

EXECUTIVE SUMMARY

Nuclear terrorism remains a real and urgent danger. Terrorists are actively seeking nuclear weapons and the materials to make them. With enough plutonium or highly enriched uranium (HEU), a sophisticated and well-organized terrorist group could potentially make at least a crude nuclear bomb that could incinerate the heart of any major city. Yet the essential ingredients of nuclear weapons exist in over 40 countries, and there are scores of sites that are not secure enough to defeat the capabilities that terrorists and criminals have demonstrated. Improved security for nuclear stockpiles in Russia and elsewhere as well as the disruption of al Qaeda's centrally controlled structure after 9/11 have reduced the risk, but far more remains to be done. Nuclear theft is an ongoing reality, as demonstrated by the stolen HEU seized in Georgia in early 2006.

In the aftermath of a terrorist mushroom cloud over the cinders of a major city, America and the world would be changed forever. The economic and foreign policy repercussions would be global, potentially pushing millions into poverty. Nor is the United States the only possible target: al Qaeda-linked or inspired attacks intended to cause mass casualties have occurred throughout the world. In short, this is not just an American problem: insecure nuclear material anywhere is a threat to everyone, everywhere.

With sufficient and sustained leadership, the probability of such a catastrophe could be reduced to a small fraction of its current level by the end of the next U.S. presidential term. Every presidential candidate should be asked a central question:

what is your plan to prevent terrorists from incinerating the heart of a U.S. city with a nuclear bomb? That risk can never be reduced to zero, but the goal must be to get as close to zero as possible, as quickly as possible.

Keeping nuclear weapons or materials from being stolen is the most direct and reliable tool for preventing nuclear terrorism, for once such items have disappeared, the problem of finding them or stopping terrorists from using them multiplies enormously. The myriad routes across the world's scantily protected borders make nuclear smuggling almost impossible to stop.

Remarkably, it appears that neither the U.S. government nor the International Atomic Energy Agency (IAEA) has a comprehensive, prioritized list assessing which facilities around the world pose the most serious risks of nuclear theft. Such a list would integrate assessments of the quantity and quality of material at each site, the security at that site, and the level of capability adversaries could bring to bear for an attempted theft at that site. Such a prioritized assessment should be prepared urgently, and updated regularly. Based on the limited publicly available data on these factors, it appears that the highest risks of nuclear theft today are in Russia, Pakistan, and at HEU-fueled research reactors.

Nuclear security in Russia has improved dramatically since the mid-1990s, as a result of U.S. and international assistance, Russia's own efforts, and Russia's newfound economic strength. But real risks remain, from persistent under-funding of

nuclear security systems, weak nuclear security regulations, widespread corruption, and conscript guard forces rife with hazing and suicide, coupled with threats ranging from surprise attack by scores of heavily armed terrorists to sophisticated insider theft conspiracies. Russia has the world's largest stockpile of nuclear weapons and materials, and remains the only state in the world where authorities have confirmed that terrorists have been carrying out reconnaissance at nuclear warhead storage sites. Pakistan's nuclear stockpiles are comparatively small, and are believed to be heavily guarded, but face huge threats from armed jihadi groups and nuclear insiders with a demonstrated willingness to sell sensitive nuclear technology. More than 140 research reactors around the world are still fueled by HEU (though usually in forms that would require modest chemical processing before the material could be used in a bomb), and many of these facilities have modest security in place—no more than a night watchman and a chain-link fence in some cases.

Beyond these three highest priorities, other nuclear theft risks exist around the world, from large-scale transports of civilian plutonium to nuclear stockpiles in developing states such as China and India. Every nuclear weapon and every significant cache of potential bomb material, wherever it is in the world, civilian or military, should at least be protected against a modest group of well-trained, well-armed outside attackers (capable of operating in more than one team), one to two well-placed insiders, or both together; in many countries, the plausible threats are greater, and security for such stocks should be correspondingly higher. This is a global problem, which can only be solved through a global campaign for nuclear security.

