



Securing Vulnerable Nuclear Materials: Meeting the Global Challenge

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Recommendations

Multilaterally

- Create a global nuclear material security roadmap based on measurable benchmarks of vulnerability and proven security upgrades.
- Accelerate efforts to secure and eliminate global highly enriched uranium (HEU) and plutonium stockpiles.
- Minimize and then eliminate the use of HEU.
- Secure all radiological sources in hospitals around the world.
- Pursue sufficient funding for the International Atomic Energy Agency (IAEA) and National Nuclear Security Administration (NNSA) nuclear security programs. Additionally, consideration should be given to creating a Nonproliferation Enterprise Fund.
- Develop private-public partnerships for nonproliferation funding.
- Extend and expand the G-8 Global Partnership for another 10 years.
- Create a multilateral Weapons of Mass Destruction (WMD) emergency rapid reaction force that would allow for quick and coordinated multilateral action in the face of a nuclear emergency or disarmament opportunity.

- Create regional nuclear training centers to cultivate a local security culture; improve efficiency by consolidating training courses rather than repeating training to multiple audiences; and provide ready access to best practices information for new partners.

- Establish real-time monitoring of nuclear materials security at the IAEA.

Domestically

- Provide all relevant programs with “notwithstanding authority” for 10 percent of their total yearly budgets for contingency purposes.
- Ensure that all relevant programs have the authority to receive contributions from foreign governments, the private sector, and nongovernmental organizations for specific nonproliferation objectives.
- Allow for accelerated transfer authority among agencies to meet unforeseen challenges quickly.
- Issue a presidential decision directive on Nuclear and Radiological Material and Facility Security Prioritization.
- Amend the Foreign Assistance Act to permit funding for nonproliferation projects in sanctioned nations.
- Declare a policy to minimize plutonium reprocessing.
- Fund a National Academy of Sciences study on the conversion of naval propulsion from HEU to low enriched uranium (LEU).

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In his April 5, 2009, speech in Prague, President Obama outlined his arms control and nuclear nonproliferation objectives. At the top of the list was his assessment that terrorists are “determined to buy, build, or steal” a nuclear weapon, and that to prevent this, the United States will lead an international effort to “secure all vulnerable nuclear materials around the world within four years.” As a step toward this goal, he pledged to convene a summit on nuclear security within a year to “secure loose nuclear materials...and deter, detect, and disrupt attempts at nuclear terrorism.” At the UN General Assembly in September 2009, Obama announced that the summit will be held in early April 2010.

An international summit on this issue, featuring heads of state, is an unprecedented opportunity to drive the agenda that must not be missed. The lead-up to the summit should be used to generate new international commitments to secure fissile materials worldwide, culminating in specific goals and actions approved at the summit. A mechanism should be created for regular reporting post-summit to ensure implementation of the commitments and to discuss additional steps.

The global community, with US leadership, has been seriously addressing the challenges of securing vulnerable fissile materials since the fall of the Soviet Union. Nevertheless, seventeen years later, significant challenges not only persist but also continue to spread. Despite the fact that not all nuclear security objectives have been accomplished in Russia and the former Soviet states, the danger is no longer confined to that region. The challenges are now more geographically dispersed, and international cooperation on this agenda needs to significantly improve if there is to be any hope of meeting—or even approaching—Obama's four-year goal. In particular, there needs to be a greater global consensus on the urgency of this agenda, more and continued financing for it by the world's wealthiest nations, greater willingness to cooperate on the part of developed and developing nations, and a multilateral implementation plan.

Building on a Successful Foundation

The stockpiles of fissile materials in nations that have them are sovereign possessions and, therefore, each of these nations has the obligation to protect those materials to the highest level. However, if a nation is having difficulty adequately protecting its nuclear materials, it has a responsibility to seek and accept international assistance. The problem is that there is no set of requirements to which every nation must adhere, and this makes judging the consistency and adequacy of some nations' nuclear security difficult. In addition, because of the sensitivity of fissile materials, key countries often resist cooperating with foreign nations and organizations on nuclear security issues.

However, over the years several programs have been developed to assist countries with the protection of their nuclear materials. The IAEA is obviously one extremely important resource. Its assistance is not limited to countries that are signatories of the Nuclear Nonproliferation Treaty (NPT). Any state that is an IAEA member can request assistance.

