

**THE NUCLEAR SECURITY SUMMIT AND  
GLOBAL NUCLEAR SECURITY  
GOVERNANCE FOR THE 21<sup>st</sup> CENTURY**

KENNETH N. LUONGO  
PRESIDENT, PARTNERSHIP FOR GLOBAL SECURITY

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Mr. Chairman and members of the subcommittee, I thank you for the invitation to testify before you today on progress securing vulnerable nuclear material around the world. I am pleased to offer my testimony on the role of the Nuclear Security Summit (NSS) process, efforts made by U.S. international weapons of mass destruction (WMD) security programs, and suggestions for how global nuclear security governance must evolve to meet 21<sup>st</sup> century threats.

I am currently President of the Partnership for Global Security (PGS), which is a non-profit research organization dedicated to preventing the spread of nuclear and biological weapons and materials. PGS works closely with many governments and international experts to develop new security initiatives and to ensure the timely and effective implementation of existing programs. I also serve as the co-chair of the Fissile Materials Working Group which convened a summit of over 200 international nongovernmental experts the day before the official 2010 Washington NSS. This event, titled, *Next Generation Nuclear Security*, helped to educate the press and public on the importance of the effort to secure nuclear weapons materials and prevent nuclear terrorism. A similar event, titled *Innovating Nuclear Security Governance*, is being held prior to the 2012 Seoul summit by the Institute of Foreign Affairs and National Security and Korea Institute of Nuclear Nonproliferation and Control.

I thank the committee for holding this hearing. The proliferation of nuclear weapons and materials remains a significant, central threat to U.S. and international security. The global effort to stem this threat requires the high-level political attention that the committee is providing today.

Mr. Chairman, I will summarize my formal statement, and ask that the full text of my testimony be included in the official record of the hearing.

**Background on the Nuclear Security Summit**

The April 2010 NSS was an unprecedented and successful event that brought together 47 nations and three international organizations to discuss how to prevent nuclear terrorism by improving

global nuclear material security.<sup>1</sup> There had never been such a gathering of high-level political officials to discuss the subject of preventing nuclear terrorism and securing nuclear materials.

Participants at the summit agreed to a communiqué which highlighted the global importance of preventing nuclear terrorism and endorsed President Obama's goal of securing all vulnerable nuclear material in four years. Additionally, they underscored the importance of maintaining effective security over all nuclear materials on their territory; encouraged the conversion of reactors that use highly-enriched uranium (HEU) to low-enriched uranium (LEU); and recognized the importance of the Convention on the Physical Protection of Nuclear Materials (CPPNM) and its amendment and the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT) as essential elements of the global nuclear security architecture. Finally, the communiqué emphasized the need for international cooperation on this agenda, including the importance of capacity building and responding to requests for assistance in order to secure these materials globally.

The work plan accompanying the communiqué focused on improving and universalizing existing nuclear security agreements and programs. In addition to the conventions mentioned in the communiqué, the work plan also notes the need to fully implement United Nations Security Council Resolution (UNSCR) 1540, and support the Global Initiative to Combat Nuclear Terrorism (GICNT) and the G-8 Global Partnership against the Spread of Weapons and Materials of Mass Destruction (G-8 Global Partnership). It also recognizes the continuing importance of the International Atomic Energy Agency (IAEA) and its nuclear material security guidelines and activities.

It further highlights the fundamental role of the nuclear industry in the nuclear security agenda, the human dimension of ensuring nuclear material security, and the importance of sharing best security practices.

Other ambitious objectives of the work plan included the consideration of the consolidation of national sites where nuclear material is stored, the removal and disposal of nuclear materials no longer needed for operational activities, and the minimization of the civil use of HEU.