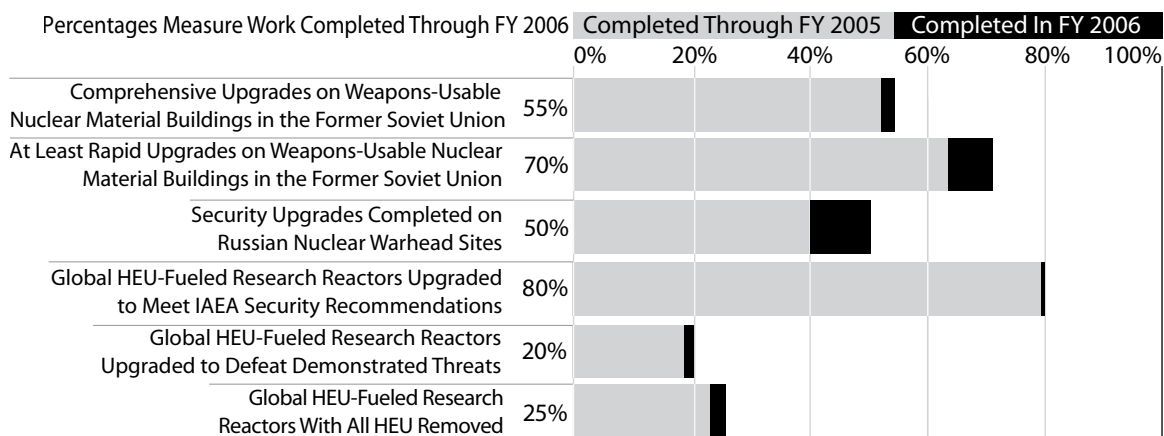
Conceivably, terrorists might get nuclear material or a nuclear weapon consciously provided by a state, rather than stolen weapons or material. But this is likely to be a small fraction of the overall risk of nuclear terrorism. A dictator or oligarch bent on maintaining power is highly unlikely to take the immense risk of transferring such a devastating capability to terrorists they cannot control, given the ever-present possibility that the material would be traced back to its origin.

ASSESSING PROGRESS IN IMPROVING NUCLEAR SECURITY

Since the 1990s, Nunn-Lugar and related cooperative threat reduction programs have drastically reduced the risks posed by some of the world's highest-risk nuclear stockpiles, providing a benefit for U.S. and world security far beyond their cost—and demonstrating what can be done to address these threats. The past year was one of significant progress, but also one of continuing obstacles and new reminders of the deadly risk of nuclear terrorism—such as the leader of al Qaeda in Iraq calling on nuclear scientists to join the jihad.

By the end of fiscal year (FY) 2006, comprehensive U.S.-funded security and accounting upgrades had been completed for an estimated 55% of all the buildings with weapons-usable nuclear material in the former Soviet Union (63%, if only the buildings where the two sides have agreed on cooperative upgrades are counted). Security upgrades were completed at roughly half of the nuclear warhead sites in Russia (64% if only those sites on the agreed upgrade list are counted). Rapid upgrades (the first stage of upgrades the Department of Energy [DOE] performs at most buildings) had been completed for an additional 15% of the total number of buildings with

**Figure ES-1:
Progress of U.S.-Funded Programs to Secure Nuclear Stockpiles**



Source: Author's estimates.

weapons-usable material in Russia (18%, if only those buildings the two sides have agreed to upgrade are included), for a total of 70% with at least rapid upgrades in place. See Figure ES-1 (These estimates and the methodology behind them are explained in Chapter 2; they differ from the government figures because they include buildings and facilities in addition to those covered in current plans.) While meeting the current deadline at the end of 2008 for completing these upgrades remains a major challenge, it appears likely that the agreed upgrades will either be completed in 2008 or in the year or two thereafter. The United States and Russia, however, have never agreed to cooperate on a significant number of nuclear material buildings believed to contain large quantities of nuclear material, or on some of Russia's nuclear warhead sites (especially temporary sites). Less than a hundredth of one percent of Russia's vast stockpile of weapons-usable nuclear materials would be enough for several terrorist nuclear bombs, highlighting the need for airtight security throughout Russia's nuclear complex.

With the agreed upgrades nearing completion, the most important policy questions now focus on more intangible,

difficult-to-measure factors: Are sufficient security measures being put in place, given the scope of the outsider and insider threats in Russia? Will effective security be sustained over time, after U.S. assistance phases out? Will security cultures at all of these sites be strong enough to ensure that the equipment will actually be used in a way that provides effective security, and guards will not be turning off intrusion detectors or staff propping open security doors? The sustainability agreement that DOE and Russia's Federal Agency for Atomic Energy (Rosatom) reached in April 2007 is a major step forward, and there is significant progress on security culture as well—but both sustainability and security culture remain major challenges, not only at Rosatom sites but at non-Rosatom nuclear material sites and nuclear warhead sites as well.