Nonnuclear weapon states that are a party to the NPT are required to allow IAEA inspections of their civilian facilities and fissile materials stockpiles. But the way in which their protections are implemented are at the discretion of the individual governments, despite specific guidance from the IAEA. In addition, nations with fissile materials and nuclear weapons that have not signed the NPT, like India, Pakistan, and Israel, are not required to allow any IAEA inspections unless they have declared their facilities eligible. Moreover, nuclear weapon states that have signed the

treaty, like the United States and Russia, are not required to allow any international inspections, though the United States has on occasion provided the IAEA access to certain facilities as a confidence-building measure.

In addition, the 1980 Convention on the Physical Protection of Nuclear Material, a legally binding agreement to protect civilian nuclear materials, was amended in 2005, requiring states to protect their civilian nuclear facilities and materials and expanding measures to prevent and respond to nuclear smuggling. However, the amendment can only enter into force when two-thirds of the state parties have ratified it. To date, only 31 of 142 countries have done so.

Supplementing these efforts, the United States created the Cooperative Threat Reduction (CTR) program in 1992 specifically to work with Russia and other former Soviet states. While initially focused on activities conducted by the US Department of Defense (DoD), other essential initiatives are run by the Energy and State Departments and are included in this threat reduction category. CTR funding since 1992 has totaled over \$10 billion and it has been a critical defense against nuclear weapons proliferation by reducing many of the dangers posed by the massive Soviet Cold War arsenal. Today, the budget for international nuclear security activities is over \$1 billion per year and seems likely to continue expanding through the next four years.

The multilateral corollary to the CTR program is the G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. This program was launched in 2002 and its contributors go well beyond the G-8 nations. A goal of this initiative is to generate an additional \$1 billion per year for international WMD security activities beyond what the United States is funding. A majority of the non-US funding is devoted to nuclear safety, the environmentally sound dismantlement of excess Russian nuclear submarines, and the destruction of Russia's chemical weapons stockpile in accordance with the Chemical Weapons Convention (CWC)—not fissile material security.

In October 2006, Russia and the United States created the Global Initiative to Combat Nuclear Terrorism. The Global Initiative is a nonbinding forum for sharing nonproliferation expertise and information and for preventing nuclear terrorism. In three years, this initiative has grown from 13 to 76 member nations. There are also three official observers, the IAEA, European Union, and INTERPOL. In 2009, its members agreed to strengthen the group by promoting greater civil society and private sector involvement.

A more universal approach to WMD security, including fissile materials, was approved in 2004 in United Nations Security Council Resolution (UNSCR) 1540. This resolution was primarily aimed at preventing WMD terrorism by nonstate actors; for the first time, UN member states were bound to take and enforce measures against WMD proliferation. It also required nations to submit reports on their efforts. By mid-2009, 148 states had submitted their reports and over 40 nations had not.

These programs overall have achieved impressive results and have changed the methods by which nuclear security is approached. The traditional focus on treaties and international agreements has been supplemented with ad hoc and flexible bilateral and multilateral mechanisms. As Russia ceases to be the primary focus of securing nuclear materials, both for political reasons and because key objectives are being accomplished, the challenge of preserving and adapting this model to other global needs has arisen. As a consequence, Russia should become a primary partner in the transformation of this effort.

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Political and security concerns that delay project implementation have been a prominent obstacle in the cooperation with Russia. Of course, these programs are dealing with extremely sensitive materials, facilities, and personnel. Governments are naturally going to be cautious and security forces are going to have a prominent role in the process. But, the security challenges posed by vulnerable nuclear materials transcend domestic concerns and national borders. If fissile material were to leak from a nation or make its way into the hands of terrorists, that would be an international crisis, not a domestic concern. Therefore, the domestic political requirements need to be balanced against the need for international stability.

The CTR programs have generated a wealth of information and contacts over almost two decades that should not be lost. Many of the lessons learned are applicable to the range of proliferation threats that have emerged around the world. Still, it is important to recognize that each country possessing nuclear materials is different and that tailored approaches will be required for each country's circumstances. With vision and persistence, creative and unique nonproliferation cooperation with other countries can be developed.

