Building a Better International Nuclear Security Standard

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NUCLEAR TERRORISM: THE GRAVEST THREAT

Two weeks before al Qaeda launched the attacks on September 11, 2001 that would kill nearly 3,000 people and spark a war that continues today, Osama bin Laden sat beside a campfire in the mountains of Afghanistan chatting with a former senior scientist from Pakistan's Atomic Energy Commission, Sultan Bashiruddin Mahmud. Mahmud, who managed one of Pakistan's plutonium production reactors, had been dismissed from his job because he held religious views deemed extreme even for Pakistan, including that Islamabad's nuclear weapons should be "the property of a whole Ummah" or of all Muslims. Indeed, Mahmud had already offered to build nuclear weapons programs for al Qaeda and Libya. Mahmud sketched a crude nuclear device, but explained to bin Laden that it would be too difficult for al Qaeda to manufacture weapons-grade fissile material. Bin Laden's chilling response was, "What if I already have it?"[1]

Bin Laden's question set off alarm bells when it was relayed to Washington. That al Qaeda or another group bent on inflicting the maximum possible carnage might attain a nuclear capability is the greatest threat to international security today. Three independent trends over the past two decades combine to shape this threat.

First, we now live in an age of unlimited terrorism. Such was not always the case. A secret, now largely declassified, National Intelligence Estimate originally issued in April 1986—only the second such Estimate to deal with the topic of nuclear terrorism—stated, "We know of no case where a terrorist group has attempted or even seriously contemplated a terrorist act that had as its goal the release of nuclear radiation."[2] Moreover, the Estimate went on to explain that:

- High level terrorism [e.g. detonating a nuclear device] may be within the capabilities of a few terrorist groups. The constraints that exist against it, therefore, probably are behavioral.
- Most important, the fact that most terrorists place a high premium on the political consequences of their actions probably helps dissuade them from threatening terrorist acts that could lead to mass, indiscriminate casualties, because such a threat would alienate even those that they consider to be sympathizers among the affected public.[3]

Today, however, al Qaeda actively avows intent to use nuclear weapons. In 1998, Osama bin Laden declared that obtaining chemical or nuclear weapons would be an act of religious duty.[4] After the September 11th attacks, al Qaeda's pursuit of the capability and issuance of threats to use of nuclear weapons continued, combined with propagandistic justifications for mass casualties.[5] Today, al Qaeda is diminished but not defeated. Bin Laden is dead, but Ayman al Zawahiri, who authored a 2008 fatwa "meticulously" justifying a violent attack of breathtaking proportion,[6] replaced him. There can be little doubt of al Qaeda's intent to obtain a nuclear weapon, and to use it were they to do so.

Moreover, al Qaeda is neither the only group to have planned nuclear terrorism, nor the only one to have committed atrocities on a mass scale. No one could doubt that those who murdered hundreds of school children and their parents at Beslan in 2004, or who released the Sarin nerve agent in a crowded Tokyo subway in 1995, would have been capable of committing a nuclear attack had they access to a weapon or to fissile material. Thus, the intent to commit nuclear terrorism is sadly well established.

What then of the means to carry out such an attack? Is it plausible that terrorists could detonate a nuclear device? Recall that the 1986 National Intelligence Estimate concluded that a small number of groups may have been capable of high-level nuclear terrorism, if they had access to a weapon or sufficient fissile material, but were inhibited by the political consequences. So even in the 1980s, it was judged possible. Since then, the march of scientific and technological progress has pushed farther and farther past the frontier that was once marked by nuclear weapons. Once at the edge of scientific knowledge, nuclear weapons technology is now largely an engineering problem. There is more computing power in an iPhone than existed on the mesas of Los Alamos in 1945, and advances in computer aided design and manufacturing have spread high precision engineering around the world. In short, betting anything consequential on the notion that terrorists would be incapable of setting off a nuclear device, were they able to obtain fissile material, would be foolish.

Means and motive are established; what about opportunity? Access to fissile material is key—both for terrorists trying to attain a nuclear capability, and those racing to stop them. Global stocks of fissile material—highly enriched uranium and plutonium separated from spent fuel—are roughly 2,000 metric tons and growing. Moreover, this material is spread across dozens of sites, with hundreds of buildings, in 30 some countries. The security conditions vary widely.[7] In some countries there are no armed guards on the premises of storage sites, and background checks on workers are prohibited. In other countries, corruption is rampant, or terrorists attack frequently. In a few places, the material is closely guarded to the highest reasonable standards, and oversight is rigorous.