Outside of the former Soviet Union, nuclear security improvement efforts are still in their early stages, and significant gaps remain. The United States and other countries have provided assistance to upgrade security for more than three-quarters of the world's HEU-fueled research reactors whose physical protection did not match IAEA recommendations, but only a small fraction

of these have been upgraded to levels designed to defeat demonstrated terrorist and criminal threats. See Figure ES-1 U.S. nuclear security cooperation with Pakistan is underway, but Pakistan has made it clear that it will not allow actual U.S. visits to its sensitive nuclear sites, and what precisely has been accomplished in this cooperation remains a secret. In China, one civilian site with HEU has had extensive security and accounting upgrades, and a broad dialogue is underway regarding a range of security and accounting measures, but it remains unclear how much effect this dialogue has had on improving security for other Chinese facilities, and cooperation on military stockpiles remains stymied. Nuclear security cooperation was not included in the summit pact on nuclear cooperation with India, and India has so far refused any cooperation in this area.

Efforts to remove nuclear material from potentially vulnerable sites and to convert research reactors to use non-weapons-usable low-enriched uranium (LEU) as their fuel have accelerated since the establishment of the Global Threat Reduction Initiative (GTRI) in 2004. Moreover, in the last year, GTRI expanded the list of reactors it hopes to convert. But only a small fraction of the HEU-fueled research reactor sites around the world have yet had all their HEU removed. See Figure ES-1 Even with its expanded scope, however, the conversion effort will only cover about half of the world's currently operating HEU-fueled reactors (many of the rest being quite difficult to convert), and some of the conversions GTRI does plan are not slated to occur until 2018. Large amounts of weapons-usable nuclear material are also not yet being addressed. For example, only 5.2 tons of the 17 tons of U.S.-origin HEU abroad is covered by the current U.S. offer to take it back, and currently GTRI only plans to take back about a third of the eligible material (though

GTRI does plan to address almost a ton of additional U.S.-origin HEU in its "gap" material program). Some of the material not covered is being reprocessed or otherwise addressed abroad, and some of it is at sites with highly effective security—but some of it is not.

The Global Initiative to Combat Nuclear Terrorism, launched in July 2006, has the potential to be an important tool for convincing governments around the world that nuclear terrorism is a real and urgent threat, and for focusing them on specific actions they can take to reduce the risk. The key challenges now are to move from the extremely general principles the participants have accepted to concrete actions to improve nuclear security—including agreement on effective standards for nuclear security that all participants would agree to maintain.

NEXT STEPS IN NUCLEAR SECURITY

The danger of nuclear theft and terrorism is a global problem, requiring a global response. While much has been accomplished, much more remains to be done to prevent a nuclear 9/11.

A Global Campaign to Prevent Nuclear Terrorism

President Bush, working with other world leaders, should launch a global campaign to lock down every nuclear weapon and every significant cache of potential nuclear bomb material worldwide, as rapidly as that can possibly be done—and to take other key steps to reduce the risk of nuclear terrorism. This effort must be at the center of U.S. national security policy and diplomacy—an issue to be raised with every country with stockpiles to secure or resources to help, at every level, at every opportunity, until the job is done.

This campaign should creatively and flexibly integrate a broad range of policy tools to achieve the objective—from technical experts cooperating to install improved security systems at particular sites to presidents and prime ministers meeting to overcome obstacles to cooperation. The recently launched Global Initiative to Combat Nuclear Terrorism may provide the best forum to pursue some of these goals. For other goals, high-level bilateral initiatives such as the nuclear security agreement reached between President Bush and President Putin in 2005 may offer the most effective approach. For still other efforts, cooperation led by international organizations such as the IAEA may be the forum that other countries most readily accept. The United States should do everything possible to work with states such as Russia and Pakistan to ensure that their stockpiles are sustainably secured against all of the outsider and insider threats terrorists and criminals could plausibly bring to bear; those efforts should be seen as key parts of this broader global campaign. Such a campaign should also include expanding the mission, personnel, and funding of the IAEA's Office of Nuclear Security, as there are many steps the widely-respected international organization can take more effectively than the United States can unilaterally.