In addition to the work plan, 30 individual countries made commitments for improving security at home, including Ukraine's decision to remove all of its remaining HEU by 2012 and the U.S. and Russia signing an agreement to implement the plutonium disposition accord. A small number of countries made modest financial commitments. Approximately 80 percent of these national commitments have been completed.<sup>2</sup>

### **Value of the Nuclear Security Summit Process**

The NSS also has created some important new precedents in the nuclear security arena. One is that the pursuit of improved nuclear material security should be multilateral but can also be selective in the nations that exercise leadership. This gives some international legitimacy to non-universal action in support of nuclear material security. Another important precedent is that it

seeks to achieve goals within set timeframes, like implementing the national commitments made at the Washington summit before the Seoul event.

All of these developments are good and positive and will further solidify the current foundation of the current nuclear material security regime. But, even if implemented completely and rapidly, they would not be sufficient to address the evolving nuclear terrorism threat. And, while the NSS process has the political power to produce national commitments, it does not have the ability to drive the agenda and regime significantly beyond where it exists today. The Washington work plan offers many caveats including allowing individual nations to implement many of the NSS objectives “as appropriate.” In addition, there is a need for nuclear regulators in all nations to have the opportunity to discuss and harmonize their regulations in order to decrease differences that exist, harmonize standards and accident responses, and promote best practices globally. A similar dialogue would be useful among the security managers at nuclear facilities around the globe. While confidentiality about threats is necessary, it should be possible to discuss management philosophies and practices. The new collaboration between the World Institute for Nuclear Security (WINS) and the World Association of Nuclear Operators (WANO) on the interface between nuclear safety and security would be a good opportunity to launch this dialogue.

The Seoul summit, plus the decision to hold another nuclear security summit in 2014, provides a window of opportunity to both reframe the nuclear material security debate and initiate some key changes in strategy. Each summit needs to be viewed as an opportunity to further strengthen and improve the nuclear material security regime beyond its current limits. The NSS has created a very important process that did not exist before, and it offers an opportunity for making progress at a scale that otherwise would not exist and would have to be done in a much more retail and slow way, country-by-country. The summit process allows for a package of ideas and activities to be placed before more than 50 heads of state for approval – by all, at the same time. That is a unique circumstance that has previously not existed.

### **Expectations for the 2012 Seoul Summit**

The upcoming NSS in Seoul will raise the international profile of the threat of nuclear terrorism and focus attention on the need to better secure weapon-usable nuclear materials in all corners of the globe. Nearly 60 world leaders will endorse a “Seoul Communiqué” that reaffirms many of the same principles that were covered in the 2010 summit, expands on the importance of radiological source security, and addresses the interface of nuclear safety and security. In addition to the political commitments in the Seoul Communiqué, countries are expected to offer new voluntary national commitments (“house gifts”) and multinational or regional commitments (“gift baskets”). Several new countries are expected to attend the 2012 summit, including Azerbaijan, Denmark, Gabon, Hungary, Lithuania, and Romania. INTERPOL will join the European Union (EU), IAEA, and United Nations (UN) as international organizations sending delegations to the summit.

The sequencing of biennial high-level international political summits has underscored the global importance of addressing the threat of nuclear terrorism. As a result, the NSS has the potential to become the preeminent international forum where the state of global nuclear material security is

evaluated and where new commitments are made to improve the world's defenses against nuclear terrorism. But, to fully realize its potential, the NSS process will need to evolve and participating countries must be willing to accept changes that will strengthen the nuclear material security regime.

It is important to recognize that regularized, high-level international summits that address important transnational issues are fairly rare, difficult to establish, and raise expectations for effective action. The closest corollary is the G-8 economic summit process, and the recent addition of the G-20 economic summits. But even the G-7 meetings (the forerunner of the G-8) were not regularly established until 1979. And their creation was an outgrowth of the ad hoc sessions initiated by the industrialized countries following the 1973 OPEC oil embargo.

The NSS has had the foresight to address the clear and dramatic danger posed by nuclear terrorism in advance of any such shocking event. But this strategy of focusing attention on the prevention of nuclear terrorism requires that policies and requirements be stronger than those that the Washington summit, and likely the Seoul summit, will require. It requires the development of an international nuclear security regime that emphasizes transparency of action, shared standards, and confirmed performance and accountability by nations.

