjams – including access, tax exemption, and liability protection, among others.² It is crucial that Russia actually implement these undertakings – and that the United States, Russia, and other participating states apply sustained leadership from the highest levels to overcome these obstacles to progress.

¹ For a discussion of the importance of resolving this impediment, see John P. Holdren and Nikolai P. Laverov, *Letter Report From the Co-Chairs of the Joint Committee on U.S.-Russian Cooperation on Nuclear Non-Proliferation* (Washington, D.C.: The National Academies, December 4, 2002; available at <http://www4.nationalacademies.org/news.nsf/isbn/s02052003?OpenDocument> as of February 24, 2003.)

² Group of Eight, “The G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction” (statement by G-8 leaders, Kananaskis, Canada, June 2002; available at <http://www.g8.gc.ca/kananaskis/globpart-en.asp> as of February 24, 2003).

of Homeland Security, with some 170,000 employees drawn from agencies throughout the government. But for one absolutely central element of homeland security – keeping weapons of mass destruction out of terrorist hands in the first place – there is literally no one in charge.

Today, the U.S. government has dozens of separate programs, in several cabinet departments, doing important parts of the job of keeping nuclear

weapons and weapons-usable nuclear materials out of terrorist hands – securing and accounting for vulnerable nuclear material, helping states intercept nuclear smugglers at their borders, and getting rid of vulnerable caches of bomb material where possible. As described below, hundreds of millions of dollars are being spent each year, and thousands of people, both in the United States and abroad, are involved in carrying these efforts out. Many of these programs are managed by competent and

dedicated officials, and as a result, many of them are making impressive progress.

But there is no senior official anywhere in the government with the full-time job of leading and coordinating these efforts.⁸ With no single leader, there is also no integrated plan, no overarching strategy that would set goals and priorities, allow these programs to work together efficiently, close the gaps in the response, and eliminate overlap and duplication. Without such a strategy, there is no rational basis for making trade-offs and hard choices among the many programs underway. In this area, the U.S. government has a substantial fleet, but no admiral, and no overall battle plan.

With no senior official in charge of moving the entire effort forward, high priorities in some cases go unaddressed, while lower priorities are actively pursued. Problems are allowed to fester. In some cases, interagency disputes many levels down from the top are allowed to delay progress for months, and the sustained White House attention needed to push key security partnerships forward is frequently shoved aside by other priorities, from Iraq to the domestic economy. Consider, as just one example, the Department of Defense's efforts to improve security for stored nuclear weapons in Russia. Because of U.S.-Russian disputes over exactly how much access U.S. experts would have at these sensitive sites, some urgently needed security upgrade equipment that was purchased five years ago is still sitting in warehouses, uninstalled, while the vulnerabilities it was intended to fix go unaddressed.⁹ Were there a senior official in the White House leading the entire effort, this would not be allowed to happen.

Moreover, there is no single organization with "keep terrorists from getting nuclear weapons" as its principal mission – there are, instead, many small organizations with fragments of that job. Thus there is no institutional home for these efforts, no center of planning, execution, and advocacy. For this mission, there is no equivalent to Central Command (charged with preparing for and executing an attack on Iraq, should it come to that), and there is no equivalent to the Missile Defense Agency.¹⁰

Today, the Departments of Defense, Energy, and State all carry out programs to work with the states of the former Soviet Union (and, to a lesser extent, other countries) to reduce the threat posed by insecure nuclear warheads and materials. For none of these departments is this effort a central element of their primary missions. Each of these departments has specific talents and expertise to bring to bear on these problems, but none of them has the ability to pull the others into an integrated effort. The National Security Council has responsibility for coordinating these interagency efforts, and does so – but has assigned a very small fraction of its resources to that effort, and has only limited ability to control the directions that the different agencies choose to take. Ultimate control, in Washington, often comes from control of the budget. There, each program office develops its own budget proposal and performance goals first within its own agency's process; requests a budget from its own section of the President's budget team; and works with a separate congressional appropriations subcommittee to develop that budget.¹¹ There is no government-wide mechanism for preparing an integrated,

⁸ There is, today, a highly effective official several tiers down within the National Security Council staff, charged with coordinating the majority of these efforts (along with various other responsibilities). This person is part of the staff responsible for coordinating all nonproliferation, counterproliferation, and missile defense policy – meaning that nonproliferation matters have to fight with missile defense for senior-level attention. To lead the kind of program we outline here would require an official with substantially more authority, resources, and access.

⁹ See Matthew Bunn, "Warhead Security," *Controlling Nuclear Warheads and Materials* (available at http://www.nti.org/e_research/cnwm/securing/warhead.asp as of March 12, 2003); and Charles L. Thornton, "The Nunn-Lugar Weapons Protection, Control, and Accounting Program: Securing Russia's Nuclear Warheads," in *Proceedings of the 43rd Annual Meeting of the Institute for Nuclear Materials Management, Orlando, Florida, June 23–27, 2002* (Northbrook, Illinois: INMM, 2002).

¹⁰ There is, in the Department of Defense, a Defense Threat Reduction Agency – but efforts to help other states control their weapons of mass destruction represent only a fraction of its mission, and it implements less than half of the government's overall threat reduction efforts.

prioritized budget and plan for preventing a terrorist nuclear attack on the United States.

A recent investigation by the General Accounting Office highlighted the predictable result, in the specific area of helping countries block nuclear smuggling, finding that the effort:

...is not effectively coordinated and lacks an overall governmentwide plan to guide it. Although an interagency group, chaired by the State Department, exists to coordinate U.S. assistance efforts, the six agencies that are providing assistance do not always coordinate their efforts through this group.¹²

For years, Congress has attempted to force one administration after another to put in place a more effective organizational structure for moving these efforts forward, but so far without success.¹³

This is not primarily a critique of President Bush and his administration. Identical criticisms could be – and were – leveled at the Clinton administration. Both the successes and the failures of threat reduction efforts over the years have been entirely bipartisan. Rather, this is a critique of a system and a structure, a structure that lacks any overall leader for these efforts, and any institutional focal point for moving them forward. As long as that structural problem remains, the forces of inertia and business as usual will be extraordinarily difficult to overcome, and the gap between threat and response is not likely to be closed.

Information

Information to guide decision-making is another critical input for an effective program to keep nuclear weapons and materials out of the hands of terrorists and hostile states. Decision-makers setting priorities and allocating resources need to know which facilities in the world have nuclear warheads, plutonium, or highly enriched uranium (HEU); how much of these weapons or materials these facilities have, and in what forms; how well secured these facilities are; whether the people at these facilities are being paid enough, and regularly enough, to keep them from desperation; what threats exist where these facilities are located (such as organized crime, terrorist activity, government corruption, or social collapse in the areas surrounding them); how well different borders are controlled (including controls designed to detect nuclear smuggling); where smugglers and terrorists are going to try to get nuclear materials; and more.

This information is quite difficult to get. Because there are no binding international standards for nuclear security, countries are not required to provide information to anyone on their approaches to securing their nuclear stockpiles. Most countries treat the specific arrangements for securing their nuclear facilities as closely guarded state secrets – indeed, many believe that keeping their defenses secret is the key to effective nuclear security. States with poor nuclear security may be particularly reluctant to provide information (in the

¹¹ Department of Energy programs work with the Energy and Water Subcommittee of the Appropriations Committee in both the House of Representatives and the Senate, the Department of Defense works with the Defense Subcommittee, and the Department of State deals with the Foreign Operations, Export Financing and Related Programs Subcommittee. U.S. House of Representatives, Committee on Appropriations, “Subcommittee Jurisdiction” (February 28, 2001; available at <http://www.house.gov/appropriations/info/juris.htm> as of December 27, 2002).

¹² U.S. General Accounting Office (GAO), *Nuclear Nonproliferation: U.S. Efforts to Help Other Countries Combat Nuclear Smuggling Need Strengthened Coordination and Planning* (Washington, D.C.: GAO, May 2002; available at <http://www.gao.gov/new.items/d02426.pdf> as of December 27, 2002). Since the GAO report was completed, the government has put a substantial effort into developing a coordinated plan for the specific area of assistance for blocking nuclear smuggling – but not for the broader problem.

¹³ *National Defense Authorization Act for Fiscal Year 1997*, Public Law 201, 104th Congress, 2nd Session (September 23, 1996), Sec. 1441; *Floyd D. Spence National Defense Authorization Act of FY 2001*, Public Law 398, 106th Congress (October 30, 2000), Sec. 3174; *National Defense Authorization Act of FY 2002*, Public Law 107, 107th Congress, 1st Session (December 28, 2001); *Foreign Relations Authorization Act, Fiscal Year 2003*, Public Law 228, 107th Congress, 2nd Session (September 30, 2002); and *Bob Stump National Defense Authorization Act for Fiscal Year 2003*, Public Law 314, 107th Congress, 2nd Session (December 2, 2002), Sec. 1205.

BUSH ADMINISTRATION INITIATIVES TO PREVENT NUCLEAR WEAPONS TERRORISM

President Bush and the senior officials of his administration have launched several new initiatives intended to accelerate and strengthen international efforts to control nuclear weapons and weapons-usable nuclear materials.

The G-8 Global Partnership. The most important new initiative of the Bush administration is the establishment, at the June 2002 summit of the Group of Eight (G-8) industrialized democracies, of a “Global Partnership Against the Spread of Weapons and Materials of Mass Destruction,” with the G-8 countries pledging \$20 billion to the effort over 10 years. This provides a strong foundation, if appropriately followed up, to build an effective global coalition to secure all the weapons of mass destruction (WMD) and related materials around the world. (See “The G-8 Global Partnership,” p. 60.)