To succeed, this campaign should be based not just on donor-recipient relationships but on real partnerships, which integrate ideas and resources from countries where upgrades are taking place in ways that also serve their national interests. For countries like India and Pakistan, for example, the opportunity to join with the major nuclear states in jointly addressing a global problem is more politically appealing than portraying the work as U.S. assistance necessitated because they are unable to adequately control their nuclear stockpiles on their own. It is es-

sential to pursue approaches that make it possible to cooperate in upgrading nuclear security without demanding that countries compromise their legitimate nuclear secrets. Specific approaches should be crafted to accommodate each national culture, secrecy system, and set of circumstances.

The fundamental key to the success of such a campaign is convincing political leaders and nuclear managers around the world that nuclear terrorism is a real and urgent threat to *their* countries' security, worthy of a substantial investment of their time and money to reduce the danger. If they are convinced, they will take the actions necessary to achieve effective and lasting security for their nuclear stockpiles; if they are not, they will not take the political risks of opening sensitive sites to nuclear security cooperation, give their nuclear regulators the mission and power to enforce effective nuclear security rules, or provide the resources necessary to sustain high levels of security. The United States and other countries should take several steps to build the needed sense of urgency and commitment, including:

- **Joint threat briefings.** Upcoming summits with political leaders of key countries should include detailed briefings for both leaders on the nuclear terrorism threat, given jointly by U.S. experts and experts from the country concerned. These would outline both the very real possibility that terrorists could get nuclear material and make a nuclear bomb, and the global economic and political effects of a terrorist nuclear attack.
- **Nuclear terrorism exercises.** The United States and other leading countries should organize a series of exercises with senior policymakers from key states, with scenarios tailored to the circumstances of each country or

region where the exercises take place. Participating in such a simulation can reach officials emotionally in a way that briefings and policy memos cannot.

- **Fast-paced nuclear security reviews.** The United States and other leading countries should encourage leaders of key states to pick teams of security experts they trust to conduct fast-paced reviews of nuclear security in their countries, assessing whether facilities are adequately protected against a set of clearly-defined threats. (In the United States, such fast-paced reviews after major incidents such as 9/11 have often revealed a wide range of vulnerabilities that needed to be fixed.)
- **Realistic testing of nuclear security performance.** The United States and other leading countries should work with key states around the world to implement programs to conduct realistic tests of nuclear security systems' ability to defeat either insiders or outsiders. (Failures in such tests can be powerful evidence to senior policymakers that nuclear security needs improvement.)
- **Shared databases of threats and incidents.** The United States and other key countries should collaborate to create shared databases of unclassified information on actual security incidents (both at nuclear sites and at non-nuclear guarded facilities) that highlight the kinds of capabilities, tactics, and weaponry thieves and terrorists have used. Such a database would not only help convince policymakers and facility managers of the reality of the threats their facilities face; it would also help them determine what design basis threats nuclear facilities should be protected against and help them draw lessons that could prevent similar adversary actions at their facilities.

Effective Global Nuclear Security Standards

As part of this global campaign, President Bush and other leaders of major nuclear weapon and nuclear energy states should immediately seek agreement on a broad political commitment to meet at least a common minimum standard of nuclear security. Effective global standards are urgently needed, for in the face of terrorists with global reach, nuclear security is only as good as its weakest link. The standard should be rigorous enough that all stockpiles with such security measures are well protected against plausible insider and outsider threats, but flexible enough to allow each country to take its own approach to nuclear security and to protect its nuclear secrets. For example, the agreed global standard might be that all nuclear weapons and significant caches of weapons-usable nuclear materials be protected at least against two small groups of well-armed and well-trained outsiders, one to two well-placed insiders, or both outsiders and insiders working together. Where countries believe bigger threats are possible, they should provide greater protection.

United Nations Security Council Resolution 1540, which legally requires all states to provide "appropriate effective" security and accounting for any nuclear stockpiles they may have, provides an excellent opportunity, as yet unused, to back up such a high-level political commitment. If the words "appropriate effective" mean anything, they should mean that nuclear security systems could effectively defeat threats that terrorists and criminals have demonstrated.