The security of fissile material is not merely a theoretical concern. Over the past two decades the International Atomic Energy Agency (IAEA) has recorded some twenty cases in which weapons-grade material—plutonium or highly enriched uranium—has been seized outside of authorized control.[8] Fortunately, all of these cases involved quantities insufficient to construct a weapon, but that is threadbare comfort for three reasons.

First, in many of the cases, the material seized was advertised to be sample of a larger quantity for sale, which was not recovered and would still present a danger if it exists. Second, in all but one of the cases, there is no official finding of where the material came from, how it was removed past security precautions, who might have abetted in the theft, or where it was headed. Without answers to these basic questions, we can have no confidence that the security leaks have been plugged. Finally, while the pace has slowed, seizures of fissile material continue. Authorities recovered small quantities of illicit highly enriched uranium in Georgia in 2003, 2006, and 2010.[9] In June 2011, six people were arrested in

Moldova, reportedly also for smuggling highly enriched uranium.[10]

Thus, securing weapons-grade fissile material is vital to preventing nuclear terrorism, but we have failed to do so. This undoubtedly was the impetus behind President Barack Obama's initiative at the 2010 Washington Nuclear Security Summit for a four-year effort to secure vulnerable nuclear materials, what UK Foreign Minister David Miliband praised as an effort to establish a "gold standard of what nuclear security means."[11]

Unfortunately, the UK Foreign Minister's praise was premature. The 2010 Washington Nuclear Security Summit made several important contributions toward better protection of fissile material. It succeeded in establishing a consensus that nuclear terrorism is a serious threat to all nations, and that all vulnerable material should be locked down within four years. Under this broad consensus, the summit had several signal effects. By raising the issue of nuclear security among world leaders, the summit sliced several Gordian knots created by bureaucracies that had prevented effective action, advancing projects such as conversion of research reactors using highly enriched uranium to low enriched fuel. It created also a constructive dynamic, in which leaders likely instructed their governments that they are not to be embarrassed by a security incident before the Seoul Summit. Finally, the Washington Summit evoked some four-dozen specific national commitments and a joint work program for improving nuclear security worldwide.[12]

The Washington Summit did not, however, establish a gold standard—or any standard—for nuclear security. The Communiqué was vague and non-binding, and was undermined further by escape clauses. Leaders were unable to agree on an analysis of the nuclear terrorism threat, or even an acceptable briefing of that threat. Nothing the leaders did could be construed as establishing international nuclear security standards that they could be held to politically or legally.[13]

GOING FOR THE GOLD

Politicians, diplomats, academics, and advocacy groups have long advocated creating a "gold standard" for securing nuclear weapons and material that could be made into such weapons. This aspiration was well summarized by Kenneth Luongo in testimony before the United States House of Representatives Committee on Foreign Affairs shortly after the 2010 Washington Nuclear Security Summit. He argued that the international community should:

> Create a Global Nuclear Security "Gold" Standard: Despite the detailed technical information that is provided by the IAEA for the safeguarding of nuclear facilities and the other domestic and international conventions and regulations that govern nuclear material protection, no universally accepted standard exists for securing nuclear materials and weapons. In advance of the 2012 summit, nations should agree to the establishment of a minimum, but effective, nuclear security standard that all nations can work toward.[14]

The impulse to create a nuclear security gold standard is understandable. Obtaining fissile material is the greatest barrier preventing al Qaeda and other terrorist groups from attaining a nuclear weapon.[15] Moreover, the security chain preventing terrorists from buying or stealing such material is only as strong as its weakest link. Thus, all states—and particularly states that might be targeted by terrorists—have an

abiding interest in establishing uniformly high standards for securing nuclear materials, wherever they are kept.

Despite long-standing calls to establish a nuclear security gold standard in the aftermath of the September 11th attacks,[16] the international community has struggled to do so. Efforts to create an effective international standard are beset by two inherent tensions: first, it is difficult to negotiate international agreements that are both legally binding and rigorous; and second, any agreements specific enough to ensure that a gold standard lives up to its name may not be sufficiently flexible to deal with an evolving threat and inherent differences across nations in cultures, threat environments, and chosen mixes in capital vs. labor inputs to security.