Efforts to Accelerate Security Upgrades in Russia. Soon after the September 11 attacks, President Bush met with President Putin and agreed to give “urgent attention” to improving security for nuclear material. Since then, Secretary of Energy Spencer Abraham has met five times with Russian Minister of Atomic Energy Alexander Rumiantsev, working each time to accelerate efforts to secure nuclear materials, and overcome bureaucratic obstacles. As a result, the Department of Energy (DOE) has moved up the planned schedule for completing all nuclear material security and accounting upgrades in Russia from 2011 to 2008.

Unfortunately, however, progress in actually implementing upgrades has remained slow, as discussed in the main text.

Take-back of Vulnerable Highly Enriched Uranium (HEU) to Russia. In August 2002, the United States, Yugoslavia, Russia, the International Atomic Energy Agency, and the Nuclear Threat Initiative (NTI) cooperated to airlift 48 kilograms of vulnerable HEU from the nuclear research center at Vinca, Yugoslavia. The Bush administration, following up on initial efforts in the Clinton administration, has launched a tripartite initiative with Russia and the International Atomic Energy Agency (IAEA) to help get vulnerable Soviet-supplied HEU shipped back to Russia for secure storage and disposition – and several more such efforts are now in the planning stages.

Support for an Increased IAEA Budget. Soon after the September 11 attacks, the Bush administration decided to contribute millions of dollars to the IAEA’s nuclear security fund, making the United States by far the world’s leading contributor to the IAEA’s efforts to prevent nuclear terrorism. Moreover, the Bush administration has strongly supported increasing the regular IAEA budget, which funds the entire global nuclear safeguards system, and which had been locked in zero real growth for a decade and a half, despite huge increases in the number of facilities and amounts of material under safeguards. The effort to increase the IAEA regular budget has not yet succeeded, however.

absence of any strong incentive to do so, such as the prospect of assistance for improvements), for fear of both embarrassment and pressure to spend more on nuclear security.¹⁴

Moreover, while it is important to compile as much information as possible to guide decision-making,

it is essential that this information be kept out of terrorist hands. Today, pieces of the needed information exist in many different parts of the U.S. government, in other governments, and in international organizations such as the International Atomic Energy Agency (IAEA). But there is no centralized collection of this kind of information anywhere

¹⁴ The level of secrecy surrounding different parts of this information does vary: most civilian research reactors, for example, are quite open to international visitors and international collaborations. However, at the other extreme, nuclear weapons in states with small arsenals (such as Pakistan and India) or unacknowledged arsenals (such as Israel) are shrouded in nearly impenetrable secrecy.

Expanded Disposition of HEU and Plutonium.

At their May 2002 summit, President Bush and President Putin established a U.S.-Russian working group to find ways to expand and accelerate efforts to reduce HEU and plutonium stockpiles. The group's initial report identified several modest steps that could be taken to reduce HEU stockpiles, including U.S. purchase of a reactor fuel reserve blended from Russian HEU, purchase of Russian HEU fuel for U.S. research reactors, and expanding the blending of HEU removed from vulnerable facilities that is under way under a joint consolidation project. Funding for these steps is included in the President's fiscal year 2004 budget request. In addition, the Bush administration has streamlined the approach to plutonium disposition decided on in the Clinton administration, provided hundreds of millions of dollars in additional funding to begin building the necessary facilities, and made progress toward raising international funds to pay for the disposition of Russian excess weapons plutonium. No large-scale acceleration of the destruction of excess HEU or plutonium has yet been agreed, however.

Nuclear Detection At, and Beyond, U.S. Borders.

In the aftermath of the September 11 attacks, the U.S. Customs Service, with help from DOE, has been moving to purchase equipment for detecting nuclear contraband at points of entry into the United States. Because detecting a nuclear bomb once it got to the U.S. border might be too late, Customs has also established a "Container Security Initiative," designed to ensure that potentially high-risk cargo containers are inspected – including for nuclear materials –

before they are shipped to the United States. As described in the main text, however, these efforts are still in their infancy.

Nuclear Detection Within the United States.

For decades, the United States has maintained the Nuclear Emergency Search Team (NEST) whose job is to respond to terrorist nuclear threats, and find and disable potential terrorist nuclear devices. NEST teams and related capabilities have been called out repeatedly since September 11 – and nuclear detectors have quietly been installed in at least some major U.S. cities.

In addition, the war on terrorism following September 11 has deprived al Qaeda of its Afghanistan sanctuary, driven the group's senior leadership into hiding, and broken up large numbers of terrorist cells – all of which contributes to reducing the group's ability to get and use a nuclear bomb. Moreover, the Bush administration has launched a range of steps to build a new security partnership with Russia, including the formation of the NATO-Russia Council (with a significant focus on both counterterrorism and nonproliferation), the Consultative Group for Strategic Security (chaired by the foreign and defense ministers of both countries), and upgrading the U.S.-Russia Working Group on Afghanistan to an ongoing U.S.-Russia Working Group on Counterterrorism (with a mandate that specifically includes nuclear, chemical and biological terrorism). All of these venues for cooperation with Russia can and should be used to strengthen efforts to block the terrorist pathway to the bomb.

in the world, at any level of classification. If a policymaker said today, "I have \$100 million to spend, and I want to spend it on securing the most vulnerable nuclear material in the world," the answer would be: "we know some material that is quite vulnerable, which would certainly be a worthwhile place to spend the money, but no one knows if there might be other material that poses an even greater risk."

For example, through its cooperation with Russia, the Material Protection, Control, and Accounting

(MPC&A) program at the Department of Energy (DOE) has good information on the types and quantities of nuclear material, and the security and accounting arrangements for it, for many (though not all) of Russia's nuclear sites. But it has very little information on nuclear material elsewhere in the world. DOE's Reduced Enrichment for Research and Test Reactors (RERTR) program has good information on the amounts of HEU at U.S.-supplied research reactors around the world, but little information on the security of these facilities, and no information on material at facilities other than

EFFECTIVE PROGRAM IMPLEMENTATION

No amount of money will get the job done, and no strategic plan will work, without effective implementation of the individual programs. The approaches taken to managing these efforts can make all the difference between success and failure. Indeed, good managers with the experience, judgment, and vision needed to find and implement the approaches that will lead to rapid progress may be the most critically needed input to successful threat reduction efforts.

The areas of strengths and weaknesses in the management of individual programs are many and varied. Some program managers are willing to take risks and make bureaucratic enemies to move their agenda forward; others are more cautious. The heads of some threat reduction programs are adept at building congressional support and garnering favorable publicity for their programs; programs whose managers lack those skills see their budgets languish.

The approach to partnerships – with experts from the recipient country, and between agency headquarters and those on the ground implementing the effort, whether they be laboratory or private sector experts – can be particularly crucial. Programs whose managers know how to build these partnerships, and make appropriate use of the strengths of all participants, tend to succeed, while programs whose managers seek to control every detail from agency headquarters tend to become bogged down, with many of the most effective and enthusiastic implementers drifting away to other projects that will make better use of their skills. The effort to upgrade security and accounting for nuclear warheads and materials held by Russia's Navy, for example, has focused from the beginning on building a genuine partnership with the Russian Navy and a Russian implementing team overseeing the work (at the Kurchatov Institute), who were able to navigate through the obstacles posed by the Russian security apparatus far better than U.S. experts could. As a result, this program has moved far more rapidly than most of the rest of the Material Protection, Control, and Accounting (MPC&A) effort, accomplishing rapid upgrades at most

sites in roughly six months from beginning work at those sites, and comprehensive upgrades typically within in 18 months to two years.¹

Helping to ensure consistent and effective approaches to program implementation – and encouraging agencies to hold managers accountable for performance – would be among the key roles for a new senior White House leader for efforts to keep nuclear weapons, materials, and expertise out of terrorist hands. Important steps would include:

■ **Independent review of implementation approaches.**

Few of these programs have any mechanism in place for independent review or advice on policy issues related to program implementation – from how hard a line to take on access to how to manage the headquarters-contractor relationship. Many do not even have senior agency leadership with the interest and expertise to intervene on these topics. A new senior leader for these efforts and his staff could provide one layer of review – including ensuring consistency among approaches taken to similar problems between different programs – and could work to ensure that the most important efforts also established independent advisory panels to provide well-informed review and advice.

■ **Sharing of experience and best practices.**

As with most government programs, threat reduction programs generally do not talk to each other unless they need to – for example if there is an issue of which program will address a particular problem that has just arisen. There is little opportunity for sharing lessons learned, experience on practices that worked and practices that did not, between different programs. A variety of mechanisms for such sharing of experience could be envisioned, from internal newsletters to retreats where approaches to common problems could be discussed and compared. A new senior leader could help ensure that failed policies were corrected, and successful approaches more broadly adopted.

¹ For discussion of this example, see Morten Bremer Maerli, "U.S.–Russian Naval Security Upgrades: Lessons Learned and Future Steps," *Yaderny Kontrol* (Summer 2002).

research reactors. Under the terms of the Nuclear Nonproliferation Act of 1978, the United States requires that countries it supplies with nuclear materials and technologies provide adequate physical protection for these materials, and U.S. teams occasionally visit countries to check up on this requirement. Traditionally, though, the reports from these teams have not been compiled into any kind of centralized database on security for nuclear materials around the world.

The IAEA, from its safeguards inspections around the world, has detailed information on the quantities and forms of HEU and plutonium in the countries that are non-nuclear-weapon-state parties to the Non-Proliferation Treaty – and on occasion, safeguards inspectors also bring back observations on the state of physical security at sites they have inspected. But under IAEA rules, it cannot divulge the detailed findings of its safeguards inspections to anyone else, even to other offices inside the IAEA. In addition to safeguards information, IAEA experts have also compiled detailed information on HEU at research reactors around the world, and have organized international reviews of security at a small number of nuclear sites. But the IAEA has only limited information on the security arrangements for materials at most sites around the world, and has virtually no information on the nuclear stockpiles in the United States, Russia, China, France, Britain, India, Pakistan, or Israel, none of whom are subject to comprehensive agency safeguards.