Building a New Global Framework

The 2010 nuclear summit should be used to galvanize international support and financing for an expansion of the existing fissile material security mechanisms and for the creation of new ones. The lead-up to the summit will be critical in bringing together the strands of policy that can be durable and effective in achieving the president's goal. Galvanizing the international community to face a transnational danger is a unique challenge, in part because of the differing perspectives of countries on the problem and because of domestic political and economic interests. The goals of the summit are already being influenced by the domestic and political agendas of key countries. However, on the issue of nuclear security and nuclear terrorism, there needs to be an international consensus on the danger, despite differing opinions on the solutions.

Outside the United States, and even inside, it has been very difficult to establish the legitimacy of nuclear security activities that are not based on international treaties. But, given the sensitivities surrounding the issue of fissile material possession, it is unlikely that any comprehensive new international agreement mandating specific security measures will be reached in the near future. However, the choice is not between a binding agreement and ad hoc activities. The requirement is for a fusion of the two resulting in the creation of a new framework agreement. As Mohamed ElBaradei, the retiring director general of the IAEA, bluntly stated, "Either we begin finding creative, outside-the-box solutions or the international nuclear safeguards regime will become obsolete."

Over the past fifteen years, rapid economic globalization has eroded the pillars upon which the nonproliferation regime was built. Many of the new dimensions of the proliferation threat are being propelled by economic integration, energy demand, and the spread of technology. In particular, globalization has fast-forwarded technological advancement around the globe; increased economic interdependence; intensified the competition for energy resources; undercut the ability of big powers to dictate their desires to others; increased incentives for more countries to seek the prestige and benefits of high technologies—including in the nuclear power area; decreased the tolerance for international inequality; eroded the importance of national boundaries; and, fed the lethality and reach of the nonstate threat. The current nonproliferation regime did not anticipate these changes and a next-generation nonproliferation regime is required to better reflect this evolution and strengthen the global capacity to address these new dimensions of the proliferation threat.

The NPT has never been a perfect barrier against nuclear leakage and weaponization. There has been success in preventing and rolling back nuclear weapons efforts. But, undeclared nuclear weapons states like India, Pakistan, and Israel have never been members, North Korea violated and withdrew from the treaty, and Iran has repeatedly violated its treaty obligations. In each of these cases the nuclear programs in these countries have only grown stronger.

The 21st century is imposing new pressures on the nonproliferation regime from several directions. The NPT was never designed to deal with the rising danger of nuclear terrorism and Al Qaeda has stated that obtaining nuclear weapons is a priority goal. Terrorist organizations have proven that they can operate globally, plan quietly, and inflict devastating damage.

In addition, the growing consumption of fossil fuels and the resulting need to reduce global warming is leading developing nations to diversify their energy profile by employing more nuclear power. With this nuclear energy expansion could come the broader use and availability of fissile material. Therefore, energy consumption and demand patterns, not usually factored into proliferation analyses, need to become a more prominent element in these assessments.

The largest growth in nuclear power capacity is expected to come from China, Russia, and India. Countries in the Middle East have likewise signaled a renewed interest in nuclear energy. At present, there are 436 nuclear power reactors in operation around the world and over 50 more under construction. It has been estimated that up to 40 countries possess the technical skills—and some, the nuclear material—required to produce a nuclear bomb. The latest world energy predictions show a 44 percent increase in energy consumption by 2030 if current policies hold, with the majority of the growth expected to come from developing countries. To accommodate this demand, the world's nuclear-powered generating capacity is expected to increase significantly. If nuclear power spreads at the rate predicted, and there is no ban on the uranium enrichment and reprocessing technologies which can produce HEU and plutonium, global proliferation threats could increase significantly.

In an attempt to gain control of the potential explosion of the most dangerous nuclear technologies, various initiatives have been proposed to restrict their proliferation. The United States has strongly advocated the control of enrichment and reprocessing technologies. The G-8 nations also have proposed a program whereby countries would buy fuel enrichment and reprocessing services from a system of international centers. Similar proposals have been put forth by the IAEA's ElBaradei and the Nuclear Threat Initiative. However, such ideas face challenges from developing nations. It is not certain that these countries can be convinced to abandon enrichment and reprocessing; many of these countries make the case that under the NPT they are entitled to the technologies.

It is clear that the struggle to contain the technologies that can produce fissile materials and the security of today's stockpiles cannot be met with any one tool. The treaty regime is limited, the cooperative nuclear security agenda lacks full international legitimacy, and new initiatives, like the fuel bank, have problems. The key to success is to integrate all these valuable nonproliferation components in a way that materially and operationally expands the menu of prevention, management, and response options.