The upcoming meeting should build on the success of the first NSS by moving beyond the current elements of the regime and creating the foundation for the construction of an improved governance structure for nuclear security – one that is comprehensive, standardized and accountable. If this policy evolution process can be initiated at the Seoul summit and can be continued in subsequent summits, it would help significantly strengthen and expand the existing nuclear and radiological material security regime.

### **Advancing Nuclear Material Security**

The 2010 Washington summit solidified and underscored the key elements of the current nuclear material security regime, but it did not require countries to take any specific action beyond those that they wanted to take. The most specific actions toward nuclear material security improvements—many important—were declared unilaterally by individual nations in attendance. The summit communiqué and work plan only outlined specific actions and policy objectives without making implementation mandatory<sup>3</sup>.

This may have been an acceptable outcome in 2010 at an inaugural summit. But circumstances have changed over the past two years, particularly as a result of the nuclear reactor accident at Fukushima in Japan. While for many nations, including some of those in attendance in Washington, nuclear terrorism remains an abstract and distant threat, Fukushima underscored that nuclear disasters can occur in an extremely technologically advanced country, as a result of an unanticipated event, and have significant economic and social consequences. In addition, the accident at Fukushima made it clear that the global community does not have an adequate system in place to deal with nuclear crises that extend beyond borders.

In fact, in the aftermath of the Fukushima accident a number of high-level international discussions were held, including at the IAEA and the United Nations (U.N.). As a result of a conference on nuclear safety

and security held in September 2011, the U.N. Secretary General, Ban Ki Moon, declared that, “The effects of nuclear accidents respect no borders. To adequately safeguard our people, we must have strong international consensus and action.”

The current nuclear material security regime has improved but it still lags behind the safety, nonproliferation, and arms control regimes. At the very least all of these other regimes require some element of transparency and/or verification of commitments. The current nuclear security regime is still very much designed and controlled by national agencies and actors and remains individualized to specific nations. International obligations are largely voluntary with no uniformity of security regulations or procedures. These are major gaps in the regime in comparison to other, related nuclear issues.

What is needed is a confidence building architecture that emphasizes demonstrated performance and accountability. It must be comprehensive and include clear but flexible standards<sup>4</sup>.

### **U.S. International WMD Security Program Budgets**

U.S. funding for nuclear material security is significant, operationally important, and politically symbolic. But, it has been inadequate. The Obama administration’s first budget request for international WMD security programs in fiscal year 2010 (FY10) was seven percent below the Bush Administration’s final FY09 appropriations when the budgets for the Department of State, Defense (DoD), Energy, (DoE) and Homeland Security (DHS) are combined.<sup>5</sup> This was a missed opportunity to propose the funding necessary to achieve its high priority nuclear security goals, particularly the President’s four year effort to secure all vulnerable nuclear materials. While the Obama administration brought a renewed and expanded focus on WMD security and nonproliferation, the revitalized agenda was not matched with sufficient funding or new initiatives to achieve the President’s ambitious goals.

The FY11 request for international WMD security programs provided a significant boost to nuclear and biological security programs.<sup>6</sup> The Obama administration touted this request as the “largest ever” for cooperative nuclear security programs in the U.S. national statement at the 2010 NSS.<sup>7</sup> However, Congress did not support the request and cut funding significantly in the final appropriation. The Administration’s FY12 budget request was far less ambitious than its FY11 request, reducing funding for WMD security programs in NNSA, DoD, and the Department of State. However, gaining support for even this lower level of funding was a fight in Congress. Thankfully the Senate opposed the deep cuts recommended by the House, and the final appropriation bill included only small cuts to the request.