One might assume that the U.S. intelligence community would have a complete compilation of such information. But that assumption would be wrong. The intelligence community has actually reduced significantly the resources devoted to nuclear issues since the end of the Cold War. And for reasons ranging from inertia to congressional mandates (which require, among other things, detailed reporting on states' compliance with their arms control obligations), U.S. nuclear intelligence still focuses much more on detailed assessment of the nuclear forces of states that already have nuclear weapons than it does on the possibility that insecure nuclear weapons or materials might allow some unexpected party to get a nuclear bomb overnight. Whether the bomb's worth of HEU sitting at a

research reactor in an obscure country is adequately secured or not, and how much the people there are paid, has not been a major focus of U.S. intelligence – yet that matters much more to U.S. security than many of the topics that have been afforded higher intelligence priority. In short, information is another critical “input gap” in the effort to control nuclear warheads, materials, and expertise.

Resources

Finally, there is the matter of money and personnel – the resources needed to do the job. It is crucial to ensure that efforts to secure nuclear weapons, materials, and expertise around the world are not slowed or weakened by lack of funds or personnel. Today, however, we would argue that changes in policy approaches and in sustained high-level leadership would do more to accelerate and strengthen these efforts than would budget increases alone. The budgets available for most of the existing programs focused on this mission are large enough that simply adding more money, without changing anything else, would not greatly accelerate or strengthen these efforts. But additional funds *would* be needed to finance the new initiatives recommended in this report, and to accelerate and strengthen existing programs in the ways we recommend, *if* other changes made it possible to overcome the other roadblocks that now pose the most substantial constraints.

As discussed later in this report, it is also crucial to begin shifting from a donor-recipient relationship with Russia, in carrying out these programs, to a true partnership – including a growing Russian financial contribution, leading ultimately to full Russian responsibility for providing long-term security for its own stockpiles. Yet Russia's budgets remain constrained, and Russia faces a large number of high-priority crises for which government funds are necessary. Thus, it remains important to identify additional revenue streams that could strengthen Russia's own ability to contribute to these efforts in the near term and sustain effective nuclear security for the long term. (See “Resources Sufficient to the Task,” p. 107.)

While increasing the budget of one program or another might not have much effect, moreover, it

CONGRESSIONAL INITIATIVES TO PREVENT NUCLEAR WEAPONS TERRORISM

Over a decade ago, the creation of the original cooperative threat reduction program with the countries of the former Soviet Union was driven largely by congressional initiative, led by Senators Sam Nunn of Georgia and Richard Lugar of Indiana. Since then, Congress has often taken the lead role in determining the direction of the effort. The following are a few of the highlights of congressional action during the current Bush administration.

Major Supplemental Funding in the Aftermath of September 11 Attacks. Immediately following the attacks, Congress substantially boosted funding for programs focused on keeping weapons of mass destruction out of the hands of terrorists and defending against them on U.S. soil. The Department of Energy (DOE) received an extra \$120 million combined for its Material Protection, Control, and Accounting (MPC&A) and Second Line of Defense programs, a nearly 70 percent increase over its base appropriation. Another \$15 million of the \$40 billion post-September 11 Emergency Response Fund (ERF) was directed toward DOE's Russian Transition Initiatives, designed to shrink Russia's nuclear complex and provide civilian jobs for excess weapons experts in the former Soviet Union. In addition, the administration used \$25 million of the \$40 billion ERF provided by Congress for the State Department's Export Control and Border Security Assistance

programs to combat nuclear and other WMD smuggling in Central Asia (on top of \$24 million otherwise directed to the program).

Further Supplemental Funding in Summer 2002. In another emergency supplemental appropriation approved in the summer of 2002, on the Senate's initiative, the Congress added more than \$40 million more to expand MPC&A activities beyond the former Soviet Union, accelerate execution of the program in Russia, and control radiological sources; to destroy highly enriched uranium and return vulnerable material to Russia; to speed the elimination of Russian plutonium production reactors; and for other matters.

Authority for the President to Waive Certain Congressional Restrictions. Early in 2002, the administration decided it could not to certify to Congress that Russia was meeting the Congressional requirement that it be committed to complying with its arms control obligations, and asked Congress for authority to waive the requirement in the national security interest. Pending approval of such a waiver, new assistance to Russia – including efforts to secure warheads and materials posing a threat to U.S. national security – was halted for several months. In the summer of 2002, Congress provided temporary waiver authority that quickly expired; by the end of the

seems clear that if Congress were to appropriate a substantial pool of funds available as needed for addressing such risks – comparable to the \$10 billion the Defense Department proposed to set aside in fiscal year (FY) 2003 for the war on terrorism – this could leverage progress in a variety of areas, making it possible for program managers to think bigger, for negotiators to be more flexible, and for commitments to foreign partners to be more credi-

ble.¹⁵ In FY 1999, for example, at the initiative of Senator Pete Domenici (R-NM), Congress added \$525 million in appropriations contingent on reaching agreements with Russia related to stabilizing the HEU deal (\$325 million) and carrying out plutonium disposition (\$200 million).¹⁶ This brought Russian negotiators to the table with greatly increased seriousness of purpose; the agreements in these two areas that were subsequently reached would not

¹⁵ The constraints on the offers that negotiators can make posed by U.S. laws have frequently slowed negotiations in these areas: U.S. negotiators are legally barred from offering financial commitments for which there are as yet no appropriated funds, but foreign negotiators often do not negotiate seriously until the U.S. side can make real financial commitments. And U.S. appropriators often will not provide funds for a project if the foreign partner is not perceived as negotiating seriously, creating a difficult Catch-22

¹⁶ *Omnibus Appropriations Bill for FY 1999*, Public Law 277, 105th Congress (October 21, 1998; available at <http://thomas.loc.gov/cgi-bin/bdquery/z?d105:HR04328:ENR> as of February 6, 2003), Division B, Chapter 2.

year, after considerable debate, Congress provided waiver authority for three years.

Senate Attempts to Expand the Scope and Pace of Global Threat Reduction. In summer 2002, a bipartisan collection of Senators, including Richard Lugar (R-IN), Pete Domenici (R-NM), and Joseph Biden (D-DE), among others, won Senate approval for a broad package authorizing the administration to expand the Department of Defense's Cooperative Threat Reduction program and DOE's MPC&A program beyond the former Soviet Union; authorizing an accelerated blend-down program for highly enriched uranium (HEU); encouraging an accelerated and broadened effort to remove nuclear material from vulnerable sites worldwide; and more. Few of these initiatives survived the conference with the House, but some were partly funded in the summer emergency supplemental just described.

Debt-for-Nonproliferation Legislation. As part of the final version of the Foreign Relations Authorization Act of FY 2003, Congress provided the administration with the authority to create a new mechanism under which money that Russia otherwise would pay to the United States to service the roughly \$2.7 billion debt it owes to the United States would instead be paid into a fund to be spent to secure WMD and related material and expertise in Russia. Administration officials have testified that they intend to use this authority, but

the administration requested no funds to do so in its FY 2004 budget request.

New Initiatives in the 108th Congress. With the start of a new Congress, members in both houses have proposed working again to advance the agenda on controlling insecure nuclear (including radiological) materials and expertise. In addition to making permanent the presidential authority to waive certain congressional restrictions (H.R. 182), legislation introduced by the Democratic Senate leadership (S. 6) incorporates several non-proliferation initiatives into larger legislation focused on homeland security – including a requirement that the administration develop a plan to address the global threat of insecure radiological materials; new authority for the State Department to work with, and provide funds to, other governments for improving the security of their nuclear facilities and nuclear materials, along with acceleration of DOE's MPC&A program; new funds for converting unneeded Russian nuclear facilities, along with a new approach to employing former WMD scientists by authorizing agencies to direct a small fraction of U.S.-sponsored R&D to be done by them; and a requirement that the administration develop a plan, with Russia, for addressing Russia's huge stockpiles of tactical nuclear warheads. Another bill expected to be re-introduced in the Senate after being introduced late in the 107th Congress focuses more exclusively on insecurity and proliferation of radiological materials.

have been possible had these funds not been appropriated.

Ultimately, it will only be possible to have a full debate over how much money is needed for this mission once a comprehensive, prioritized plan has been laid out that makes it clear what needs to be paid for. Nevertheless, some discussion of the budget picture – and whether it meets the “everything in our power” standard the President laid out – is warranted.

In addition to sheer dollars, flexible authority to spend them where they are most needed and how

they can be most effective is critically important. In exercising its oversight responsibilities – and reaching the political bargains that are often necessary to build support – Congress on occasion has restrained these programs with myriad certification requirements and program directions that have limited the government's ability to implement programs in the most efficient manner and seize opportunities as they arise.¹⁷ In the early days of the Nunn-Lugar effort, for example, there was strong Congressional pressure to “buy American” – providing U.S.-made equipment when, in many cases, equipment made in Russia or the other states of the former Soviet Union

¹⁷ For discussion of the problems posed by such restrictions, see, for example, Laura Holgate, testimony to the Senate Committee on Governmental Affairs, Subcommittee on International Security, Proliferation, and Federal Services, November 14, 2001 (available at http://www.nti.org/c_press/holgate_Nov14.pdf as of January 17, 2003).

would have been cheaper and easier for the recipients to use and maintain.

In 2002, the requirement that the President certify that the recipient states were each meeting a list of standards for eligibility to receive Nunn-Lugar funds became a serious problem when President Bush decided he could no longer certify that Russia was committed to complying with all of its arms-control obligations, putting a hold on all new Nunn-Lugar contracts for many months. Congress finally passed legislation giving the President authority to waive these certification requirements when it is in the national security interest to do so – but only for three years. A Senate effort to give the Defense Department authority to spend \$50 million of Nunn-Lugar money wherever in the world it might be needed, not just in the former Soviet Union, was not approved in conference with the House – leaving the administration with little flexibility to address problems outside the former Soviet Union. Similarly, legislation that would have explicitly given DOE authority to help secure or remove vulnerable nuclear materials anywhere in the world did not survive the conference – though DOE arguably has such authority already. Congress did, however, initiate and pass new legislation, which President Bush signed into law, giving the President the authority to negotiate “debt for nonproliferation swaps” as a complementary approach to financing threat reduction activities. (See “Resources Sufficient to the Task,” p. 107).

