Radioactive Challenge

INSIDE

Securing Nuclear Materials
Disavowing the Bomb
Preventing Catastrophe
Much needed momentum toward securing the world’s vulnerable nuclear material is building. And not a moment too soon.

Since the collapse of the Soviet Union, the need to scoop up and lock down nuclear weapons—and, quite importantly, the material used to build various types of dangerous nuclear devices—has been one of the world’s greatest security challenges. Early moves and successes were impressive. Particularly an American program, created by the Nunn-Lugar Act and known as Cooperative Threat Reduction, which has destroyed thousands of nuclear warheads and secured tons of nuclear material in Russia, Ukraine, Georgia, Azerbaijan, Belarus, Uzbekistan, and Kazakhstan. But the effort overall is far from complete.

Today more than three dozen countries have at least small amounts of highly enriched uranium (HEU), only some of which is in nuclear weapons. Even more countries are home to a variety of other potentially dangerous
Radioactive materials. And these materials are a tempting target for black marketeers, extortionists, and worse.

Most troubling may be the fact that we aren’t even sure where much of this material is. “Indeed, there is no current, accurate, consolidated global inventory of HEU in civilian use that would allow states to prioritize their activities in this sphere,” according to a 2009 report from the Nuclear Threat Initiative. The challenge, therefore, is large but, experts tell us, not insurmountable—especially if we act soon. The Stanley Foundation is committed to finding the best ways to tackle this problem with multilateral action and US leadership.

Throughout his campaign and into his presidency, Barack Obama has included this challenge as a top policy priority. “So today I am announcing a new international effort to secure all vulnerable nuclear material around the world within four years. We will set new standards, expand our cooperation with Russia, pursue new partnerships to lock down these sensitive materials. We must also build on our efforts to break up black markets, detect and intercept materials in transit, and use financial tools to disrupt this dangerous trade,” said Obama in an April 2009 speech delivered in Prague.

In this issue of Courier, former Energy Department official Kenneth N. Luongo lays out the concrete steps the United States and others must take to make President Obama’s vision a reality. The issues Luongo outlines are likely to form much of the agenda of the international nuclear security summit hosted by the United States in April 2010.

Like many of the challenges facing the 21st century, this one will require many nations working together. A relatively new tool for international cooperation on this front is United Nations Security Council Resolution 1540. It mandates that all countries “implement a rigorous set of controls to prevent the proliferation of nuclear, biological, and chemical weapons—including securing potentially dangerous materials, strengthening border security, and developing national export and trans-shipment controls over ‘dual use’ items,” writes Brian Finlay of the Henry L. Stimson Center. And in an online extra for Courier (see the back cover), Michael Kraig, senior fellow at the Stanley Foundation, looks at how Resolution 1540 offers a significant opportunity to keep the building blocks of weapons of mass destruction out of the hands of nonstate actors.

Finally in these pages, we get a firsthand look at ongoing efforts to lock down one of the world’s largest stockpiles of nuclear material. Kazakhstan follows only the United States and Russia in the quantity of highly enriched uranium it possesses. And two of our foundation staff members, Sean Harder and Christina MacGillivray, travelled there to see how the international community has come together to help Kazakhstan meet this critical challenge.

As we work to strengthen this global effort to secure vulnerable nuclear materials, the foundation is well aware that the problem may seem overwhelming. Sometimes the fear of all things nuclear might cause people to retreat into the false security of isolationist policies and greater military responses. But such approaches will not bring about lasting answers to problems that can be solved.

As President Obama said near the end of his Prague speech, “We know the path when we choose fear over hope. To denounce or shrug off a call for cooperation is an easy but also a cowardly thing to do. That’s how wars begin. That’s where human progress ends.”

—Keith Porter

Director of Policy and Outreach, The Stanley Foundation
In his April 2009 speech in Prague, President Obama outlined his arms control and nuclear non-proliferation 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 in 2010 to “secure loose nuclear materials...and deter, detect, and disrupt attempts at nuclear terrorism.”

The global community, with US leadership, has been seriously addressing the challenges of securing vulnerable fissile materials since the winter of the Soviet Union. Nevertheless, 17 years later, significant challenges not only persist but also continue to spread. Not all nuclear security objectives have been accomplished in Russia and the former Soviet states, and the danger is no longer confined to that region.