Some have even argued that attempting to establish a universal nuclear security standard is a bad idea, diverting scarce attention and resources away from tangible actions to improve security, and focusing on inevitably long-winded and ultimately fruitless discussions of unenforceable ideals. While not uncommon in government conferences or academic seminar rooms, such arguments rarely find their way to print.

EXISTING NUCLEAR SECURITY STANDARDS AND OBLIGATIONS

Many international treaties, agreements, initiatives, and resolutions speak to the issue of establishing and maintaining good nuclear security, but each has advantages and disadvantages regarding specificity, flexibility, universality, and legal power. The sum of the efforts has not yet attained the goal of universally enforced standards of excellence in nuclear security. Matthew Bunn summarized their result:

> Unfortunately, however, the overall policy framework remains weak—none of these policy elements, or even all of them in combination, has yet succeeded in ensuring effective security is put in place and maintained for all stockpiles of nuclear weapons and materials . . .[17]

The Nuclear Non-Proliferation Treaty (NPT), dating from 1970, requires nuclear weapon states not to transfer "to any recipient whatsoever" nuclear weapons, or to "assist, encourage, or induce any non-nuclear weapon state to manufacture or otherwise acquire nuclear weapons,"[18] arguably establishing an obligation to maintain control over nuclear materials and to prevent their theft. While nearly universal in its adherence—excepting only India, Israel, North Korea, and Pakistan—the NPT, makes no specific demands of states parties for nuclear security. George Bunn, a US negotiator for the NPT, later made clear his regret over the deficiencies of the treaty with respect to security, saying that:

> If I had known when the NPT was being negotiated what I know now, I would have urged the addition of provisions requiring the parties to adopt domestic legislation requiring national systems of physical protection and control over nuclear material and making illicit trafficking in such material a national crime.[19]

Apparently recognizing this deficiency, the IAEA first recommended standards for physical protection of nuclear materials in 1972, which were later codified in the first version of INFCIRC/225 (IAEA nomenclature for Information Circular number 225). The IAEA has revised its recommendations periodically, with a fifth revision adopted in 2011—the first since the September 11, 2001 attacks.

The IAEA's standards for nuclear security are purely advisory, and create no legal obligations. However, the United States and many other countries, including the Nuclear Suppliers Group, have adopted policies requiring adherence to the INFCIRC/225 in their bilateral nuclear cooperation agreements. These obligations are legally enforceable and cover a wide swath of nuclear commerce.

Although INFCIRC/225 in all its revisions has undoubtedly improved nuclear security, it too suffers from the tension between rigor and broad acceptance. Matthew Bunn, writing as the fifth revision was being considered, summarized:

> [T]hese recommendations, while more specific than many other documents described below, are quite vague. The discussion process, in which essentially any participating state can object to a particular recommendation, tends to result in least-common-denominator outcomes.[20]

In particular, Bunn cites standards that specify the use of fences with intrusion detectors, but remain silent on their capabilities, or those requiring that nuclear material be placed in secure storage when not in use, but failing to define how difficult it would be to break into a storage vault. Incredibly, in many cases involving nuclear material, the use of armed guards is merely encouraged, not required under INFCIRC/225.[21] In an age of suicidal terrorism, it is hard to credit seriously any security plan that does not require armed guards.

The Convention on Physical Protection of Nuclear Material (CPPNM), which entered into force in 1987, is according to the IAEA, the "only international legally binding obligation in the area of physical protection of nuclear material."[22] The Convention originally applied only to transport of nuclear material, but in 2005 parties agreed to amendments covering domestic storage and use. The amended CPPNM will go into effect once two thirds of the parties (now 145 nations) have ratified the amendments; as of January 2012, 52 states had done so. Thus, the Seoul Nuclear Security Summit should be used to restore momentum to the stalled ratification effort. (In the interim, a very constructive step for the summit would be for participants to agree to implement the amended CPPNM as a matter of national policies, even before it is ratified; unlike many international agreements, it is hard to see why pursuing implementation in advance of ratification would put countries at a unilateral disadvantage, as all states have an interest in effective nuclear security.) The Convention applies to material used for peaceful purposes and, therefore, excludes military stocks. The amended version establishes principles, such as that security is the responsibility of the state, and that it should be based on a threat assessment, use a graded approach, and rely on defense in depth.