Total Threat Reduction Funding

Over the twelve years from fiscal year (FY) 1992 to FY 2003, the U.S. government appropriated approximately \$7.9 billion for programs in the Departments of State, Defense, and Energy intended to dismantle and control the former Soviet Union’s weapons of mass destruction.¹⁸ Of that total, just under \$4.7 billion was focused on controlling nuclear warheads, materials, and expertise.¹⁹ The remainder was directed to a broad range of other worthy objectives, from dismantling missiles and submarines to destroying chemical weapons.

By way of comparison, the budget Congress approved for missile defense in FY 2003 alone is \$7.4 billion, only slightly less than all cooperative threat reduction spending for the past twelve years combined.²⁰ Total funding for all threat reduction funding, including all the efforts devoted to ensuring that weapons of mass destruction do not fall into the hands of terrorists or hostile states, is now running at around \$1 billion per year – less than one third of one percent of a budget for the Department of Defense that in FY 2003 was \$365 billion.²¹

In its initial days in office, the Bush administration questioned even this resource level, proposing a budget of just under \$750 million, significantly lower than this \$1 billion standard.²² In the aftermath of the September 11 attacks Congress pro-

¹⁸ While the problem of insecure nuclear weapons and materials is a global one, nearly all U.S. funding for programs to manage nuclear weapons, materials, and expertise beyond the United States’ own borders has focused on the former Soviet Union. This budget analysis, therefore, focuses primarily on programs within the former Soviet Union (as do administration budget analyses). See discussion below for more on what programs we include and do not include in our analysis. This analysis draws heavily on William Hoehn, “Observations on the President’s Fiscal Year 2004 Budget Request for Nonproliferation Programs in Russia and the Former Soviet Union” (Washington, D.C.: Russian American Nuclear Security Advisory Council, February 11, 2003; available at http://www.ransac.org/new-web-site/whatsnew/fy2004_usrf_budget.html as of February 26, 2003). The authors are grateful to Hoehn for extensive discussions of issues relating to current and historical threat reduction budgets, and to several veterans of the cooperative threat reduction effort still within the U.S. Government. Any errors are entirely our own.

¹⁹ The programs included and excluded in our calculations of total cooperative threat reduction spending and the portion devoted to controlling nuclear warheads, materials, and expertise, along with the criteria used to make these determinations, are discussed below.

²⁰ U.S. House of Representatives, Committee on Appropriations, “Fiscal Year 2003 Defense Appropriations Conference: Summary of Agreements” (press release, Washington, D.C., October 9, 2002; available at http://www.house.gov/appropriations/news/107_2/03defconf.htm as of December 18, 2002).

²¹ Office of Management and Budget, “Department of Defense,” in *Budget of the United States Government, Fiscal Year 2004* (Washington, D.C.: OMB, February 3, 2003; available at <http://www.whitehouse.gov/omb/budget/fy2004/> as of February 6, 2003), p. 90.

vided hundreds of millions of dollars to programs intended to address various aspects of the risk that weapons of mass destruction would fall into terrorist hands, and the Bush administration ultimately agreed.²³

The Bush administration then shifted its stance, releasing (in December 2001) the results of its review of threat reduction programs, which endorsed most of them and called for expansions of some.²⁴ This was followed in February 2002 by the administration's FY 2003 budget proposal, which – if one accounts for later policy changes to ensure an “apples to apples” comparison – called for a total threat reduction budget of \$948 million²⁵ – almost as much as the total appropriation the year before, including the emergency supplemental increments, reflecting an administration decision to support threat reduction at a level of roughly \$1 billion per year. That level matches the last threat reduction budget proposed by the Clinton administration – long before the September 11 attacks. Out of that amount, \$597 million was targeted on controlling nuclear weapons, materials, and expertise.²⁶ Later, in mid-2002, the administration committed to continuing to invest \$1 billion a year for another decade, as a part of the Global Partnership – and the other members of the Group of Eight (G-8)

industrialized democracies agreed to match that annual investment (see “The G-8 Global Partnership,” p. 54). For FY 2003, the 107th Congress initially simply approved these Bush administration requests – but then failed to pass final versions of the Department of Energy and State budgets, as a result of partisan budget gridlock.²⁷ Finally, in February 2003 – after a third of the fiscal year had passed – the 108th Congress finished work on the FY 2003 budget with an omnibus appropriations bill that included provisions for the nonproliferation programs at the Departments of Energy and State.²⁸

The final bill agreed to by Congress slightly modified the President's original budget proposal in only two ways. First, Congress added on \$14 million in FY 2003 to develop and implement efforts with Russia for blending or otherwise securing HEU (see “Notable Congressional Initiatives to Prevent Nuclear Weapons Terrorism,” p. 47).

Additionally, Congress directed a 0.65% across-the-board rescission of all the funding levels approved in the bill to pay for a few high-priority initiatives.²⁹

In its FY 2004 request, released on February 3, 2003, the administration has met this \$1 billion commitment, proposing a total threat reduction budget of \$1,031 million.³⁰

²² Authors' calculations, described in detail in Matthew Bunn, John P. Holdren, and Anthony Wier, *Securing Nuclear Warheads and Materials: Seven Steps for Immediate Action* (Washington, D.C.: Nuclear Threat Initiative and Project on Managing the Atom, Harvard University, May 2002; available at http://www.nti.org/e_research/securing_nuclear_weapons_and_materials_May2002.pdf as of February 25, 2003), pp. 15–23. Also, William Hoehn, “Analysis of the Bush Administration's Fiscal Year 2002 Budget Requests for U.S.-Former Soviet Union Nuclear Security: Department of Energy Programs,” *Russian American Nuclear Security Advisory Council* (April 18, 2001; available at http://www.ransac.org/new-web-site/related/govt/cabinet/doe/fy2002_budget_analysis.html as of December 28, 2002).

²³ See, for example, David Broder, “Good News on Nukes,” *Washington Post*, December 23, 2001. For an account of the final spending picture after these amounts were approved, see William Hoehn, “Analysis of the Bush Administration's Fiscal Year 2003 Budget Requests for U.S.-Former Soviet Union Nonproliferation Programs” *Russian American Nuclear Security Advisory Council* (April 2002; available at http://www.ransac.org/new-web-site/related/congress/status/fy2003doe_0402.html as of February 7, 2003). Also, see our discussion in Bunn, Holdren, and Wier, *Seven Steps for Immediate Action*, op. cit., pp. 15–23.

²⁴ The White House, Office of Press Secretary, “Fact Sheet: Administration Review of Nonproliferation and Threat Reduction Assistance” (Washington, D.C., press release, December 27, 2001; available at <http://www.whitehouse.gov/news/releases/2001/12/20011227.html> as of February 26, 2003).

²⁵ In the *Seven Steps* report, we originally estimated the budget request at \$957 million. The figure offered here excludes \$6 million in the Department of Energy for a Nuclear Assessment Program that has since been moved to the new Department of Homeland Security and \$3 million in the State Department's Export Control and Related Border Security Assistance program that was reallocated to non-former Soviet countries. Personal communications with State Department officials, February 2003; and U.S. Department of Energy (DOE), *FY 2004 Detailed Budget Justifications—Defense Nuclear Nonproliferation* (Washington, D.C.: DOE, February 2003; available at <http://www.mbe.doe.gov/budget/04budget/content/defnn/nn.pdf> as of February 5, 2003), p. 627.

Table 4.1 – Proposed and Approved Funding Levels for All U.S. Cooperative Threat Reduction Efforts in the Former Soviet Union

Dollars in Millions	FY 2002	FY 2003		FY 2004	Change from FY 2003 Final	% Change from FY 2003 Final
	Final Approved	President's Budget Proposal	Final Approved	President's Budget Proposal		
Department of Energy	491.8	413.7	424.9	458.4	33.5	7.9%
Department of Defense ^[1]	370.0	428.3	428.3	462.8	34.5	8.1%
Department of State ^[2]	167.4	105.9	105.5	110.0	4.5	4.2%
TOTAL	1,029.2	947.9	958.8	1,031.2	72.4	7.6%

[1] In its own documents, the administration reports that it is requesting \$991 million in FY 2004 for cooperative nonproliferation programs as part the G-8 Global Partnership Against the Spread of Weapons of Mass Destruction, with \$451 million of that coming out of the Department of Defense. The administration's count does not include, as we do, an estimated \$9 million for the International Counterproliferation program, or an estimated \$3 million for the Arctic Military Environmental Cooperation program.

[2] The administration also reports that it is requesting \$81 million for State Department in FY 2004 for cooperative nonproliferation programs as part the G-8 Global Partnership. This figure does not include, as we do, an estimated \$15 million for the Georgia Border Security and Law Enforcement program (which has some nonproliferation benefits), and an estimated \$14 million for the Civilian Research and Development Foundation.

Of the \$1,031 million total, the amount focused on controlling nuclear warheads, materials, and expertise is approximately \$656 million (as shown in Table 4.1 and Table 4.2).

For comparison, for the entire Department of Defense, the administration has requested approximately \$380 billion in new funding for FY 2004 (a figure which does not include a likely supplemental to be proposed by the administration to cover any hostilities in Iraq as well as additional costs in the war on terrorism). In other

words, if all the money budgeted in FY 2004 for the national defense of the United States were spent in equal amounts each day over the course of an entire year, all the resources dedicated to controlling the thousands of unsecured nuclear warheads and tons of unsecured nuclear materials that could be used in a devastating nuclear terrorist attack on an American city would run out by the late afternoon of the first day.