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 a New Global Framework
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. 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 issues of nuclear security and nuclear terrorism, there needs to be an international consensus on the danger, despite differing opinions on the solutions.

It has been very difficult to establish the legitimacy of nuclear security activities that are not based on international treaties. 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.

Building Consensus for a New Policy Agenda
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 consensus on new policy initiatives.

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.

Below is a sampling of multilateral and domestic policy initiatives that are ripe for implementation and could be included in a new framework agreement. (A complete listing of policy recommendations can be found in the full policy analysis brief. See “Resources” below for information on accessing the full brief.)

- 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, as HEU is the most useful and accessible fissile material for terrorists.
- Secure all radiological sources in hospitals around the world.
- Increase funding for the agenda overall—i.e., International Atomic Energy Agency safeguard activities, US-led efforts such as the Cooperative Threat Reduction Program, and the expansion of the multilateral G-8 Global Partnership.

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 a new resolution on nonproliferation issues. 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.

Resources
This article is a summary of a policy analysis brief by Kenneth N. Luongo, president and founder of the Partnership for Global Security. See pages 10-11 to order the full brief or visit www.stanleyfoundation.org/nuclearsecurity.

Five Ways Obama Can Secure Nuclear Material
In April 2009, President Obama stated that terrorists are “determined to buy, build, or steal” a nuclear weapon and that, to prevent this outcome, the United States will lead an international effort to “secure all vulnerable nuclear materials around the world in four years.”

Members of the US nongovernmental expert community, including the Stanley Foundation, joined together to create a Fissile Materials Working Group that is recommending to the administration that it implement five high priority policies.

To read the full text of the policy recommendations or see the letter sent to President Obama signed by 20-plus experts, visit www.stanleyfoundation.org/nuclearsecurity.
Alatau, Kazakhstan—Researchers wearing pristine white overcoats, pressed white slacks, and something akin to a chef’s hat stand atop the light water nuclear reactor at Kazakhstan’s Nuclear Physics Institute.

After making a few adjustments, they point a gun-like radiation monitor to the silent behemoth below, ensuring that nothing has escaped its beating heart. Deep inside is an array of metal arteries—a fuel assembly—where the fissile reaction is taking place thanks in part to a small amount of highly enriched uranium, or HEU.

As the more potent version of uranium fuel, HEU has become the focus of global efforts to secure nuclear materials. Once widely produced, and key to both civilian nuclear projects and weapons programs, large stockpiles remain around the globe. Most caches are properly secured. Other collections, some of it from spent fuel, are seemingly forgotten.

Here at Alatau, you can ask where they keep their remaining HEU, but they won’t tell you. They will tell you it takes “three keys and three people” to get to it.

“All the nuclear materials here are kept under strict and well-organized security measures,” said Peter Chakrov, deputy director of the Nuclear Physics Institute, who recently showed two Stanley Foundation staffers around the facility. “We are safeguarded by the
International Atomic Energy Agency. We have inspectors here every month.”

Soon, the scientists here will work to convert this research reactor to use a fuel assembly that runs on low-enriched uranium—a non-weapons-grade material that does not pose the same black-market or terrorist risks as HEU. The HEU kept at the facility will then be down-blended at the Ulba Metallurgical Plant, a huge industrial complex that produces reactor fuel in Ust-Kamenogorsk, a gritty northeastern city.

Strong on Nonproliferation

The sprawling Ulba plant—protected by soldiers carrying Kalashnikovs, redundant security checkpoints, and a large German Shepherd—is no longer a security concern. But the large amounts of HEU it once housed was.

In the days of the Soviet Union, Kazakhstan was awash in HEU as Moscow steamed forward in its nuclear experiments, the most damaging of which involved detonating more than 700 bombs in this country’s vast northern steppe. More than two million people in the area were exposed to radiation. Today the cancer rate is three times the norm and birth defects, infertility, and deformities are common.

Following the Soviet collapse, Kazakhstan’s President Nursultan Nazarbayev—aware of the irreversible damage nuclear testing caused his country and its people—chose to disavow nuclear weapons, giving up the world’s fourth largest nuclear arsenal.

Soon after in 1994, a clandestine joint US-Kazakh mission, code-named Project Sapphire, was implemented to remove the bulk of HEU from the Ulba plant. Overnight, more than half a ton of HEU was airlifted out of Kazakhstan to Tennessee to be down-blended into safe reactor fuel.