Although legally binding on signatories, the CPPNM suffers from ill-defined requirements. Matthew Bunn again describes its deficiencies: "[W]hile containing some useful principles, the amended convention includes no particular standards for how secure nuclear material should be; it says that countries should set national rules for nuclear security, but says nothing about what those rules should say."[23]

Such deficiencies are even more profound with respect to the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT), which entered into force in July 2007. This Convention requires states to take every effort to ensure the protection of nuclear materials, taking into account IAEA recommendations. Thus, it simply repeats the specific deficiencies present in INFCIRC/225.

The United Nations Security Council adopted three resolutions relevant to fighting terrorism and securing

nuclear materials, 1373 in 2001, 1540 in 2004, and 1887 in 2009, which respectively require all states to act against terrorist organizations, secure proliferation of sensitive materials, and secure nuclear stockpiles within four years. None of the resolutions offer any detailed, objective standards to measure such outcomes. Such was the price of passage in a body that requires unanimous consent among the principal nuclear states.

In addition to treaties and agreements that create either legal or political obligations for implementing effective nuclear security—as vague as these may be—several voluntary groups have addressed the issue. The Global Initiative to Combat Nuclear Terrorism (GICNT) was established in 2006 to share best practices across the entire spectrum of measures to prevent such an attack, including improved security. While enjoying wide adherence to its statement of principles—to date, 82 nations have assented—no specific standards for security are agreed to among participants. Indeed, the GICNT can best be understood as a practical forum to assist in implementing the legal requirements created by United Nations Security Council Resolution 1540, rather than a standard-setting body in its own right.

The 2010 Washington Nuclear Security Summit, involving four dozen world leaders, highlighted the threat of nuclear terrorism, elicited national commitments to address it, and established a work program for joint action. Most notably, it cemented a consensus behind a four-year effort to secure "vulnerable" nuclear materials worldwide.[24] It failed, however, to define or recognize the standard to which such material should be secured. Moreover, there appears little prospect that the Seoul Summit will correct this failure.

Finally, the World Institute for Nuclear Security (WINS) was established in 2008 to facilitate sharing of best security practices among nuclear operators in the public and private sectors worldwide.[25] Membership is voluntary and at the level of individuals or organizations, not nation states. WINS members incur no additional legal obligations. WINS publishes a series of detailed best practice guides, assists members with self-assessments, and conducts workshops to train members on specific aspects of nuclear security. While the quality of these materials has induced over 84 percent of participants in WINS programs to modify approaches to security practices[26]—an astounding accomplishment—reluctance on the part of Russia and China to participate in WINS has, to date anyway, limited the organization's reach. Moreover, participation is completely voluntary.

So while there have been attempts at establishing or requiring standards for nuclear security in some form stretching over four decades, the quest for a "gold standard" remains unfulfilled. Moreover, each of the attempts to create standards was beset by the tradeoffs between rigor and specificity, universal adherence, and legal force.

ALL EXPERIENCE IS AN ARCH TO BUILD UPON—IF NOT A PERIMETER PORTAL

While statesmen and diplomats struggled fitfully to define rigorous, detailed, binding, international standards for nuclear security, US and Russian security experts, engineers, and contractors went to work implementing such measures at 148 sites stretching across Russia, beginning in 1991. For two decades, under this program of cooperation, they secured thousands of nuclear weapons and hundreds of tons of highly enriched uranium and plutonium that could be fashioned into such weapons. The efforts persisted through changes in government in both Russia and the United States, and have come to the point where

physical security upgrades have been implemented at virtually all relevant Russian nuclear sites. (The few remaining upgrades to buildings that were not disclosed in time for inclusion under the joint Bratislava Initiative agreed to during the Bush administration will soon be completed.)

Moreover, this work was successfully undertaken despite considerable challenges—remote Siberian site locations, forbidding weather with temperatures ranging across 140 degrees from winter to summer, language and security culture differences, and, not least, a heritage of hostility during the Cold War.

This wealth of experience is a base to build upon in elaborating detailed and effective international standards. The United States and Russia, acting together could describe in detail their joint approach to nuclear security, manifested by the buildings they constructed, the systems they installed, and the procedures they have put into practice, covering such key areas as: threat assessment; material control, protection, and accounting; personnel reliability; transportation; regulatory oversight; and, sustaining effective security culture. In all of these cases, specific goals were established because contractors had to draw up blueprints and build accordingly.