The Obama administration’s FY13 budget request dramatically reduces funding for international WMD security programs from their FY12 appropriated level.<sup>8</sup> While DoD’s CTR program funding is slightly increased overall, CTR’s Global Nuclear Security program is targeted for a 17 percent cut. Requested funding for NNSA is nearly a quarter below the FY12 appropriation. While the out year funding charts from the Administration’s original FY10 budget request showed steady growth for NNSA’s Global Threat Reduction Initiative (GTRI)—one of the two key programs implementing the four year goal – its funding has fallen short of these projected

goals each year. Further, the initial out year projections for NNSA's International Nuclear Materials Protection and Cooperation (INMPC) program – the second key implementer of the four year goal— showed funding steadily rising for its globally-oriented Second Line of Defense (SLD) program while its FSU-focused activities declined. This has not occurred. In FY13, requested funding for SLD is more than 80 percent below the Obama administration's initial projection for the program and \$171 million below the FY12 appropriated level. Such dramatic cuts in a globally-recognized U.S. anti-nuclear smuggling program in such a critical year sends the wrong message – to allies and enemies.

The SLD cut amounts to a vote of decreasing confidence in one of the U.S. key nuclear terrorism prevention strategies. It sends the wrong signals to other countries and undermines our leadership. Approximately 6,000 radiation detectors have been installed by DHS' Securing the Cities Initiative in New York City alone, and new technologies continue to be innovated. Why are we pushing aggressively forward with this strategy at home but pulling back in other parts of the globe?

The SLD Core program has deployed about 2,000 monitors in high threat areas, primarily in the FSU. But critical parts of this work remain undone. Key countries, such as Moldova and Belarus, are unequipped and do not have the resources to do this work themselves. To fully benefit from the investments already made, it is imperative that funding be provided to complete this crucial work. Further, there are 41 SLD Megaports in 29 countries around the world. The human capacity and infrastructure that has been built to manage the program cannot be maintained under the FY13 request. Host countries are taking responsibility for the management and sustainability of these ports because U.S. diplomats and technical personnel convinced them that this work was vital to global security. If the FY13 cuts are enacted, the U.S. will not be able to live up to plans it has with Korea and China to do Megaports deployments in those countries.

The nuclear smuggling threat has not abated, so why did SLD program funding decrease 65 percent from the FY12 to FY13 request? Some have suggested that terrorists will use unequipped pathways to avoid detection, but this is not as simple as it sounds. Even if the Megaports and Core sites are avoided, they've seriously complicated smugglers' efforts and increased the opportunity for them to be deterred or detected.

### **U.S. Government Efficiency in Nuclear Material Security Efforts**

The Government Accountability Office (GAO) has conducted a number of investigations into the U.S. government's efficiency in pursuing its nuclear material security objectives and living up to its responsibilities. From among the many worthwhile recommendations proffered by GAO in recent years on combating nuclear terrorism and strengthening nuclear security, I will limit my comments to a few in particular.

Most recently, GAO released its annual report on reducing duplication, overlap, and fragmentation in the federal government which cited its concerns about the coordination of federal programs involved with preventing and detecting nuclear smuggling activities overseas.<sup>9</sup> GAO recommended that a comprehensive review should be undertaken to address the “strategic

planning limitations and potential fragmentation and overlap concerns among programs.” Among these programs was SLD. I believe an interagency process exists to actively coordinate the various U.S. nuclear smuggling-related programs. They all come together under the Global Nuclear Detection Architecture that DHS’ Domestic Nuclear Detection Office is charged with creating. It is also important to keep in mind that each program has been tailored to meet a specialized need in the fight against nuclear smuggling.

In December 2011, GAO released a study on program management and coordination challenges associated with NNSA’s Defense Nuclear Nonproliferation (DNN) account that include its nonproliferation programs.<sup>10</sup> Among GAO’s recommendations are extending the timeframes that allow DNN programs to receive foreign contributions. These program authorities are set to expire between 2011 and 2015. GAO found that three programs received more than \$47 million in foreign contributions from seven countries from fiscal year 2006-2010, including INMPC and GTRI. I am a strong supporter of increasing the eligibility of U.S. programs to accept outside funding and encourage Congress to follow through with GAO’s authority extension recommendation.