“That was a very magnanimous, very important gesture in the realm of arms control,” said Steve Black, chief operating officer of the National Nuclear Security Administration, a division of the US Department of Energy. “The Kazakhs have always been extremely good partners with us and the rest of the world in our nonproliferation and arms control efforts.”

Kazakhstan has also shut down a plutonium breeder reactor, and the fuel generated from the reactor is being moved to a more secure location within the country. “In my view it should leave Kazakhstan entirely because it needs to be reprocessed into forms that can no longer be used in weapons, and that can most easily be done in Russia,” said Matt Bunn, an associate professor at Harvard’s John F. Kennedy School of Government and nuclear nonproliferation expert.

Securing the Border

Kazakhstan is cooperating with international nuclear security efforts in another important way: border crossings.

Four times the size of Texas, Kazakhstan shares long borders with Russia, China, Kyrgyzstan, Uzbekistan, and Turkmenistan. Since 2006, Kazakhstan has installed sophisticated radiation detection equipment at 16 border crossings, including four recent installations funded by the United States and Norway. By 2015 the systems will be present at a total of 30 crossings.

Much of the US funding comes from the National Nuclear Security Administration’s Second Line of Defense program, which has deployed radiation monitoring devices at 335 border points, airports, and seaports around the world.

At a checkpoint on the Russian border near the small village of Aul, a semi-tractor trailer drives between two large white panels that monitor whether the cargo contains any radiation. If it does, alarms sound and will prompt a secondary, more thorough inspection, said Zhenis Zhanpeisov, the commander of customs control at the checkpoint. “The monitoring is taken very seriously and is emphasized as a priority by our leadership,” Zhanpeisov said.

While Kazakhstan is often praised for its efforts to secure nuclear materials and prevent trafficking, the hundreds of miles of unfenced steppe between the checkpoints raise obvious questions about the monitoring system’s efficacy.

Zhanpeisov couldn’t say how they might prevent potential black-market traffickers from avoiding the checkpoints altogether and moving radioactive material across the border.

“All I can say is that it’s very secure,” he said.

—Sean Harder
Program Officer, The Stanley Foundation
The US Central Intelligence Agency began receiving fragmentary information regarding Osama bin Laden’s ongoing efforts to obtain a nuclear weapon in 1998. In the same year he was complicit in the bombings of two US embassies in Africa, bin Laden sent emissaries across the Afghanistan border to Pakistan to establish contact with rogue nuclear scientist A.Q. Khan. For more than a decade, Khan’s black market in nuclear technologies spanned the globe, providing one-stop shopping to untold numbers of customers seeking to develop a nuclear weapons capability. By 2003 the international community would learn that in addition to nebulous connections to Al Qaeda, Khan’s network had supplied critical nuclear technologies to an array of state clients from North Korea to Iran, and to Libya.

Beyond the immediate threat to international security, the Khan affair revealed a major gap in the ability of global mechanisms to address the role that individuals motivated by ideology or greed can play in undermining global nonproliferation. The case stands as a warning to the world that the Nuclear Non-Proliferation Treaty remains a critical but ultimately insufficient tool to prevent committed proliferators from capitalizing upon globalization and rapidly advancing technological markets.
In a direct response to these events, in April 2004 the UN Security Council unanimously passed Resolution 1540, mandating that all member states implement a rigorous set of controls to prevent the proliferation of nuclear, biological, and chemical weapons—including securing potentially dangerous materials, strengthening border security, and developing national export and trans-shipment controls over “dual use” items. The resolution also encourages states with the capacity to provide international assistance to do so and, in turn, invites states-in-need to request the assistance they require to meet the demands of 1540.

A Lack of Urgency

The response by governments to 1540 has unquestionably helped to strengthen global nonproliferation standards. Yet despite these efforts, the urgency of implementing 1540 in capitals around the world has not been commensurate with the threat. Critics point to a lack of institutional resources for the 1540 Committee, burdensome restrictions on the committee’s group of experts, and flagging interest among most UN member states. Beyond statements of political support, little evidence of widespread implementation of the 1540 mandate is evident—particularly in key regions of the Global South—a growing locus of proliferation concern.