Addressing Global Challenges

In order to facilitate the development of a new global framework for nuclear material security, it is necessary to refocus from the big picture to the real challenges and

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to look at the specific countries and regions where such concerns exist. Certainly as it relates to radiological material security and elimination, virtually every country is a target—especially the medical facilities utilizing radioactive medicines. Some nations, however, stand out in terms of concern.

The denuclearization of North Korea is a major international objective that, if it occurs, would require significant multinational involvement. The cost of dismantling the existing nuclear infrastructure in North Korea is estimated to be about \$700 million. This would likely be paid by the United States, and the Obama administration has already sought and received some funding for this project. However, if North Korea cannot be enticed to denuclearize and continues to produce fissile materials, it will raise concerns about the size of that stockpile and whether any of that material is being spirited out of the country to aid those who could do harm to its enemies. In addition, a very sensitive but vital issue is ensuring adequate nuclear security in the event of political transition in that country if it is not denuclearized first. These are issues where a regional approach might be useful, particularly if China and Russia were to begin a dialogue with North Korea on the nuclear security progress they have made as a result of cooperation with the United States and other nations.

South Asia is also a growing nuclear hot spot. Both India and Pakistan continue to produce fissile materials for weapons and to increase their nuclear weapons stockpiles.

The US-India civil nuclear cooperation agreement did not address the security of India's nuclear facilities beyond the IAEA safeguards on its declared civilian nuclear facilities. The Indian government has been difficult to engage on the issue of fissile material security. However, as a non-NPT state that has been given an exception from standard nuclear cooperation rules, India should be more willing to engage in a dialogue about how it can assure the highest safety and security for its nuclear materials and weapons.

Pakistan has been called the most dangerous nuclear state in the world. That is likely an exaggeration and President Obama stated in April that he was "confident" that Pakistan's nuclear arsenal was being adequately secured by its army. But the terrorist activity in that country, especially attacks on military personnel and the Rawalpindi headquarters, and in Afghanistan, provides good reason for continuing concern. To its credit, Pakistan has taken important steps over the last decade to improve its nuclear security and command and control processes. Pakistan has also been cooperating with the United States on improving its nuclear and border security since 2001. The United States has provided over \$100 million for these initiatives. While this work was begun under Presidents Bush and Musharraf, it remains a high priority under the Obama administration.

The US dialogue with Pakistan is facing challenges, which are particularly acute when high-profile charges of nuclear insecurity in Pakistan arise in the Western press. This raises questions of trust between the two and Pakistan is especially sensitive to any suggestion that the United States might seek to remove its nuclear weapons in a crisis. Rather than focus on removal, there should be a dialogue with the Pakistani military and civilian leaders on how United States and NATO Special Forces in Afghanistan could assist with nuclear asset security in an emergency. One additional way to regain this trust is to widen the nuclear dialogue beyond the security issue and discuss the possible resumption of civil nuclear discussions with Pakistan. This could eventually establish the political and technical basis for a criteria-based civil nuclear cooperation agreement that could better integrate Pakistan into the nonproliferation regime.

The Middle East is another volatile region where the interest in nuclear technology is rising and where fissile material security could become a concern. Sixteen nations have already expressed interest in some form of nuclear power and the nuclear fuel cycle. The major danger at present is the growth of the Iranian nuclear infrastructure, which now includes a light water reactor and uranium enrichment capability. The expansion of the Iranian nuclear infrastructure is also a reason for the increased regional interest in nuclear power. However, nuclear growth on a large scale in that region could be dangerous and could far exceed the ability of the IAEA to monitor it effectively.

Finally, the developed world is not immune to nuclear security challenges. For example, the overwhelming majority of fissile materials reside in the United States and Russia and a significant portion of the remaining materials are in developed countries such as France, Britain, and Japan. By law, the United States must periodically visit foreign nuclear sites to verify the protection of US-origin nuclear materials, and it does engage in nuclear materials discussions with other advanced nations. Nonetheless, the United States has its own problems at home. For example, the security at some research reactors using HEU in the United States has been criticized. In addition, Canada, Belgium, and the Netherlands are major medical isotope producers and use tens of kilograms of HEU each year. Stopping the use of HEU for this purpose and in research reactors is a major US policy objective, but this goal faces significant objections from some countries. There is terrorist activity in all developed nuclear states and these terrorists need to be denied access to dangerous nuclear materials. Overall, developed nations do invest significantly in their own nuclear security and have strengthened their own nuclear security regulations and procedures since 9/11. But, nuclear security vulnerabilities in the developed world still exist and need to be taken seriously.