Rather than struggling to outline an ideal, the effort could record empirical practices. What have the United States and Russia done in each of these areas? What standards did they work to? How did they make choices about what level of protection was necessary? How was the threat evaluated? In summary, what approach was used to construct a design basis threat, in general terms, what threat did that analysis reveal, and what equipment, procedures, and physical protections were implemented to counter the threat. Indeed, as US and Russian program managers are contemplating what, if anything will follow the Cooperative Threat Reduction Agreement in 2013, this project would open a large and productive new track for joint work.

BUILDING AN EXPERIENCE-BASED STANDARD

Creating an experience-based or empirical standard for nuclear security would only be possible with Moscow's support. Would the Kremlin favor such an undertaking? Would it shy from risking exposure of some of Russia's most sensitive secrets?

With respect to the first question, the evidence is admittedly mixed. Moscow has sought to curtail cooperative threat reduction activities: evicting the International Science and Technology Center from Moscow; evincing little interest in renewing the Highly Enriched Uranium Purchase Agreement; and making clear that the Cooperative Threat Reduction Agreement, which will expire in 2013, cannot be the basis for future activities in this field. Moreover, Moscow demurred and did not seize an opportunity to host the 2012 Nuclear Security Summit.

Nonetheless, there are some hopeful signs that Moscow may wish to continue cooperation with the United States on nuclear security. US and Russian national laboratory directors met in June 2011, for the first time in seven years.[27] Those laboratory directors and their colleagues at institutes across Russia made clear their desire to maintain the technical and scientific contacts that the Cooperative Threat Reduction programs have made possible. If a mutually beneficial nuclear security agenda can be outlined, they will likely endorse it.

In the Kremlin, Vladimir Putin, who will likely return to the presidency this spring, demonstrated

a strong commitment to cooperation on nuclear security, despite sometimes frosty relations with Washington. During his earlier term as president, Russia undertook two significant efforts that advanced nuclear security. With the United States, in 2005, it committed to the Bratislava Initiative essentially to complete physical security upgrades in Russia by the end of 2008. This was an enormous and successful undertaking by Presidents Bush and Putin to cut through bureaucratic inertia that had stalled or blocked progress for too long. The two presidents established specific goals, assigned responsibility for completing those tasks to named individuals, and jointly held them accountable.

In 2006, Russia and the United States co-founded the GICNT, to facilitate the sharing of best practices among a wide array of states. The joint US and Russian diplomacy was effective, and a large number of states soon agreed to the statement of principles, many noting that the genuine nature of the US and Russian cooperation was evident, and made a difference in their willingness to join the Initiative. So there is precedent for the United States and Russia working closely and successfully together to prevent nuclear terrorism, and the prospect of another Putin presidency may only strengthen Moscow's willingness to pursue such cooperation.

Moscow's reluctance to host a Nuclear Security Summit should not be taken as the final word on future cooperation to reduce the nuclear terrorism threat. Preparations for the Sochi Olympics in 2014 are understandably a priority. Moreover, given Russia's centrality to the nuclear security issue, any reluctance to participate in cooperation only heightens the importance of articulating and pursuing a mutually beneficial agenda in the area.

The expiration of the Cooperative Threat Reduction Agreement in 2013 provides an opportunity and an impetus for US-Russian efforts to articulate and foment an international nuclear security standard. Russia has made clear that any new agreement must be more equal—a partnership, not a donor-recipient relationship. Both countries have recognized the importance of scientific and technical interactions in the realm of nuclear security, but have struggled to define a tangible program of cooperation. Defining an experience-based standard for nuclear security and assisting other nations to implement it could be a centerpiece of a renewed Cooperative Threat Reduction Agreement.

On the second question, related to the sensitivity of information on security measures in Russia, it is possible to be quite detailed with respect to describing security improvements, while not revealing information that would aid a terrorist attack. For example, security architects must know that hardened internal firing positions for guards are necessary at choke points for an effective response to an armed attack. But, as long as the location of existing hard points within actual facilities is not revealed, would-be attackers will not be advantaged. Indeed, they may be deterred by the knowledge that they would be facing an exceedingly difficult target.