While 1540 implementation has been far from robust, the potential for proliferation continues to grow. Even amidst the global economic slowdown, the overall number and geographic distribution of dual-use technology manufacturers continues to rise. And in a recent interview with Al Jazeera, the leader of Al Qaeda in Afghanistan, Mustafa Abu al-Yazid, made it clear that the terrorist organization continues its relentless pursuit of a nuclear capability. Referring to Al Qaeda’s Taliban allies in Pakistan, he said, “God willing, the nuclear weapons will not winter into the hands of the Americans and the mujahedin would take them and use them against the Americans.”

1540 Complements Development

At its root, the sluggish implementation of Resolution 1540 has become a question of resources and priorities. While no responsible government can reasonably disagree that keeping weapons of mass destruction out of the hands of terrorists is an important goal, the vast majority of UN members are plagued with an array of threats to security and well-being of their people that seem to have little to do with the proliferation of advanced weapons and technologies. Implementation of 1540 thus ranks low on their long list of government priorities.

In Western capitals panicked by the growing nexus between technology proliferation and the rise of catastrophic terrorism, it is easy to lose sight of this realization: in the Global South, where more than a billion people live on less than $1 a day, one illness, one unlucky encounter with a drug or small arms trafficker, one hurricane, or one month of poor rainfall can mean death. It is unreasonable and even immoral to expect their governments to divert scarce resources from public health, education, or infrastructure development to meet the seemingly distant threat of WMD proliferation.

But when viewed expansively, UNSCR 1540 can be a complementary rather than competing priority for developing world governments. For instance, the technical assistance needed to detect and interdict weapons of mass destruction is equally critical to natural disaster response. The ability to prosecute potential weapons smugglers requires a well-trained police force and functioning judiciary—traits equally critical to the rule of law. The prevention of drug, human, and small arms trafficking relies upon many of the same resources and capacities necessary to detect and prevent proliferation. Assistance to help identify and prevent biological weapons proliferation could help address the endemic lack of public health resources, disease surveillance, and emergency medical responses across the Global South. And “safe ports” standards that challenge governments’ ability to remain competitive in the global supply chain can be achieved, in part, with nonproliferation security assistance.

Coordinating Efforts

Moving forward, governments intent on 1540 implementation have two central challenges. First, in order to demonstrate the benefits of full implementation, they must help draw the link between 1540 assistance for proliferation and the security and economic development needs of the Global South. Secondly, donor governments must better leverage security and development assistance. Both communities have much to learn from, and achieve through, better coordination.

The United States should lead by example and develop an interagency committee of donor agencies—including State/USAID, the departments of Defense and Energy, the Centers for Disease Control and Prevention, the National Institutes of Health, the Millennium Challenge Corporation, and others—to share information in key target regions, leverage one another’s activities, and ultimately promote a more robustly funded set of development activities while simultaneously building sustainable nonproliferation programs.

Better coordination between these communities has been a distant goal for policymakers for decades. Implementation of UNSCR 1540 provides a pragmatic opportunity to turn that rhetoric into reality in a pilot effort that addresses the greatest threat to global security.

—Brian Finlay
Senior Associate at the Henry L. Stimson Center and Director of the Managing Across Boundaries Program
Talking about Nuclear Weapons with the Persuadable Middle, U.S. in the World Initiative
The recommendations in this report build upon research projects, insights from leaders of the peace and security community, and other research projects undertaken on behalf of USITW, as well as upon recommendations from U.S. in the World: Talking Global Issues With Americans. The communication advice offered in the report is designed to reach the mainstream American. It is an excellent tool for anyone interested in engaging the public on nuclear issues and having their message be heard. Online at www.stanleyfoundation.org/nuclearsecurity.

Achieving Nonproliferation Goals: Moving From Denial to Technology Governance
In this brief, Elizabeth Turpen discusses the potential threats that arise from the diffusion of technology in a globalized world, the waning efficacy of technology denial in containing proliferation pressures, and the need to move to a model based on technology governance. June 2009 analysis brief.

Realizing Nuclear Disarmament
The Stanley Foundation convened a mix of UN diplomats and other officials to examine the first steps toward a world free of nuclear weapons. This report outlines the key points from the conference discussions, specifically noting that the world has an historic opportunity to make great progress on nuclear arms reductions. The window for progress may last no more than two years. April 2009 online conference report.

Fissile Materials Working Group Recommendations to Obama
In April this year in Prague, President Obama stated that terrorists are “determined to buy, build, or steal” a nuclear weapon and that, to prevent this outcome, the United States will lead an international effort to “secure all vulnerable nuclear materials around the world in four years.”