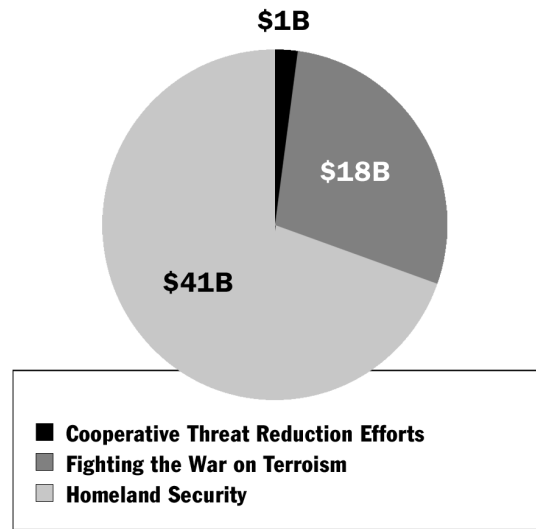
Figure 4.1 compares funding for the three elements of blocking the terrorist pathway to the

²⁶ Again, in the *Seven Steps* report, we originally estimated that the FY 2003 request by the administration for efforts to control nuclear warheads and materials was approximately \$634 million, \$37 million more than the figure offered above. \$9 million of the difference is accounted for by the adjustments discussed in the previous footnote because of new policies decided upon after the original budget request. Additionally, last year because of a State Department budget presentation that combined two figures, we were forced to include \$20 million for the Bio-Chem Redirection program in the total for the International Science and Technology Centers (ISTC) (separately funded at \$32 million). The Bio-Chem Redirection program is not a nuclear-focused program, and is better counted as in our Other Threat Reduction category when available data makes that possible (the comparable anticipated splits are \$24/\$35 million for FY 2004; personal communication with administration budget officials, February 2003). Finally, last year we counted approximately \$8 million in funding for the State Department's Nonproliferation and Disarmament Fund (NDF) as part of other nuclear cooperative efforts; we have since reclassified that funding as Other Threat Reduction. The NDF is a contingency fund that takes advantage of all types of nuclear, chemical, biological, and conventional nonproliferation and disarmament opportunities as they arise, so no specific splits on the types of projects it funds are available before they happen. Traditionally experts have estimated that about half of NDF's annual replenishment (typically around \$15 million) would go towards threat reduction projects inside the former Soviet Union, but it is impossible to say from year-to-year how much is going towards nuclear-specific projects. For FY 2004 the administration broke with that tradition on two counts. First, it is requesting replenishment in FY 2004 of \$35 million to increase the opportunities in which NDF can take advantage. And second, in its tally of State Department funds contributing to the G-8 Global Partnership, administration officials counted only \$5 million of the NDF's \$35 million request. We have chosen to follow their lead in FY 2004.

bomb outlined in Chapter 3 – threat reduction, the war on terrorism, and homeland security.³¹ As can be seen, spending on keeping weapons of mass destruction out of terrorist hands in the first place is tiny by comparison to what is being spent on the other elements the effort.

Clearly both the war on terrorism and homeland security involve a wide range of important efforts that have nothing to do with weapons of mass destruction, so the comparison is not entirely fair (though to even the balance slightly, we have included all threat reduction efforts, even those not directly related to reducing nuclear terrorist threats) – but it does make clear that the effort to keep “the world’s most dangerous technologies out of the hands of the world’s most dangerous people” as the President has put it,³² receives a miniscule slice of the overall effort to counter global terror. We would argue that while both the war on terrorism and providing for homeland security are essential investments, this picture should be brought into slightly better balance, by increasing the

Figure 4.1 – Estimated U.S. Spending in FY 2003 on Homeland Security, the War on Terrorism, and Threat Reduction



resources available for controlling weapons of mass destruction and their essential ingredients at their sources.

²⁷ For a damning post mortem on the overall FY 2003 budget process, see Stan Collender, “Budget Battles: Rock Bottom,” *GovExec.com* (November 6, 2002; available at <http://www.govexec.com/dailyfed/1102/110602bb.htm> as of December 16, 2002). The Library of Congress’ *Thomas* website presents a useful summary page of appropriations actions for the FY 2003 budget, at Library of Congress, “Status of FY 2003 Appropriations Bills,” *Thomas: Legislative Information on the Internet* (available at <http://thomas.loc.gov/home/approp/app03.html> as of December 16, 2002).

²⁸ *Consolidated Appropriations Resolution, 2003*, Public Law 7, 108th Congress, 1st Session (February 20, 2003; available at <http://thomas.loc.gov/cgi-bin/query/z?c108:H.J.RES.2.ENR>: as of February 26, 2003). Department of Energy programs are dealt with in Division D of the bill; the State Department’s nonproliferation programs are dealt with in Division E. Also see U.S. House of Representatives, *Conference Report to Accompany House Joint Resolution 2, Making Further Continuing Appropriations for Fiscal Year 2003, and for Other Purposes*, 108th Congress, House Report 10 (February 12, 2003; available at <http://thomas.loc.gov/cgi-bin/cpquery/z?cp108:hr10>: as of February 26, 2003).

²⁹ We have generally assumed in the rest of this analysis that the rescission will be applied to each individual programs, but there are cases in which the administration may end up applying certain parts of the rescission in amounts that differ slightly from the exact 0.65%

³⁰ In its own documents, the administration reports that \$991 million is being devoted to the G-8 Global Partnership. It does not count approximately \$15 million for the Georgia Border Security and Law Enforcement program (which has some nonproliferation benefits), roughly \$14 million for the Civilian Research and Development Foundation, roughly \$9 million for the International Counterproliferation program, or some \$3 million for the Arctic Military Environmental Cooperation program. All of these have been counted in at least some previous government accountings of the total threat reduction budget, and all of them have at least some threat reduction impact. We have included them in our accounting to ensure that, in arguing for a greater U.S. and international commitment to threat reduction, we are not under-reporting the existing U.S. commitment.

³¹ The \$18 billion figure for “Fighting the War on Terrorism” comes from Defense Secretary Rumsfeld’s testimony to the House Armed Services Committee, in which he explained that the Defense Department was spending about \$1.5 billion a month on this task. See Leslie Wayne, “Rumsfeld Warns He Will Ask Congress for More Billions,” *New York Times*, February 6, 2003. Homeland Security funding for FY 2003 (which still includes other homeland security functions other than just the new Department) is in OMB, *Budget of the United States Government, Fiscal Year 2004*, op. cit., p. 315.

Funding for Controlling Nuclear Warheads, Materials, and Expertise

As Table 4.2 shows, at \$656 million, the administration's funding request for FY 2004 for efforts to control nuclear warheads and materials, and expertise represents an increase of \$47 million, or almost 8%, compared to the final funding level approved by Congress. This increase is driven by increases in just a few programs – for the vast majority of these efforts, the budget proposed in FY 2004 is effectively identical to that proposed in FY 2003, without even an increase for inflation. In the sections that follow, we discuss the budget highlights under each of these goals in stopping terrorists on the pathway to the bomb, with charts showing the programs within each, and notes on any appropriate caveats and assumptions.

Of the \$47 million change, \$16 million is accounted for by a new DOE proposal called the Accelerated Materials Disposition initiative (\$30 million is being requested for this new program, but Congress on its own initiative appropriated an additional \$14 million towards these activities in FY 2003 before the administration's request even arrived). In this initiative, DOE will use \$25 million to begin purchasing a low-enriched uranium (LEU)

reserve blended from Russia's HEU stockpile.³³ The remaining \$5 million would be for other initiatives to accelerate the reduction in Russia's HEU stockpile or the conversion of HEU-fueled research reactors to LEU, following agreement to explore such options at the May 2002 Bush-Putin summit.

Another \$13 million of the increase is accounted for by an increase in the appropriation being requested for the program to dispose of Russia's excess weapons plutonium. DOE is requesting \$47 million in FY 2004, after requesting \$34 million in new funds in FY 2003 (though DOE also anticipated using \$64 million in FY 2003 from previous unobligated balances, which are no longer available this year – so the total amount slated for this purpose this year will actually be less than half the amount budgeted for FY 2003). DOE also requested a dramatic increase – from \$350 million to \$609 million – for disposition of U.S. excess fissile materials, but like the administration, we do not include these figures in the budgets for threat reduction.³⁴

The third major increase is an additional \$8 million, to \$48 million in FY 2004, requested for the Department of Defense's Nuclear Weapons Storage Security program in Russia – which reflects

Table 4.2 – Aggregate Proposed and Approved U.S. Budgets for Controlling Nuclear Weapons, Material, and Expertise in the Former Soviet Union

Dollars in Millions	FY 2002	FY 2003		FY 2004	Change from FY 2003 Final	% Change from FY 2003 Final
	Final Approved	President's Budget Proposal	Final Approved	President's Budget Proposal		
Securing Warheads and Materials	356.0	288.5	286.8	303.4	16.6	5.8%
Interdicting Nuclear Smuggling	120.0	105.3	105.3	104.4	-0.9	-0.9%
Stabilizing Employment for Nuclear Personnel	108.0	85.3	84.9	89.0	4.1	4.9%
Monitoring Stockpiles and Reductions	22.9	34.9	34.7	35.6	1.0	2.8%
Ending Further Production	55.9	49.3	49.0	50.0	1.0	2.0%
Reducing Excess Stockpiles	16.5	34.0	47.7	73.1	25.4	53.3%
TOTAL	679.2	597.4	608.3	655.5	47.2	7.8%

³² Bush, "President Speaks on War Effort to Citadel Cadets: Remarks by the President at the Citadel, Charleston, South Carolina," op. cit.

³³ DOE, *FY 2004 Detailed Budget Justifications—Defense Nuclear Nonproliferation*, op. cit., p. 738.

optimism that the disagreements over access that have slowed progress in that program to a crawl in recent years have now been largely overcome.