In September 2011, GAO reported on the U.S.’ inability to fully account for U.S. nuclear material sent overseas as part of civilian nuclear cooperation agreements.<sup>11</sup> It noted that while cooperation agreements often require partners to report inventory information upon request, it has not been systematically sought by the U.S. agencies, including for weapons-usable materials. These agreements also do not include specific access rights for U.S. officials to monitor and evaluate the physical security of materials sent overseas. Some reviews have been permitted by states, but U.S. agencies have not systematically visited countries for this purpose, including those with the highest proliferation risk U.S. materials. GAO recommends that Congress direct DoE and the Nuclear Regulatory Commission (NRC) to compile an inventory of U.S. nuclear materials that are overseas, but DoE, NRC, and Department of State have objected to this. I support GAO’s recommendation. It is something that should have been an element of the President’s four year effort.

In December 2010, the GAO released a report on its investigations of U.S. efforts to implement President Obama’s goal of securing all vulnerable nuclear material around the world within four years.<sup>12</sup> GAO looked at the U.S. government’s interagency strategy, the status and challenges that U.S. programs face in Russia, and their activities worldwide. A key finding was that the interagency strategy created by the National Security Council on the four year goal was unclear and lacked vital details. According to GAO, the “strategy lacks specific details concerning how the initiative will be implemented, including the identity of vulnerable foreign nuclear material sites and facilities to be addressed, agencies and programs responsible for addressing each site, planned activities at each location, potential challenges and strategies for overcoming those obstacles, anticipated timelines, and cost estimates.”<sup>13</sup> These shortcomings identified by GAO are significant. They indicate the need to evolve the mandates and budgets of U.S. nuclear security programs to today’s changing new nuclear security environment.

## **The Four Year Goal for Securing All Vulnerable Nuclear Materials**

In April 2009, President Obama first announced a four year international effort to secure all vulnerable nuclear materials within four years. Since that time, the G-8, UNSC, and 2010 NSS participants have endorsed it.<sup>14</sup> As a result, it clearly has been a success in rallying international political support for an important security issue. However, nearly three years since its announcement, its practical scope and targets have still not been defined. This was a major shortcoming and it makes it nearly impossible to judge progress made in achieving it.

No new activities have been initiated under the four year effort. Instead, projects already in the pipeline were simply accelerated and branded as “four year goal” activities. Examples of this include the proposed HEU removals from Belarus, Mexico, South Africa, and Ukraine.

The four year goal objective needs to be phased out. It is not a useful framing of the nuclear material security challenge which requires constant vigilance and adaptation of material protection mechanisms to meet new and emerging threats. While it may be possible to significantly raise the bar for nuclear security within four years, it is unrealistic to put an end date on such efforts if quality is to be sustained. And there should be no illusion that by the end of 2013 that all vulnerable nuclear materials will be secured. They will not be.

Between now and 2020, a bolder agenda with creative new initiatives should be pursued by the U.S. and its allies. In particular, one area that could make an important security impact and is ripe for collaboration in the near-term is radiological source security. There is a serious problem with the security of radiological sources around the world. The IAEA estimates that there are 100,000 to 1 million radiological sources around the globe, and no one has an accurate accounting.<sup>15</sup> Only a small fraction of these sources are well-suited for a terrorist device, and their locations are largely known and could be secured for a reasonable cost. Many facilities with high-intensity sources are in open environments, such as universities and hospitals.

Countries should ensure that high-intensity radiological sources used in publicly-owned building have robust security in place, and they should start by focusing on major metropolitan hospitals. NNSA’s GTRI operates a program in the U.S. in which it partners with hospitals and other facilities with priority radiological sources to identify and fund security upgrades. Approximately 500 U.S. hospital buildings with high-priority radiological sources could be secured for \$200 million or less. GTRI also has an active program in dozens of nations designed to remove and protect vulnerable nuclear and radiological materials. For example, GTRI has worked with partners in the Middle East and Africa to secure more than 80 sites with radiological sources.