Hence, the United States should seek the broadest possible agreement that UNSCR 1540 already legally binds states to meet a minimum level of nuclear security com-

parable to the one just described. The United States should immediately begin working with the other Global Initiative participants and the IAEA to detail the essential elements of an “appropriate effective” system for nuclear security, to assess what improvements countries around the world need to make to put these essential elements in place, and to assist countries in taking the needed actions. The United States should also begin discussions with key nuclear states to develop the means to build international confidence that states have fulfilled their commitments to take effective nuclear security measures, without unduly compromising nuclear secrets.

International discussions of a new revision to the IAEA’s physical protection recommendations are just beginning. The United States should seek agreement that the revised text recommend that all states require facilities with the most sensitive materials to be effectively protected against a minimum threat like that described above.

A “security Chernobyl” resulting from a successful sabotage of a nuclear plant or a nuclear theft leading to nuclear terrorism would be both a human catastrophe and a disaster for the global nuclear industry, ending any plausible chance for a large-scale nuclear renaissance. Hence, complementing government efforts, the nuclear industry should launch its own initiative focused on bringing the worst security performers up to the level of the best performers, through defining and exchanging best practices, industry peer reviews, and similar measures—a World Institute for Nuclear Security (WINS) on the model of the World Association of Nuclear Operators (WANO) established to improve global nuclear safety after the Chernobyl accident. The Nuclear Threat Initiative (NTI) has taken the

lead in launching such an organization, working with the Institute for Nuclear Materials Management (INMM) and other stakeholders. Both governments and the nuclear industry should strongly support this effort, which can help engage nuclear operators themselves in the pursuit of excellence in nuclear security.

Building Sustainability and Strong Security Cultures

If the nuclear security and accounting equipment is broken or unused five years after its installation by the U.S. or other countries, or if guards are turning off intrusion detectors and staff are propping open security doors for convenience, efforts to drastically reduce the danger of nuclear theft and terrorism will fail. Hence, ensuring that high levels of security will be sustained for the long haul, and forging strong security cultures, where all relevant staff put high priority on security, are absolutely critical to success.

Here again, convincing foreign leaders and nuclear managers of the reality and urgency of the threat is the most important ingredient of success; unless they are convinced that nuclear security is essential to their own security, they are unlikely to take the actions needed to sustain high levels of security, or to build strong security cultures.

Building on the recent DOE-Rosatom agreement on sustainability, the United States and other leading states should be working with countries around the world to put in place the *resources, organizations, and incentives* that are required to sustain effective nuclear security for the long haul. In particular:

- The United States should seek a presidential-level commitment from Russia

to provide sufficient money and capable people to sustain effective nuclear security and accounting at all facilities (and transport operations) with nuclear weapons or weapons-usable nuclear materials. (The United States should make clear that it is committed to doing the same for its own nuclear stockpiles.) Ultimately other countries where upgrades are taking place should make similar commitments as well.

- The United States and other leading states should seek to ensure that every facility and transport operation with nuclear weapons or weapons-usable nuclear material worldwide has all that is needed to sustain effective nuclear security, including the necessary procedures, training, and maintenance arrangements. In particular every facility and transport operation with nuclear weapons or weapons-usable nuclear material worldwide should have an organization focused on nuclear security and accounting, and these organizations should have the needed resources, expertise, and authority. The ministries, agencies, or companies that control these facilities and transport operations should also have appropriate organizations in place to focus on sustaining effective nuclear security.
- The United States and other leading states should seek to ensure that every country with nuclear weapons or weapons-usable nuclear materials has effective nuclear security and accounting rules, effectively enforced. Most nuclear managers will only invest in the expensive nuclear security measures the government requires—so nuclear security regulation is central to effective and lasting nuclear security.

- The United States and other leading states should take additional steps to ensure that states and facilities have strong incentives to provide effective nuclear security, including establishing preferences in all contracts for facilities that have demonstrated superior nuclear security performance.