Bilateral confidentiality agreements between governments might also improve Moscow's willingness to discuss security implementation. Russia has been wary of entering into such agreements with other nations in the past, but the context was different: then, Russia was being asked to reveal secrets as an aid recipient to fund its own security improvements. National pride as well as concerns about state secrets may have colored the decision. In the case of establishing and advocating an experience-based nuclear security standard, no such concerns would obtain. Moreover, while some information would necessarily remain confidential, the level of detail could be much greater than that provided by wither INFCIRC 225 or the CPPNM.

To implement this proposal, the United States and Russia could engage their scientific establishments.

The US National Laboratories and Russian scientific institute could record and codify the work that they have done, along with US and Russian government officials and contractors, in as much detail as possible, consistent with protecting true security secrets. They then could work to share the fruits of their labor.

While allowances would need to be made for variances in security conditions and cultures in different countries, these would presumably be accounted for in specific design basis threat analyses. Such a process would help to ensure that threat perceptions worldwide reflect the best available analysis and information, and that the responses to them include the most effective planning and equipment.

The initial consultations could be with the other NPT nuclear weapon states: Britain, China, and France. While this might help to improve security in those states, where substantial stockpiles of weapons-usable materials reside, an even more important objective would be for those states to endorse the effort, adding to its international credibility. They could then add their diplomatic weight to advocating the experience-based nuclear security standard. Moreover, Britain, France, and China might have important suggestions for advancing nuclear security. While there have been tentative attempts to establish a forum to discuss such issues among NPT nuclear weapon states, it would be useful to regularize these consultations for sharing, to the extent possible, best security practices.

The next step could be to use the GICNT to share best security practices more broadly. As a co-founder of the Initiative, Moscow should be amenable to using it as a vehicle. Under the GICNT's aegis, such cooperation might be accomplished trilaterally, with the United States, Russia, and a third country consulting and holding workshops and exercises. Alternatively, the consultations might be held multilaterally in regional forums. Another possible means to spread a US-Russian experience-based standard for nuclear security best practices would be through joint UN Security Council Resolution 1540 implementation assistance teams. Under this approach, US and Russian experts would help other states to meet the resolution's requirements, which include a legally binding mandate for states to secure proliferation-sensitive materials.

The United States and Russia could also consult with the World Institute for Nuclear Security to leverage WINS' broad reach within the private sector, while taking advantage of their deep experience as Cooperative Threat Reduction partners. This would broaden the reach of improved nuclear security standards beyond governments to private sector custodians of nuclear material.

Finally, the partners could also engage other nuclear nations, either bilaterally or through the Nuclear Suppliers Group, to seek their agreement to use the US-Russian standard in evaluating the appropriateness of exports to and nuclear cooperation with other countries. This could have a strong multiplier effect, effectively reaching a diverse customer base. Moreover, even new civil nuclear suppliers, such as South Korea, still rely to a degree on US technology, and therefore need Washington's consent to export the technology.

CONCLUSION

The nuclear terrorism threat is real and urgent. Securing weapons-grade fissile material is the highest priority action to prevent it. Nonetheless, despite numerous efforts, an agreed global "gold standard" for nuclear security will likely remain elusive. The tensions between competing goals—universality, rigor,

and legal force—have proven too strong for an agreement to hold together. Thus, any strong standard will be unlikely to enjoy universal support as a legally binding obligation, and any universally legally binding obligation is likely to be vague and weak.

As the largest and oldest nuclear powers, and because they were once adversaries and are now partners in this field, the United States and Russia have special credibility with other nuclear states. More important, they have a wealth of empirical knowledge devoted to overcoming significant challenges to improved nuclear security, and a record of success implementing solutions. Finally, as the current Cooperative Threat Reduction Agreement winds down in 2013, they will be looking for substantive projects to continue joint work.

Articulating a US-Russian nuclear security gold standard—based on experience, not aspiration—would give other states a realistic goal to aim for, and one that is detailed, rigorous, and effective. It would arm the advocates of improved security within other governments with the knowledge that a gold standard is both necessary and realistic. Advancing such an effort as national commitments on behalf of the United States and Russia would make a significant contribution to international nuclear security. While it is too late to unveil such a plan at the 2012 Seoul Nuclear Security Summit, such a program could be well underway as leaders meet again in 2014 at the recently-announced Hague Summit.

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