Congress should consider sponsoring a U.S.-international initiative to create “Radiological Security Zones” in key regions around the world. GTRI’s experience makes it well-suited to lead U.S. engagement on this type of zone. They would work with countries to analyze different classes of radiological materials, review national level regulations and inspections, and discuss threat scenarios and security upgrade options. Installing passive monitoring systems that feed real-time data to a remote regional monitoring center that is jointly staffed by international experts could be an important element of making the zone attractive to countries as an effective

security tool and regional confidence building measure. It could be a stepping stone to new regional collaborations on advancing nuclear material security, and a marquee project to pursue in advance of the 2014 NSS.

### **Need for a Nuclear Security Governance Framework Agreement**

For all of its improvement over the last 10 years, the nuclear material security regime remains a gap-filled and largely voluntary patchwork of programs, regulations, and agreements. The Seoul summit and its corollary events, including the expert and nuclear energy industry symposia provide a window of opportunity to begin to reframe the nuclear material security debate and develop new strategies and policies.

While the NSS has taken the important step of establishing global fissile material security as a top-level international objective, a more robust, effective, and flexible 21<sup>st</sup> century nuclear material security architecture will require actions beyond the current mechanisms and international consensus. What is needed is an international nuclear security regime that emphasizes transparency of action, shared standards, and confirmed performance and accountability by nations. If this policy evolution process can be initiated at the Seoul summit and can be continued in subsequent summits, it would help significantly strengthen and expand the existing nuclear and radiological material security regime.

A Nuclear Material Security Framework Agreement is one approach to evolving the regime. Framework agreements addressing transnational challenges have precedent, particularly in the environmental area. They unify the elements of fragmentary regimes and root national obligations in international law. A Nuclear Material Security Framework Agreement would identify vulnerable nuclear material threats, list the actions required to mitigate them, and be supplemented with clear principles that frame the development of the new agreement and its possible protocols. Models for the framework agreement on nuclear material security include the Vienna Convention and Montreal Protocol, the UN Framework Convention on Climate Change (UNFCCC), and the Convention on Nuclear Safety (CNS).

The Vienna Convention established the precedent of countries agreeing to general principles in an accord before negotiating additional implementation protocols with specific binding actions. Negotiations on the Montreal Protocol, a binding protocol to the Vienna Convention, took approximately one year and included special provisions to enable the long-term adaptability of its targets and limits. Like the Vienna Convention, the Montreal Protocol was not accepted initially by all nations, but some key nations exercised leadership and its membership grew over time.

The UNFCCC and its protocols are modeled after the Vienna Convention. The UNFCCC also includes a high-level international scientific advisory panel that could be a model for a similar expert group supporting the nuclear material security framework agreement. The climate change panel only includes government representatives, but a nuclear material security version could be expanded to nongovernmental and private sector experts.

The CNS is an international agreement with which all nuclear operators are familiar. There are four major elements embodied in the CNS that have been critical to the improvement of safety over time: regularized assessments, information sharing, peer review, and reviews of the implementation of relevant international conventions. The nuclear safety regime could offer a useful platform from which to begin the evolution of nuclear security governance. According to the results of a 2010 GAO survey of CNS parties and relevant international organizations, most believe that the convention has been useful for strengthening the safety of civil nuclear power worldwide, and many cited its establishment of an effective legislative and regulatory framework and regulatory body and national reporting as key reasons why.<sup>16</sup>

The approach to building a modernized governance regime should be careful and deliberate so as not to raise suspicions about hidden agendas or ulterior motives. It must balance sovereignty concerns with international requirements. It should also include a nongovernmental track that can supplement governmental action, or more likely precede it by identifying paths forward and strategies that governments can then consider.

This two track approach—governmental and nongovernmental— should be used to develop the framework agreement in two phases: 2012-2016 and 2017-2020. The long-term objective is to establish a new nuclear governance performance-based architecture in the form of a Nuclear Material Security Framework Convention that is followed by actionable protocols. To build toward that objective in the near-term, a governmental track would continue the NSS process, seek near-universal implementation of key international conventions, and unite a coalition of countries willing to take preliminary steps to evolve nuclear security governance. The nongovernmental track would complement these efforts through the creation of a geographically diverse Global Nuclear Governance Experts Group that would develop policy recommendations and a draft text of a Framework Agreement. This process, moving along dual tracks, should be able to deliver a concrete progress for the 2014 NSS in the Netherlands and beyond.