At the same time, the United States and other leading states should do everything possible to build strong security cultures for all organizations involved with managing nuclear weapons and weapons-usable nuclear materials. Organizational cultures start from the top, so it is essential to convince nuclear managers to build cultures focused on high security. This requires, at a minimum: intensive training on the threat; coordinators in each organization whose job is developing security culture awareness; and incentives for strong security performance. Here, too, realistic performance testing and other kinds of simulations and exercises can help convince guards and staff of the reality of the threat and what needs to be done to defend against it, and shared databases of confirmed security incidents can educate security personnel about the threats that exist. Both the nuclear industry as well as other industries have broad experience in building strong safety cultures in high-risk organizations; all countries with nuclear weapons or weapons-usable nuclear material should take steps to strengthen security culture that build on that experience. Organizational cultures are difficult to regulate—though some regulators seek to do so, requiring organizations to launch improvement programs when inspections suggest a cultural problem—but implementation of best practices and lessons learned from past problems and incidents, which are indicators of security culture, can and should be regulated.

An Accelerated and Expanded Global Cleanout

The only foolproof way to ensure that nuclear material will not be stolen from a particular site is to remove it. As a central part of the global campaign to prevent nuclear terrorism, the United States should immediately begin working with other countries to take steps to accelerate and expand the removal of weapons-usable nuclear material from vulnerable sites around the world. Where material cannot immediately be removed, the United States must speed steps to ensure that high levels of security are implemented and maintained. The goal should be to remove all nuclear material from the world's most vulnerable sites within four years—substantially upgrading security wherever that cannot be accomplished—and to eliminate all HEU from civil sites worldwide within roughly a decade. That is a challenging goal, but potentially achievable with sustained high-level leadership. The United States should make every effort to build international consensus that the civilian use of HEU is no longer acceptable, that all HEU should be removed from all civilian sites, and that all civilian commerce in HEU should be ended as quickly as possible.

Achieving these goals will require a strengthened, broadened effort, including:

- **Incentives.** The United States and other leading countries should provide substantial packages of incentives, targeted to the needs of each facility and host country, to convince research reactors to convert from HEU to low-enriched uranium or to shut down and to convince these and related sites to ship their HEU elsewhere for secure storage and disposition.
- **Shut-down as an additional policy tool.** To date, U.S. efforts to reduce the

use of HEU at potentially vulnerable research reactors have focused only on conversion to LEU. Many research reactors, however, are difficult to convert, and many more are underutilized and no longer offer benefits that justify their costs and risks. For these, the cheaper and quicker answer is likely to be to provide incentives to help convince reactors to shut down—including arrangements to support their scientists doing research as user groups at other facilities. To maintain the trust needed to convince reactor operators to convert to LEU, however, any shut-down effort should be institutionally separate from the conversion effort—perhaps under the rubric of a “Sound Nuclear Science Initiative” focused on ensuring that the world gets the highest-quality research, training, and isotope production out of the smallest number of safe and secure reactors at the lowest cost. This could include enhancing the research capabilities of certain reactors that could serve as regional centers of excellence, and investments in alternative scientific projects that do not require research reactors.

- **An expanded set of reactors.** While the Global Threat Reduction Initiative has expanded its scope to include 129 research reactors they would like to convert (48 of which were already converted or shut down by the end of 2006), roughly half of the research reactors operating with HEU around the world today are still not covered by the conversion effort. But with an expanded set of tools—including shut-down in addition to conversion—many of these difficult-to-convert reactors can and should be addressed. To remove threats inside U.S. borders and enable American leadership in convincing others to do the same, the United States should also convert or shut down its own HEU-fueled research reactors, and

implement effective nuclear security measures to protect them while HEU is still present.

- **An expanded set of material.** The United States and other leading states should greatly expand and accelerate their programs to take back or otherwise arrange for the disposition of potentially vulnerable HEU and separated plutonium around the world. The focus should be on whether the particular stock poses a security risk, not whether it fits within the stove-pipe of a particular program. The goal should be to remove all potential bomb material from sites that cannot easily be effectively secured as rapidly as possible, and to reduce the total number of sites where such material exists to the lowest practicable number. The United States should expand its own take-back offer to cover *all* stockpiles of U.S.-supplied HEU, except for cases in which a rigorous security analysis demonstrates that little if any risk of nuclear theft exists; on a case-by-case basis, the United States should also accept other weapons-usable nuclear material that poses a proliferation threat. The United States should seek agreement from Russia, Britain, France, and other countries to receive and manage high-risk materials when the occasion demands, to share the burden. The United States should also seek to eliminate vulnerable stocks of separated civilian plutonium where practicable, should renew the effort to negotiate a 20-year U.S.-Russian moratorium on separating weapons-usable plutonium, and should work to ensure that its reconsideration of modified approaches to reprocessing in the Global Nuclear Energy Partnership does not encourage the spread of plutonium separation facilities.