No other program is requesting a budget in FY 2004 that differs from its FY 2003 request by more than \$3 million.

The degree to which the funds requested for FY 2004 are sufficient to make progress at the maximum practical rate varies for each of the six categories of effort focused on controlling nuclear weapons, materials, and expertise.

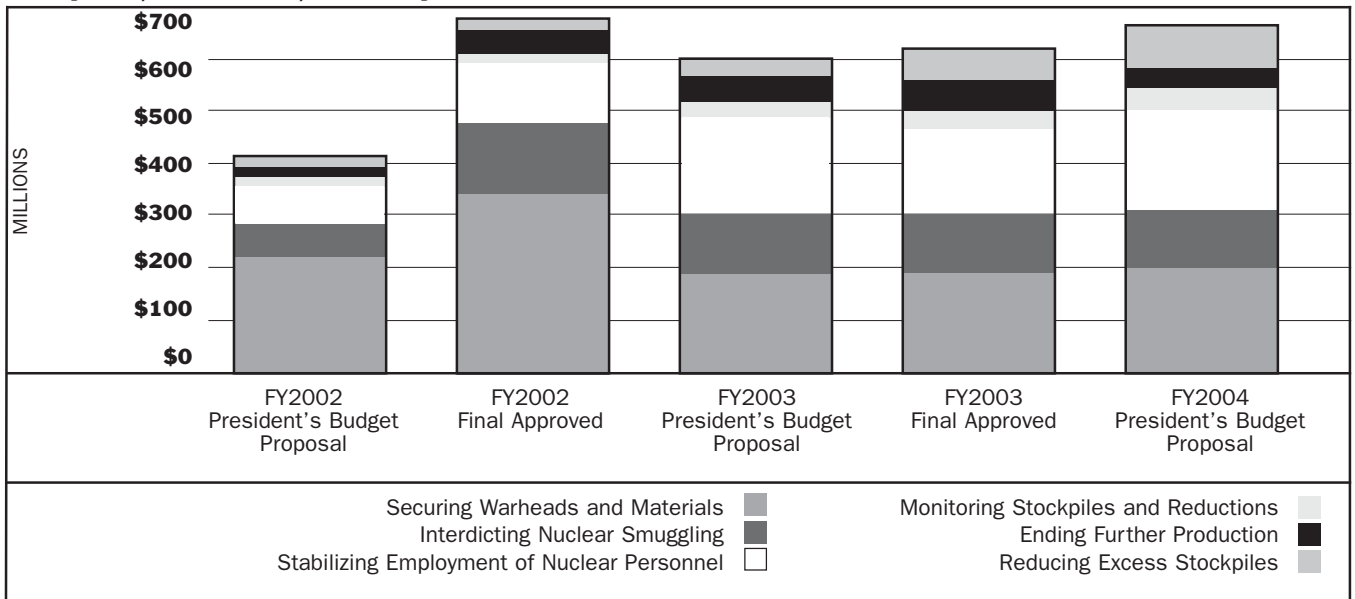
Securing Nuclear Warheads and Materials.

For this most urgent part of the mission, there is a mixed picture. For nuclear warhead security, funds are not the principal issue. As described in the next chapter, because of disputes over access to sensitive sites, there have been substantial delays in programs to improve security for Russian nuclear warheads –

meaning that there are substantial available funds as yet unspent for that purpose,³⁵ and increases in funding absent a resolution of the policy issues would have little impact on accelerating the program. Funding the new initiative on securing and dismantling warheads we propose in this report, however, would require additional funds, as that would include assistance for dismantling thousands of high-risk warheads, which is not currently funded. (See “Securing, Monitoring, and Dismantling the Most Dangerous Warheads,” p. 132.)

For nuclear materials, the principal ongoing effort is DOE’s MPC&A program. DOE’s program managers concluded that the opportunities now available to cooperate with Russia and other countries in securing nuclear and radiological materials were sufficient to require a budget of \$232 million for the relevant programs in FY 2004 (an increase of over \$30 million, or almost 15%, from the comparable FY 2003 funding

Figure 4.2 – Recent Changes in U.S. Budget Levels for Controlling Nuclear Weapons, Materials, and Expertise in the Former Soviet Union



³⁴ An argument could be made that these figures *should* be included in threat reduction budgets, because U.S. disposition is being done in part to make parallel Russian disposition possible. By that argument, however, all budgets for implementing arms reductions in the United States should also be included in threat reduction budgets, which is never done.

³⁵ While there remain substantial funds that are unspent, the amount that are “unobligated” – not yet tied up in contracts – has been greatly reduced, as in the summer of 2002, the Defense Department entered into a contract with a major U.S. firm to oversee implementation of security upgrades at Russian nuclear warhead storage sites; the actual upgrades will then be done by Russian subcontractors paid by the U.S. firm.³⁶ Hoehn, “Observations on the President’s Fiscal Year 2004 Budget Request for Nonproliferation Programs in Russia and the Former Soviet Union,” op. cit.

Table 4.3 – U.S. Funding for Securing Warheads and Materials in the Former Soviet Union

Dollars in Millions	Dep't	FY 2002	FY 2003		FY 2004	Change from FY 2003 Final	% Change from FY 2003 Final
		Final Approved	President's Budget Proposal	Final Approved	President's Budget Proposal		
Material Protection, Control, & Accounting ^[1,2]	DOE	266.6	203.1	201.5	203.0	1.5	0.7%
Nuclear Weapons Storage Security – Russia	DOD	55.0	40.0	40.0	48.0	8.0	20.0%
Nuclear Weapons Transportation Security – Russia	DOD	9.5	19.7	19.7	23.2	3.5	17.8%
Russian HEU Fuel Return ^[1]	DOE	1.0	9.5	9.5	9.7	0.2	2.5%
RERTR Program ^[1,3]	DOE	5.6	5.8	5.7	8.9	3.1	54.9%
BN-350 Fuel Security ^[1]	DOE	15.9	8.1	8.1	8.3	0.2	2.5%
Russia/NIS Safeguards Sustainability ^[1]	DOE	2.3	2.3	2.3	2.4	0.1	2.5%
TOTAL		356.0	288.5	286.8	303.4	16.6	5.8%

[1] FY 2003 Final Approved includes the estimated impact of the 0.65% across-the-board rescission ordered by the FY 2003 *Consolidated Appropriations Resolution* (Public Law 208-7).

[2] All years exclude Second Line of Defense funding. FY 2003 reflects removal of \$6 million for Nuclear Assessment Program, which has been proposed to be moved to the Department of Homeland Security. FY 2004 includes \$1 million for Accelerated Material Consolidation & Conversion (MCC) as part of Accelerated Material Disposition initiative.

[3] Includes Russian and non-Russian RERTR components, as well as \$3 million in FY 2004 for RERTR from the Accelerated Material Disposition initiative.

level), but the Office of Management and Budget cut this proposed allocation to \$203 million for the comparable activities.³⁶ This is almost \$64 million less than Congress allocated in FY 2002 for the same core activities of the MPC&A program after the September 11 attacks – a 24% cut. In FY 2003, the administration justified a request well below the FY 2002 appropriated level by arguing that the funds provided in FY 2002 would take some time to spend out – but that argument is no longer a strong one, as virtually all of the FY 2002 funds will have been obligated before FY 2004 begins.

Given the other constraints – particularly slow-downs caused by the modest degree of genuine U.S.-Russian partnership that exists in designing and implementing the effort, and bureaucratization on both sides – more money alone would not be likely to lead to a substantial acceleration or

strengthening of the effort. But if intensive leadership succeeded in overcoming the non-monetary impediments to progress, more money would be needed to implement the accelerated effort we recommend. (See “An Accelerated U.S.-Russian Nuclear Security Partnership,” p. 118.) Additional funds would also be needed to expand the effort to other countries beyond the former Soviet Union (where such efforts are urgently needed, in some cases); to put in place security upgrades able to address more substantial threats;³⁷ to expand the program to cover additional nuclear warhead facilities; or to more rapidly address the most dangerous radiological materials. Similarly, more funds would be needed to finance a “global cleanout” effort to rapidly remove the weapons-usable nuclear material from the world’s most vulnerable sites, as recommended in this report. (See “Global Cleanout,” p. 115.

³⁶ Hoehn, “Observations on the President’s Fiscal Year 2004 Budget Request for Nonproliferation Programs in Russia and the Former Soviet Union,” op. cit.

Table 4.4 – U.S. Funding for Interdicting Nuclear Smuggling in and around the Former Soviet Union

Dollars in Millions	Dep't	FY 2002	FY 2003		FY 2004	Change from FY 2003 Final	% Change from FY 2003 Final
		Final Approved	President's Budget Proposal	Final Approved	President's Budget Proposal		
Second Line of Defense ^[1,2]	DOE	46.2	24.0	24.0	24.0	0.0	0.0%
WMD Proliferation Prevention	DOD	0.0	40.0	40.0	39.4	-0.6	-1.5%
International Counterproliferation ^[3]	DOD	8.4	9.0	9.0	9.0	0.0	0.5%
Export Control and Border Security (NADR Account) ^[1,4]	State	27.9	17.4	17.4	17.0	-0.4	-2.1%
Export Control and Border Security (FREEDOM Support Act)	State	20.5	0.0	0.0	0.0	0.0	N/A
Georgia Border Security and Law Enforcement ^[1,5]	State	17.0	15.0	15.0	15.0	0.0	0.0%
TOTAL		120.0	105.3	105.3	104.4	-0.9	-0.9%

[1] For FY 2003 Final Approved, the impact of the 0.65% across-the-board rescission ordered by the FY 2003 *Consolidated Appropriations Resolution* (Public Law 208-7) is not known at the time of this printing, because the administration may exercise flexibility in applying the rescission to these programs.