Building Consensus for New Policies

There is no international framework agreement on fissile material security and, as a result, no organizing force to drive the agenda. Establishing global fissile material security as a top-level international objective will require international consensus on new policy initiatives. Some well established ideas like the Fissile Material Cutoff Treaty are already under discussion at the UN Conference on Disarmament, but others will need to be approved and implemented in a less formal fashion than an international treaty. How to establish the legitimacy of these new initiatives will be a critical challenge.

Creating a framework agreement that identifies the threats to mankind from vulnerable fissile materials, especially those posed by terrorists—and actions to mitigate them—is one important objective that merits consideration. A framework agreement would allow the subject to be acknowledged as a global priority at a very high political level and enable specific steps to be taken to ensure that it is achieved as an international imperative. It will also be essential that any new framework look beyond the obligations and capacities of government and enlist civil society and the private sector as partners in this process.

President Obama, in his chairing of the UN Security Council Summit on Nuclear Nonproliferation and Nuclear Disarmament in September, pointed to one path for establishing this framework and its legitimacy. There he achieved unanimous approval from the Security Council for Resolution 1887. It calls upon states to take actions that will support the effectiveness of the NPT. However, the goal of securing all vulnerable nuclear materials in four years is only mentioned in a paragraph near the end of the document. The resolution does not include any specific steps to be taken. To address this one option is to create a follow-on resolution that provides a

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framework for consensus on the goal of securing all fissile material worldwide and that outlines specific new steps that states could agree to undertake.

Alternatively, there is the example of the United Nations Framework Convention on Climate Change, which entered into force in 1992. This convention established protection of the climate system as a long-term objective. Subsequent actions guided by the convention have been aimed at mitigating the impact of climate change on the global environment. This could be a model for a fissile material security framework agreement. It would allow for agreement on the threats, goals, and challenges and then require periodic international meetings on specific implementation steps. These meetings could focus on review of implementation progress, discussion of the evolving threat, and policy modifications and additions. Such a continuous dialogue would generate pressure and incentive for countries to take action and demonstrate their commitment.

A New Policy Agenda

In either of these models or any other formulation, it will be important to frame the mission in twenty-first century terms and to ensure that the new policy actions are relevant to the evolving threat. It will also be important to move quickly to meet the four-year goal. Achieving agreement on these actions is likely to be fraught with controversy, but each should be evaluated by criteria that judge its contribution to global security. Experts around the globe have put forth many proposals to improve the security of global fissile material. Below is a menu of policy initiatives that are ripe for implementation and could be included in a new framework agreement.

- **Create a Global Nuclear Material Security Road Map.** This road map should be based on measurable benchmarks of vulnerability and proven security upgrades. It does not necessarily have to be a public document, but it should be a consensus document that identifies the priority locations, ranked highest to lowest, and provides the financial and technical resources to correct problems as quickly as possible. The road map should be supplemented with a plan for international scientific cooperation to prevent nuclear theft and terrorism.
- **Accelerate Efforts to Secure and Eliminate Global HEU and Plutonium Stockpiles.** There are several essential policy objectives that should be pursued: 1) minimizing the number of locations at which fissile materials are stored through elimination and consolidations (including down blending the maximum amount of excess military and civilian HEU); 2) improving security at all locations; 3) reducing the size of global fissile material inventories; and 4) extending international monitoring over all remaining excess military and civilian stockpiles.
- **Minimize and Then Eliminate the Use of HEU.** There is significant opposition from some nations to phasing out the use of HEU. For some, it is the need to maintain medical isotope production, for others the need to perform experiments, and for others the use of the fuel in naval propulsion. Nonetheless, HEU is the fissile material most vulnerable to exploitation by terrorists and, in particular, its use in civil applications heightens this danger. UNSCR 1887 calls upon states to “minimize to the greatest extent that is technically and economically possible” the use of HEU. That leaves a wide margin for its continued use. Technological advances are producing fuels that can replace HEU even in the most difficult cases and, therefore, international agreement should be reached on a timetable for a phase-out and ultimate ban on the civil use of HEU. Further discussions should then be held on its phase-out in military and naval applications on a global basis.