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To read the full text of the policy recommendations or see the letter sent to President Obama signed by 20-plus experts, visit www.stanleyfoundation.org/nuclearsecurity.

The Next 100 Project: Leveraging National Security Assistance to Meet Developing World Needs
A collaborative effort between the Henry L. Stimson Center and the Stanley Foundation targeted sustainable implementation of UN Security Council Resolution 1540. The focus of the project was to identify new sources of assistance for addressing endemic threats in the developing world, including poverty, corruption, infectious disease, and economic underdevelopment by tapping national security resources and addressing mutual concerns. February 2009 executive summary and online conference report.

Sudan and the Implications for Responsibility to Protect (R2P)
In this brief, Ambassador Richard W. Williamson stresses that, to be consequential, R2P must be more than another development program and must give meaning to the rhetoric of “Never Again!” He stresses that collective action to stop genocide and mass atrocities remains an enormous challenge for the 21st century. R2P should become an effective instrument to protect the innocent. October 2009 analysis brief.

Peacebuilding Following Conflict
The Stanley Foundation sponsored this conference to provide a forum for United Nations member states, officials from UN departments and programmes, and experts from leading US think tanks to assess efforts to date on peacebuilding and to discuss the secretary-general’s landmark report on peacebuilding in the immediate aftermath of conflict. August 2009 conference report.

The Responsibility to Protect and Foreign Policy in the Next Administration
The “responsibility to protect” (R2P) framework offers conceptual, legal, and practical answers to the prevention and mitigation of mass atrocities. In an effort to contribute to the continuing debates around prevention of mass atrocities such as genocide, the Stanley Foundation convened a dialogue among

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Securing Vulnerable Nuclear Materials: Meeting the Global Challenge
by Kenneth N. Luongo

Noted specialist and former senior Energy Department official Kenneth N. Luongo explains the complicated context of existing international commitments, sovereignty concerns, current initiatives, and major trends by region. He highlights the need for a greater global consensus if there is to be any hope of meeting—or approaching—the president’s four-year goal. In this brief, Luongo offers a specific policy agenda and road map to meet this critical global security objective. November 2009 analysis brief.

NUCLEAR SECURITY

HUMAN PROTECTION
leading US, intergovernmental organization, and civil society experts and officials to explore R2P-related issues, including new civilian and military capabilities required to implement the overall framework. January 2009 dialogue brief.

At the World’s Summit: How Will Leading Nations Lead
Veteran journalist James Traub, a contributing writer for The New York Times Magazine, examines “Creation 2.0”—rather than a world war, the ferment this time comes from the combination of a global financial crisis, the emergence of novel and interconnected transnational problems, and the swift rise of a new cohort of powerful states, all of which have exposed the limits of the post-war institutions, and perhaps rendered them obsolete. He concludes it will be marked more by a protracted evolution than a big bang. June 2009 analysis brief.

India Rising
What does it mean for its aspirations if many Indians don’t have a stake in its new economic miracle? Moreover, what does India’s success or failure mean for the US and for the rest of the world? Follow an award-winning team of reporters in this Stanley Foundation radio documentary as they search for answers and explore the complexities of what many believe will be the world’s next superpower. 2009 CD.

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Visit www.stanleyfoundation.org/think to sign up.
President Obama’s recent reception of the Nobel Peace Prize was clearly as much about the intent rather than the results of his new, nascent strategy of multilateral cooperation to battle common challenges and threats in today’s complex globalized world. As noted by Obama himself, the award represents more of “a call to action” rather than recognition of a job already done.

One area where the call to action has been stressed by the new administration already is the prevention of nuclear terrorism via the securing of all vulnerable nuclear materials worldwide. Toward this end, the president has already called a summit of all the world’s major nations and nuclear energy-capable countries, now slotted for April 2010.

But what, in the end, does this particular “call to action” mean in practical terms?

Thus far the administration and the American media (and even global media) have focused on what are largely traditional, state-centric security threats: the proliferation of strategic nuclear weapons and missiles to countries such as Iran, North Korea, India, Pakistan, and Israel. But this latter focus largely misses the true threat of “nuclear terrorism” as well as the focused, genuinely new policies that are needed to combat it.

Continued at www.stanleyfoundation.org/courier.