Beyond Nuclear Security

While upgrading nuclear security and removing nuclear weapons and weapons-usable nuclear materials from vulnerable sites are the most important measures that can be taken to reduce the risk of nuclear terrorism, the United States and other leading states should pursue a layered defense that includes a range of other approaches as well.

- **Disrupt.** Counterterrorist measures focused on detecting and disrupting those groups with the skills and ambitions to attempt nuclear terrorism should be greatly strengthened. New steps should be taken to make recruiting nuclear experts and technicians more difficult (including addressing some of the sources of radical Islamic violence and hatred, and challenging the moral legitimacy of mass-casualty terror within the Islamic community).
- **Interdict.** A broad system of measures to detect and disrupt nuclear smuggling and terrorist nuclear bomb efforts should be put in place, including not only radiation detectors but also increased emphasis on intelligence operations such as supply and demand “stings” (that is, intelligence agents posing as buyers or sellers of nuclear material or nuclear expertise), and targeted efforts to encourage participants in such conspiracies to blow the whistle. Success will require a substantial expansion of international intelligence cooperation and information-sharing related to nuclear trafficking. Given the stakes, nations around the world should pass and enforce laws that make trafficking in potential nuclear bomb material a crime comparable to murder or treason.
- **Prevent and deter.** The international community must convince North Ko-

rea and Iran to verifiably end their nuclear weapons efforts (and, in North Korea's case, to give up the weapons and materials already produced). At the same time, the global effort to stem the spread of nuclear weapons should be significantly strengthened, reducing the chances that a state might provide nuclear materials to terrorists (though conscious decisions by states to give nuclear weapons or weapons-usable material to terrorists are already a less likely path for terrorists to get the bomb than nuclear theft). The United States should also put in place the best practicable means for identifying the source of any nuclear attack—including not just nuclear forensics but also traditional intelligence means—and announce that the United States will treat any terrorist nuclear attack using material consciously provided by a state as an attack by that state, and will respond accordingly.

GETTING THE JOB DONE

None of these initiatives will be easy. A maze of political and bureaucratic obstacles must be overcome—quickly—if the world's most vulnerable nuclear stockpiles are to be secured before terrorists and thieves get to them. While President Bush has rightly said that preventing nuclear terrorism must be the nation's top priority, he has focused only intermittently on international cooperation to improve nuclear security, the most potent available tool to reduce the risk. The substantial results when he has—such as the acceleration of work following the Bush-Putin nuclear security summit accord at Bratislava in 2005—hint at what could be accomplished with sustained push from the Oval Office.

To ensure that this work gets the priority it deserves, President Bush should appoint a senior full-time White House

official, with the access needed to walk in and ask for presidential action when needed, to lead these efforts and to keep them on the front burner at the White House every day. That official would be responsible for finding and fixing the bureaucratic and other obstacles to progress in the scores of existing U.S. programs scattered across several cabinet departments of the U.S. government that are focused on pieces of the job of keeping nuclear weapons out of terrorist hands—and for setting priorities, eliminating overlaps, and seizing opportunities for synergy.

That full-time leader should be charged with preparing an integrated and prioritized plan for the many steps needed to reduce the risk of nuclear terrorism. Of course, that plan will have to be adapted and modified as obstacles and opportunities change. The President and the Congress should ensure that sufficient resources are provided so that none of the key efforts focused on reducing this risk are slowed down by a lack of funds. And President Bush should direct the intelligence community to give top priority, working with the policy and implementation agencies, to collecting the information needed to focus this effort, ranging from assessments of the level of security in place at nuclear facilities around the world, to morale and corruption among guards and staff.

In short, with so many efforts under way tackling different pieces of the nuclear terrorism problem, it is time—in the United States, in Russia, and in other leading countries around the world—to put in place a single leader for the effort, an integrated plan, and the resources and information needed to carry out the plan.