- **Secure All Radiological Sources in Hospitals.** Radiological sources are in use in every major metropolitan hospital in the world and they pose a danger if they fall into the wrong hands. The NNSA has completed a pilot project with the Hospital of the University of Pennsylvania whereby all of its radiological sources were made more secure and cooperation with the local authorities was initiated. The administration and the international community should build on this important success and commit to securing the radiological materials in each of the approximately 500 major metropolitan hospital buildings in the US and all those abroad.
- **Pursue Sufficient Nuclear Security Funding.** There are several funding elements to be considered. The first is funding for the IAEA. The Obama administration has promised to double the US contribution to the IAEA over its four-year term. Yet this increase is not specifically designated for improving nuclear security. The funds can also be used to promote the peaceful uses of nuclear energy and administrative costs. More funding is needed specifically for nuclear facility safeguards. There already is insufficient funding to meet all the requests of IAEA member states for safeguards assistance. As nuclear power expands, more requirements will be placed on the IAEA to provide safeguards assistance and inspections. The US NNSA contributes about \$50 million annually to the IAEA for nuclear security training and support, but this amount should be increased and be matched by other wealthy nations.

The United States should also increase funding for the NNSA's Global Threat Reduction Initiative and International Nuclear Materials Protection and Cooperation programs which implement the bulk of the United States' international fissile material security efforts. Over the next four years, the Obama administration should ensure that the international community's collective contribution equals the yearly US expenditure for international nuclear material security.

Additionally, consideration should be given to creating a Nonproliferation Enterprise Fund. This fund would allow government programs to partner more effectively with the nongovernmental and university communities to assist them with nuclear and nonproliferation analysis, including assessing the implementation of any nuclear summit commitments. A part of this fund also could be dedicated to the development of "the next generation of nonproliferation experts" who would be required to perform some government service in return for educational and training support.

- **Develop Private-Public Partnerships for Nonproliferation Funding.** There is a need to look beyond purely governmental structures and address opportunities for partnership among government, civil society, and the private sector to come together to create innovative nuclear nonproliferation solutions. One proposal is for the nuclear industry to contribute to a nonproliferation fund that could increase funding for the IAEA's activities or could be used for other nonproliferation purposes. One option for garnering contributions is a requirement for the nuclear industry to contribute a portion of one percent of every dollar in direct government subsidy for new nuclear power plants to the nonproliferation fund. Alternatively, if a nation provides loan guarantees for new nuclear plants, the industry would pay a small percentage of the underwriting costs of the guarantees to the nonproliferation fund. Another proposal is to require utilities to contribute a small portion of a percentage of the price of each nuclear-generated gigawatt hour to the nonproliferation fund. These options are estimated to generate from \$80 million to \$300 million per year on a global basis.

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The nuclear power industry should not view these ideas as onerous. They are similar to the responsibilities that government has levied on the nuclear industry to deal with the issue of waste management. In this case, it would link the nuclear power industry to the security dialogue, recognize explicitly the security implications of the expansion of nuclear power, offer a reputational benefit for the nuclear power industry, and increase the pool of funds available for addressing nuclear security challenges.

- **Extend and Expand the G-8 Global Partnership for Another Ten Years.** The G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction has been a successful effort to secure WMD primarily in Russia. The multilateral character of this initiative must be preserved but its focus expanded globally, beyond Russia. The Global Partnership, either in its existing configuration or as an expanded ad hoc multilateral initiative, should continue beyond its 2012 expiration. Ideally, this would be done at the 2010 G-8 meeting in Canada. The expanded focus of the Global Partnership should be globally on nuclear and other WMD security issues and assisting developing nations to meet their UNSCR 1540 and 1887 obligations. The Global Partnership should also continue to provide financing on the order of \$20 billion over ten years.
- **Create a Multilateral WMD Emergency Rapid Reaction Force.** The Proliferation Security Initiative has proven the value of conducting multilateral training and actual interdiction of WMD components at sea. But the concept has been limited in scope and practice to addressing dangerous WMD materials in transit. This concept of an ad hoc multinational group should be expanded resulting in the creation of an international force that would allow for quick and coordinated multilateral action in the face of a nuclear emergency or disarmament opportunity. The existence of such a group would allow, in advance of a crisis, for the clear delineation of the roles and responsibilities among agencies and partner countries based on threat/opportunity scenarios. It also would identify dedicated funding for operational, transport, integrated training, and related issues. It would also allow for all the necessary legal authorities to be put in place for the rapid extraction and return of foreign nuclear assets or materials to the United States or other countries if necessary.
- **Create Regional Nuclear Training Centers.** The United States and Russia, in the course of their collaboration on nuclear security improvement, have created several regional nuclear training centers in Russia. These centers have become hubs of expertise and training for nuclear facilities in need of security improvements. This effort should be expanded with the establishment of regional training centers in other key areas around the globe. The new centers would cultivate a local security culture; improve efficiency by consolidating training courses rather than repeating training to multiple audiences; and provide ready access to best practices information for new partners. While the centers could be initiated with US funding, eventually they could be supplemented or fully supported by Global Partnership nations and the IAEA. Ultimately, these centers could expand their mission to include regional nuclear monitoring that could supplement IAEA activities.
- **Establish Real-Time Monitoring of Nuclear Materials Security.** The IAEA manages an Incident and Emergency Center to monitor nuclear reactor safety around the globe, but the reporting is not done in real-time. While this allows for information on nuclear dangers to be reported, it precludes a real-time rapid reaction to threats. This concept could be expanded to nuclear materials security. It could include satellite uplinks on all portal monitors and perimeter security equipment that would provide real-time reporting on its operational status and immediately log security