## **Conclusion**

The NSS process has created a new and unique channel for the improvement of nuclear material security and the prevention of nuclear terrorism. It has created a very important, high level political process that did not exist before. It offers the opportunity for making progress on a scale that otherwise would not exist and would have had to be done country-by-country. But, the consensus-based approach of the process is not well suited to the development of dynamic new policies, the policy objectives are not binding on any nation, and the national commitments are completely voluntary. As a result, additional steps beyond what the NSS likely can deliver, and in support of the continued improvement in the security regime once the summits have ended (if they do), are required to build a stronger security regime for this new century. The upcoming summit and its corollary events, including the expert and industry symposia provide a window of opportunity to begin to reframe the nuclear material security debate and develop new strategies and policies.

Most important among these objectives should be the development of a Nuclear Material Security Framework Convention and subsequent actionable protocols. The framework

agreement precedents have made clear that this approach is neither radical nor uncommon. The nuclear material security regime is at present fragmented and incomplete. A framework convention can unify it and fill the policy voids. It can begin by taking advantage of the elements that exist in the nuclear safety regime – including regular assessments, information exchange while protecting confidentiality, transparency to generate international confidence, and limited peer review – since most specialists are familiar with this regime and because it has been operational and effective for many years. The concept of the four year nuclear material security goal needs to be phased out, and the priority of protecting high-intensity radiological sources elevated.

Congress can provide leadership on the nuclear security issue this year by taking several steps. The first is ensuring adequate budgets for international nuclear materials security and certifying that the funds are used effectively. Second, it can authorize and fund a new U.S.-led international initiative to work with countries in key regions around the world to create “Radiological Security Zones.” Participants in this initiative could begin by focusing on securing all high-intensity sources in public-buildings, starting with major metropolitan hospitals, and utilizing passive monitoring systems and harmonizing regulations. Third, it can and should also support the needed dialogues among international regulators and nuclear facility security personnel. Finally, it should encourage the administration to think more about the need to improve nuclear security governance and the value of a framework agreement that can unify and improve the current global security regime.

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<sup>1</sup> Jesse Lee, “An Enormously Productive Day,” White House Blog, April 13, 2010, <http://www.whitehouse.gov/blog/2010/04/13/enormously-productive-day>.

<sup>2</sup> Michelle Cann, “2010 Nuclear Security Summit National Commitment Implementation,” U.S.-Korea Institute at SAIS, March 1, 2012, <http://uskoreainstitute.org/publications/working-paper-series/nss2012/cann0312/>.

<sup>3</sup> The 2010 NSS documents can be found at <http://www.whitehouse.gov/blog/2010/04/13/enormously-productive-day>

<sup>4</sup> This definition has been developed from various sources including the author’s work and that of Anita Nilsson, former Director of the Office of Nuclear Security at the IAEA, and Kenneth Brill, former U.S. Ambassador to the IAEA.

<sup>5</sup> Michelle Marchesano, Raphael Della Ratta, and Kenneth Luongo, “UPDATED: Funding Analysis of the Fiscal Year 2010 Budget Request for International WMD Security Programs,” Partnership for Global Security, July 2009, [http://www.partnershipforglobalsecurity.org/documents/updated\\_analysis\\_of\\_fy10\\_budget\\_request.pdf](http://www.partnershipforglobalsecurity.org/documents/updated_analysis_of_fy10_budget_request.pdf).