[2] This program's funding is actually listed under the Material Protection, Control, & Accounting line. FY 2002 reflects share of additional funding out of \$120 million and \$30 million in supplemental funding for MPC&A, contained in Public Laws 107-117 & 107-206.

[3] FY 2004 is estimated, until further information is made available by the Department of Defense.

[4] Includes only those funds from this account directed for former Soviet Union export control and border security. Total account funding is \$41.7, \$36, and \$40 million in FY 2002, 2003, and 2004 respectively.

[5] FY 2004 is estimated, until further information is made available by the State Department.

Interdicting Nuclear Smuggling. For this part of the mission, the most critical requirement is to put in place a comprehensive prioritized plan integrating the many different efforts now underway – a task that, at this writing, the administration has nearly completed.³⁸ Once that is accomplished, however, in many cases the pace of these efforts is significantly limited by available funds – with more funds, the pace at which critical

border crossings could be equipped with effective nuclear detection equipment, or the numbers of key law enforcement and border control personnel who could be trained, could be significantly increased.

Stabilizing Employment for Nuclear Personnel.

There is little doubt that if the United States wishes to have any significant impact on the eco-

³⁷ Currently, the MPC&A program is installing upgrades intended to be able to defeat fairly modest threats, such as a single insider attempting to steal material, or a small group of outsiders attacking a facility to steal material, or both working together. These upgraded security systems would not be capable of handling larger threats, such as the 40 heavily armed and suicidal terrorists who took over a Moscow theater in October 2002. If a decision were taken to cooperate with Russia and other countries to secure nuclear facilities against more substantial threats, substantially more investment would be needed to secure each facility. Currently, for example, the program is generally not installing some types of upgrades, such as perimeter intrusion, detection, and assessment systems (PIDAS), because they are judged to be too expensive. (Personal communications with U.S. laboratory participants, September 2002.)

³⁸ Interviews with State Department and Department of Energy officials, February 2003. For discussion of the plan's contents, also see, Ambassador Norman Wulf, Special Representative to the President for Nonproliferation, U.S. Department of State, "Nuclear Nonproliferation and Efforts to Help Other Countries Combat Nuclear Smuggling" (testimony before U.S. Senate, Armed Services Committee, Subcommittee on Emerging Threats, July 30, 2002; available at http://www.senate.gov/~armed_services/statemnt/2002/July/Wulf.pdf as of February 7, 2003).

THE G-8 GLOBAL PARTNERSHIP

In June 2002, the leaders of the Group of Eight (G-8) industrialized democracies agreed to launch a new “Global Partnership Against the Spread of Weapons and Materials of Mass Destruction.”¹ The agreed purpose of the partnership is to “to prevent terrorists, or those that harbor them, from acquiring or developing nuclear, chemical, radiological and biological weapons; missile, and related materials, equipment and technology.”

To fulfill that mission, they agreed on three essential elements:

- A commitment to provide \$20 billion over the next 10 years for threat reduction projects, with half coming from the United States and half coming from the other G-8 partners (hence the nickname “10+10 over 10” for this initiative);
- Agreement with Russia on a set of procedures that would allow these funds to be spent effectively (addressing issues that had delayed progress in many countries’ efforts at cooperative threat reduction, such as taxes on assistance, access to sites where cooperation is underway, and liability protection);
- A commitment by each of the participants to a set of nonproliferation principles – ranging from strengthening multilateral nonproliferation regimes to a pledge by each participant to maintain “appropriate” and “effective” security for their own WMD stockpiles, and to cooperate to interdict WMD smuggling.²

Most of the small amount of public attention this initiative has received has focused on the first point – the commitment by the other members of the G-8 to match the U.S. monetary contribution to threat reduction cooperation. But realistically,

the first point cannot be implemented unless Russia and other recipient states deliver on the second point – the procedures that will allow the funds to be effectively spent. And the third point may be equally crucial for the long term: this commitment to key principles can serve as the basis for developing effective global nonproliferation standards – including standards for security for nuclear materials.³

The G-8 leaders also agreed at the June 2002 summit that most of the projects that would be carried out under this initiative would be implemented bilaterally, in cooperation between a donor country and Russia or other recipient countries. This is how cooperative threat reduction programs have generally been implemented in the past. They agreed, however, to establish “an appropriate mechanism for the annual review of progress under this initiative which may include consultations regarding priorities, identification of project gaps and potential overlap, and assessment of consistency of the cooperation projects with international security obligations and objectives.” Senior G-8 officials met in Ottawa, Canada in September 2002 to begin the process of coordinating implementation of this initiative,⁴ and there have been a number of subsequent meetings, both multilateral and bilateral, to flesh out specific commitments and projects.⁵

As of late 2002, some \$15.5 billion of the \$20 billion total had been pledged, with \$10 billion to come from the United States, \$2 billion from Russia itself, \$1.5 billion from Germany, \$750 million from the United Kingdom, \$650 million from Canada, \$400 million from Italy, and \$200 million from Japan. France, the chairman of the G-8 for this year, is expected also to make a substantial contribution, but as of late 2002 the specifics had

conomic future of the 10 entire cities in Russia where most of Russia’s nuclear materials and nuclear personnel reside, it will have to allocate more than \$40 million a year to the task (the proposed budget for the “Russia Transition Initiatives,” comprising both the Nuclear Cities Initiative and Initiatives for Proliferation Prevention). This is sim-

ply not enough to have more than a marginal effect on the outcome of these cities’ wrenching transition away from nuclear weapons work. Here, too, however, the issue is much more than money – as described later in this report, fundamental reforms of these efforts and sustained political leadership to push them forward will be needed if

not been determined.⁶ Most of the new funds pledged have already been committed, at least conceptually, to particular projects in Russia – including particularly destruction of chemical weapons, disposition of excess plutonium, dismantlement of attack submarines, and re-employing WMD scientists.

Much remains to be done to fulfill the promise of the Global Partnership. Russia needs to take action – possibly including passing new legislation – to fulfill its commitments to provide the needed tax exemptions, access, and liability protections. The states contributing financially need to bring of pledges up to the \$20 billion target, and make arrangements to actually fulfill their pledges. (There is an unfortunate past history in the G-8 of unmet summit pledges.) Mechanisms need to be put in place to coordinate projects to avoid overlap, agree on the highest priorities and us resources on them, outline goals and timetables for achieving them, and report on progress. (The new NATO-Russia Council might provide an effective forum for leading and shaping the global effort.) The initiative needs to be broadened beyond the G-8 to the other nations around the world. And the participants need to make the non-proliferation commitments enunciated in the partnership – including the commitment to effective security and accounting for all nuclear stockpiles – effective, by spelling out what these commitments mean, and how each participant will assure the others they are being met, in more detail. It is crucial to make substantial progress on all these fronts by the next G-8 summit in June 2003, if the momentum of the Global Partnership is not to be lost.

¹ The text of the G-8 commitment can be found at Group of Eight, “The G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction” (state-

ment by G-8 leaders, Kananaskis, Canada, June 2002; available at <http://www.g8.gc.ca/kananaskis/globpart-en.asp> as of January 13, 2003). For a general description of this initiative, see Cristina Chuen, Michael Jasinski, and Tim Meyer, “The 10 Plus 10 Over 10 Initiative: A Promising Start, But Little Substance So Far” (Monterey, Cal.: Center for Nonproliferation Studies, Monterey Institute for International Studies, August 12, 2002; available at <http://cns.miis.edu/pubs/week/020812.htm> as of January 18, 2003); further elaboration can be found in John Wolf, “Assistant Secretary of State for Nonproliferation John Wolf Provides Details on G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction,” interview by Leonard Spector (Monterey, Cal.: Center for Nonproliferation Studies, September 9, 2002; available at <http://cns.miis.edu/pubs/week/020909.htm> as of January 13, 2003); a very useful discussion of the status after the first several months of effort can be found in U.S. Senate Committee on Foreign Relations, “A Progress Report on 10 + 10 Over 10: A Hearing,” 107th Congress, 2nd Session, October 9, 2002 (transcript available on *LexisNexis* Congressional Information Service, Bethesda, Maryland).

² For the complete list, see Group of Eight, “Statement by G8 Leaders: The G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction” (Kananaskis, Canada, June 27, 2002; available at <http://www.g8.gc.ca/kananaskis/globpart-en.asp> as of February 26, 2003).

³ See “Building Effective Global Nuclear Security Standards,” p. 157.

⁴ See John Bolton, Under Secretary of State for Arms Control and International Security Affairs, October 2002 testimony in “A Progress Report on 10 + 10 Over 10: A Hearing,” op. cit.

⁵ See, for example, Bryan Bender, “G-8 Nonproliferation Effort Picks Up Steam,” *Global Security Newswire*, December 20, 2002 (available at http://www.nti.org/d_newswire/issues/newswires/2002_12_20.html#1 as of January 21, 2003).

⁶ Personal communications from participants in the conference on the Nonproliferation and Disarmament Cooperation Initiative sponsored by the European Commission, December 2002.

the mission of providing alternative accomplished. (See “Stabilizing Employment for Nuclear Personnel,” p. 141.) The International Science and Technology Centers are another area where increased funding could lead directly to increased progress: though U.S. and international funding for them remains strong, they have a backlog of pro-

jects that would employ former weapons of mass destruction experts, and have been approved as worthy and meeting the Centers’ objectives, but remain unfunded due to insufficient budgets.