alerts and breaches at all civilian facilities that are monitored by the IAEA. A monitoring center could be manned by rotating international experts. The goal would be constant real-time monitoring of all nuclear facilities under safeguards (IAEA or domestic) and rapid global alerting and response to security breaches.

This idea could also be expanded to nuclear weapon states that are not subject to IAEA monitoring. Because of the sensitive location of much of the security equipment in these states, the information could be downloaded to a permanent five weapon states monitoring center that could be manned jointly by specialists from all five nations. This could be supplemented with a multiparty nuclear security hotline that would allow for immediate communication surrounding suspicious incidents. Such a connection already exists between the United States and Russia to reduce the risk of a nuclear exchange stemming from accident, miscalculation, or surprise attack. These proposals are likely to meet stiff resistance from the nuclear bureaucracy in many states, but that should not be a deterrent to action in support of greater nuclear security.

In addition to these ideas, which need to be implemented on a multilateral basis, there are some important domestic actions that the Obama administration and the US Congress should take to move this agenda forward. These include:

- Provide all relevant programs with “notwithstanding authority” for 10 percent of their total yearly budgets for contingency purposes.
- Ensure that all relevant programs have the authority to receive contributions from foreign governments, the private sector, and nongovernmental organizations for specific nonproliferation objectives.
- Allow for accelerated transfer authority among agencies to meet unforeseen challenges quickly.
- Issue a presidential decision directive on Nuclear and Radiological Material and Facility Security Prioritization including policy objectives, funding needs, specific agency responsibilities, and success metrics. The directive should include:
 - Assigning specific tasks to specific agencies for emergency/contingency nonproliferation operations (for example, require DoD to provide and pay for airlift in a timely fashion and identify technical specialists for missions).
 - Legitimizing intangible benefits as metrics of the threat reduction mission (including relationships and partnerships).
- Amend the Foreign Assistance Act to permit funding for nonproliferation projects in sanctioned nations.
- Declare a policy to minimize plutonium reprocessing.
- Fund a National Academy of Sciences study on the conversion of naval propulsion from HEU to LEU.

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Conclusion

Within six months of taking office, President Obama committed the United States to one of the most essential and ambitious policies for protecting the globe from nuclear terrorism and has taken steps to implement it. He has made a commitment to secure

all vulnerable nuclear material in four years, scheduled a heads-of-state level nuclear security summit for April 2010, and worked with the UN Security Council to achieve approval of Resolution 1887. However, the administration's actions to date have only been a necessary prelude to more aggressive and intensified international action. Now the hard work of hammering out new policies, generating sustainable funding streams, and implementing new security measures must begin. Securing all vulnerable nuclear material in four years is a necessary global security objective and the maximum effort must be made to achieve it, both in the United States and internationally.

The Stanley Foundation

The Stanley Foundation is a nonpartisan, private operating foundation that seeks a secure peace with freedom and justice, built on world citizenship and effective global governance. It brings fresh voices and original ideas to debates on global and regional problems. The foundation advocates principled multilateralism—an approach that emphasizes working respectfully across differences to create fair, just, and lasting solutions.

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