<sup>6</sup> Michelle Marchesano and Raphael Della Ratta, “Preliminary Funding Analysis of the FY11 Budget Request for International WMD Security Programs,” Partnership for Global Security, March 23, 2010, [http://www.partnershipforglobalsecurity.org/PDFFrameset.asp?PDF=fy11\\_wmd\\_budget\\_request\\_analysis.pdf](http://www.partnershipforglobalsecurity.org/PDFFrameset.asp?PDF=fy11_wmd_budget_request_analysis.pdf).

<sup>7</sup> Office of the Press Secretary, The White House, “Nuclear Security Summit National Statement of the United States,” April 13, 2010, <http://www.whitehouse.gov/the-press-office/nuclear-security-summit-national-statement-united-states>.

<sup>8</sup> Obama Administration Slashes Nuclear Security Funding: FY13 Budget Request for U.S. International WMD Security Programs,” Partnership for Global Security, February 14, 2012, [http://www.partnershipforglobalsecurity.org/PDFFrameset.asp?PDF=fy13\\_budget\\_request.pdf](http://www.partnershipforglobalsecurity.org/PDFFrameset.asp?PDF=fy13_budget_request.pdf).

<sup>9</sup> “Opportunities to Reduce Duplication, Overlap and Fragmentation, Achieve Savings, and Enhance Revenue,” Government Accountability Office, GAO-12-342SP, February 27, 2012, <http://www.gao.gov/products/GAO-12-342SP#mt=e-report&st=2>.

<sup>10</sup> “Action Needed to Address NNSA’s Program Management and Coordination Challenges,” Government Accountability office, GAO-12-71, December 14, 2012, <http://www.gao.gov/products/GAO-12-71>.

<sup>11</sup> “U.S. Agencies Have Limited Ability to Account for, Monitor, and Evaluate the Security of U.S. Nuclear Material Overseas,” Government Accountability office, GAO-11-920, September 8, 2011, <http://gao.gov/products/GAO-11-920>.

<sup>12</sup> “Comprehensive U.S. Planning and Better Foreign Cooperation Needed to Secure Vulnerable Nuclear Materials Worldwide,” Government Accountability Office, GAO-11-227, December 15, 2010, <http://www.gao.gov/products/GAO-11-227>.

<sup>13</sup> “Nuclear Nonproliferation: Comprehensive U.S. Planning and Better Foreign Cooperation Needed to Secure Vulnerable Nuclear Materials Worldwide,” Government Accountability Office, GAO-11-227, December 2010, <http://www.gao.gov/assets/320/313961.pdf>.

<sup>14</sup> “Remarks by President Barack Obama,” Hradcany Square, Prague, Czech Republic, April 5, 2009, [http://www.whitehouse.gov/the\\_press\\_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered](http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered); “Historic Summit of Security Council Pledges Support for Progress on Stalled Efforts to End Nuclear Weapons Proliferation: Resolution 1887 (2009) Adopted with 15 Heads of State, Government Present,” Security Council SC/9746, September 24, 2009, <http://www.un.org/News/Press/docs/2009/sc9746.doc.htm>; “Addressing the Nuclear Threat: Fulfilling the Promise of Prague at the L’Aquila Summit,” White House, July 8, 2009, [http://www.whitehouse.gov/the\\_press\\_office/Addressing-the-Nuclear-Threat-Fulfilling-the-Promise-of-Prague-at-the-LAquila-Summit](http://www.whitehouse.gov/the_press_office/Addressing-the-Nuclear-Threat-Fulfilling-the-Promise-of-Prague-at-the-LAquila-Summit); “L’Aquila Statement on Non-Proliferation,” G-8 Summit Official Documents, July 7, 2009, [http://www.G8italia2009.it/static/G8\\_Allegato/2\\_LAquila\\_Statent\\_on\\_Non\\_proliferation.pdf](http://www.G8italia2009.it/static/G8_Allegato/2_LAquila_Statent_on_Non_proliferation.pdf).

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<sup>16</sup> “Convention on Nuclear Safety Is Viewed by Most Member Countries as Strengthening Safety Worldwide,” Government Accountability Office, GAO-10-489, June 1, 2010, <http://www.gao.gov/products/GAO-10-489>.