Monitoring Stockpiles and Reductions. Here, the most critical issues blocking or delaying

Table 4.5 – U.S. Funding for Stabilizing Employment for Nuclear Personnel in the Former Soviet Union

Dollars in Millions	Dep't	FY 2002	FY 2003		FY 2004	Change from FY 2003 Final	% Change from FY 2003 Final
		Final Approved	President's Budget Proposal	Final Approved	President's Budget Proposal		
International Science and Technology Centers ^[1]	State	37.0	32.0	31.8	35.0	3.2	10.1%
Civilian Research and Development Foundation ^[2]	State	14.0	14.0	14.0	14.0	0.0	0.0%
Initiatives for Proliferation Prevention ^[1,3]	DOE	36.0	22.6	22.4	23.0	0.5	2.3%
Nuclear Cities Initiative ^[1]	DOE	21.0	16.7	16.6	17.0	0.4	2.5%
TOTAL		108.0	85.3	84.9	89.0	4.1	4.9%

[1] FY 2003 Final Approved includes the estimated impact of the 0.65% across-the-board rescission ordered by the FY 2003 *Consolidated Appropriations Resolution* (Public Law 208-7).

[2] FY 2004 is estimated, until further information is made available by the State Department. For FY 2003 Final Approved, the impact of the 0.65% across-the-board rescission ordered by the FY 2003 *Consolidated Appropriations Resolution* (Public Law 208-7) is not known at the time of this printing, because the administration may exercise flexibility in applying the rescission to this program.

[3] FY 2002 includes \$15 million from FY 2002 Supplemental appropriations.

progress are almost entirely policy issues – in most cases more money for these efforts would not bring much additional progress unless those policy issues were resolved. As discussed later in this report, however, success in putting in place a declarations and monitoring regime to build confidence that agreed reductions are being implemented, that nuclear stockpiles are safe and secure, and that assistance funds are being used appropriately, is likely to require providing substantial incentives for Russian agreement – strategic or financial. In the proposal discussed in this report, for example, funding would be needed to provide assistance for warhead dismantlement, in return for agreement on measures to confirm that the dismantlement was taking place, without compromising classified information. (See “Securing, Monitoring, and Dismantling the Most Dangerous Warheads,” p. 132, and “Monitoring Stockpiles and Reductions, p. 147.)

Stopping Production. The U.S. government has allowed the schedule for the effort to shut down production of weapons plutonium in Russia to slip to 2011.³⁹ After many years of delays caused by constantly shifting approaches and bureaucratic disputes between the United States and Russia, progress still appears to be being substantially slowed by disputes over matters such as access to relevant sites, and inability to reach agreement on which land on which to build and the permits to build replacement fossil power facilities. If such obstacles were overcome, the job could be done far more quickly, as the time required to build a new coal-fired power plant from start to finish is usually roughly 3 years. More money alone could not overcome these obstacles, but if combined with an intensive effort to get past the roadblocks, more money – to make it possible to contract immediately for the full cost of building the relevant power supplies – might well contribute to accelerating this effort.

³⁹ Under current plans, the two plutonium production reactors at Seversk would shut by 2008, and the one at Zheleznogorsk by 2011. DOE, *FY 2004 Detailed Budget Justifications—Defense Nuclear Nonproliferation*, op. cit., p. 713. This represents a delay of one year for Seversk and 3 years for Zheleznogorsk, compared to projections as recently as May 2002. (Personal communication from James Mulkey, program manager, May 2002.)

Table 4.6 – U.S. Funding for Monitoring Russian Stockpiles and Reductions

Dollars in Millions	Dep't	FY 2002	FY 2003		FY 2004	Change from FY 2003 Final	% Change from FY 2003 Final
		Final Approved	President's Budget Proposal	Final Approved	President's Budget Proposal		
HEU Transparency Implementation ^[1,2]	DOE	13.9	17.2	17.1	18.0	0.9	5.2%
Warhead Dismantlement Transparency ^[1]	DOE	7.5	16.2	16.0	16.1	0.1	0.6%
Trilateral Initiative ^[3]	DOE	1.5	1.5	1.5	1.5	0.0	0.0%
TOTAL		22.9	34.9	34.7	35.6	1.0	2.8%

[1] FY 2003 Final Approved includes the estimated impact of the 0.65% across-the-board rescission ordered by the FY 2003 *Consolidated Appropriations Resolution* (Public Law 208-7).

[2] FY 2002 funding reflects an appropriation transfer to Program Direction for an office move and additional staffing and travel in the amount of \$70,000 approved by Congress in early FY 2003.

[3] While funding for this activity is embedded in a larger budget line item, in recent years, this project has been funded at approximately \$1.5 million per year.

The issues blocking progress on activities such as confirming the U.S. and Russian statements that each country has stopped production of HEU, negotiating a verifiable multilateral ban on producing additional plutonium and HEU for weapons, and putting in place a moratorium on further separation of weapons-usable civilian plutonium in Russia (as was being negotiated during the Clinton administration) are primarily policy issues. But if those policy issues could be successfully addressed, each of those initiatives would require additional funding for successful implementation.

Reducing Stockpiles. Here, too, there is a mixed picture: in essence, the current budget provides sufficient funds for current approaches, but not enough to pursue new, faster ways of getting the job done.

More than 80% of the entire increase in DOE's nonproliferation budget that the Bush administration is requesting for FY 2004 (that is, more than just nuclear materials and expertise in the former Soviet Union) is devoted to disposition of excess plutonium in the United States and Russia. (Including the additional money to reduce excess HEU, it is over 90% percent of the increase for the total DOE nonproliferation budget). With this increased budget, and the five-year budget plan

for plutonium disposition the administration committed to in early 2002 (which entails further increases next year), sufficient funds should be available to remove lack of money as a major impediment to disposition of U.S. excess plutonium – with the important exception that under current plans, there would not be sufficient funds to finance continued work on immobilization as a complement or alternative to burning the excess plutonium as reactor fuel. For employment for nuclear experts and workers who are no longer needed is to be disposition of Russian excess plutonium, money is still a serious issue. The program to reduce Russia's excess plutonium stockpile has been delayed for years by a variety of factors, including lack of funds to build the necessary facilities; efforts are still underway to pull together an international financing package. As a result of the \$20 billion G-8 pledge for the Global Partnership, the prospects for international financing now look much more promising. Nevertheless, it seems clear that the decision to rely on an international funding approach, rather than paying for this effort with U.S. funds and allowing other nations to fund other priorities, has already delayed progress and will likely result in a more complex and less responsive management structure, reporting to multiple governments, in the future.

Table 4.7 – U.S. Funding for Ending Further Production in Russia

Dollars in Millions	Dep't	FY 2002	FY 2003		FY 2004	Change from FY 2003 Final	% Change from FY 2003 Final
		Final Approved	President's Budget Proposal	Final Approved	President's Budget Proposal		
Elimination of Weapon-Grade Plutonium Production ^[1]	DOE	55.9	49.3	49.0	50.0	1.0	2.0%
TOTAL		55.9	49.3	49.0	50.0	1.0	2.0%

[1] FY 2002 Final Approved reflects \$4.2 million from the International Nuclear Safety program to incorporate short-term safety upgrades to the reactors, \$10.0 million from FY 2002 supplemental (Public Law 107-206), and \$41.7 million from FY 2002 and \$32.1 million from FY 2003 authorized to be moved from DOD (Public Law 107-314). FY 2003 Final Approved includes the estimated impact of the 0.65% across-the-board rescission ordered by the FY 2003 *Consolidated Appropriations Resolution* (Public Law 208-7).

For HEU, sufficient funds are in place to carry out the current approaches to disposition of U.S. HEU, and for the purchase of Russian HEU (which is financed primarily through commercial means rather than government expenditure). For FY 2004, the administration has requested \$30 million for accelerated purchases of excess HEU from Russia – enough for a quite modest increase in the pace of such purchases, amounting to roughly a 5% addition to the 30 tons per year already being purchased. In addition to the purchase, however, DOE hopes to use these funds to help finance additional blend-down of small, vulnerable stockpiles of HEU in Russia, ultimately reaching five tons per year. A larger-scale acceleration of the blend-down rate, as proposed in this report, would require additional funding. (See “Reducing HEU Stockpiles – An Accelerated Blend-Down Initiative,” p. 154.)

Conclusion

There remains a substantial gap between the scope and urgency of the threat President

Bush has identified and the efforts the United States is making to address it. In each of the critical inputs to the effort we have examined – political leadership, organization and planning, information, and resources – much more can and should be done to address the threat of terrorists getting nuclear explosives than is now being done. As we will outline in the next chapter, the predictable result is that while substantial progress has been made in many programs focused on reducing this threat, more of the work remains to be done than has been done so far, and the pace at which the job is being finished remains unacceptably slow. It is simply not the case that the U.S. government is doing everything in its power to prevent a terrorist nuclear attack on the United States from occurring. But the President is right – the threat is substantial enough that “everything in our power” is the standard by which efforts to reduce this threat should be judged.

Table 4.8 – U.S. Funding for Reducing Excess Russian Stockpiles

Dollars in Millions	Dep't	FY 2002	FY 2003		FY 2004	Change from FY 2003 Final	% Change from FY 2003 Final
		Final Approved	President's Budget Proposal	Final Approved	President's Budget Proposal		
Russian Plutonium Disposition ^[1,2]	DOE	16.5	34.0	33.8	47.1	13.3	39.4%
HEU/LEU Purchase and Stockpile ^[1,3]	DOE	0.0	0.0	13.9	25.0	11.1	79.7%
HEU Reactor Fuel Purchase ^[3]	DOE	0.0	0.0	0.0	1.0	1.0	N/A
TOTAL		16.5	34.0	47.7	73.1	25.4	53.3%

[1] FY 2003 Final Approved includes the estimated impact of the 0.65% across-the-board rescission ordered by the *FY 2003 Consolidated Appropriations Resolution* (Public Law 208-7).

[2] FY 2002 Final Approved excludes \$42 million, a \$63,549 rescission, and transfer to Program Direction for an office move and additional staffing and travel in the amount of \$2.48 million. FY 2003 Proposal and Final Approved exclude \$64 million in expenditures from carryover balances.

[3] An additional \$3 million for reducing HEU stockpiles is proposed as part of the RERTR program, and \$1 million is proposed as part of Material Consolidation and Conversion program in the MPC&A program.

