

**THE NUCLEAR SECURITY SUMMIT:
ACHIEVEMENTS AND AGENDA FOR ACTION**

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Mr. Chairmen and members of the committee, thank you for the invitation to testify before you today on the need to stop the spread of nuclear weapons. I am pleased to offer my testimony on the results of the recently held Nuclear Security Summit and to suggest some steps that would move us beyond the summit's results as we look forward to the second summit to be held in the Republic of Korea in 2012.

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 non-governmental experts the day before the official summit. 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.

I applaud the committees 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.

Results of the Nuclear Security Summit

The April 12-13, 2010 Nuclear Security Summit in Washington, D.C. was an unprecedented event. It also was a significant success. It brought together 47 nations and three international organizations to discuss how to prevent nuclear terrorism by improving global nuclear material security. It included 38 heads of state, plus the Secretary General of the United Nations, the Director General of the International Atomic Energy Agency (IAEA), and the President of the European Union. There has never been such a gathering of high level political officials to discuss this subject. And, high level political attention is essential to motivate rapid action on this important agenda.

The participants 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), a weapon useable nuclear material to low-enriched uranium (LEU); and recognized the importance of the Convention on the Physical Protection of Nuclear Material as amended and the International Convention for the Suppression of Acts of Nuclear Terrorism 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 U.N. Security Council Resolution 1540, and support the Global Initiative to Combat Nuclear Terrorism and the G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. It also recognizes the continuing importance of the IAEA and its guidelines. It underscores the need for robust and independent nuclear regulatory capabilities in all countries, the requirement for the prevention of nuclear trafficking, and the improvement in nuclear detection and forensics. It further highlights the fundamental role of the nuclear industry in the nuclear security agenda and the importance of sharing best security practices and the human dimension of nuclear security. Perhaps the most far reaching 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 conversion of HEU-fueled reactors to LEU fuels. In keeping with the need to maintain consensus on these high level objectives the work plan offers many caveats including allowing individual nations to implement many of these objectives “as appropriate”.

In addition to the work plan, 29 individual countries made commitments for improving security at home. The highlights of these commitments included the removal of all the remaining HEU in Ukraine by 2012, including half by the end of this year; Canada agreeing to return a large amount of spent fuel containing HEU to the U.S.; the U.S. and Russia signing an agreement to implement the plutonium disposition agreement; and the decisions by India and China to establish nuclear security centers of excellence.

Finally, there were some funding commitments that were made at the summit. These included a pledge of \$6 million by the U.K. and \$300,000 by Belgium for the IAEA’s Nuclear Security Fund, \$100 million from Canada for security cooperation with Russia, and a call by President Obama for an additional \$10 billion for the G-8 Global Partnership.

While all of these achievements are important, there are three areas where the summit could have done more. The first is on the funding issue. I had hoped for more international funding for the nuclear security mission. At the very least, the IAEA's nuclear security office is in need of significant additional funding. Second, the issue of radiological material security was not afforded a high priority at the summit. While it was referenced in both the communiqué and the work plan, my understanding is that a number of countries would have liked to have seen that issue be a higher priority. This could be on the agenda for the 2012 summit. Finally, there were no new initiatives announced. While there may be some international fatigue with the current set of activities, when combined, they are still inadequate to the task of effectively preventing nuclear terrorism. At the very least there is a need for a nuclear security framework agreement that incorporates existing and new activities in a coherent and organized document that can address the transnational nature of the challenge and forcefully drive international action.

Why 2010 is Important

This year the Obama administration and the Congress will have four unique opportunities to strengthen America's defense against nuclear terrorism and expand the global coalition that can support the President's goal of securing all vulnerable nuclear materials around the globe in four years. This objective received a bipartisan standing ovation at the State of the Union speech. But, if both ends of Pennsylvania Avenue follow a business as usual approach, we could end up less secure as a result.

The first opportunity was last week's Nuclear Security Summit. It was preceded by the new START agreement with Russia to further reduce deployed nuclear arsenals and address the legacy of the Cold War, and the Nuclear Posture Review which addresses how we will configure and use the U.S. nuclear arsenal. Taken together these were important steps that could help bolster the goals of the U.S. to strengthen the global effort to prevent new nuclear weapons states and enforce the Nuclear Non-Proliferation Treaty (NPT).

The second opportunity is the NPT Review Conference. NPT is the foundation for nuclear nonproliferation efforts around the world and the international community will gather in May in New York for an assessment of the treaty. Here, the focus will likely be more on the disagreements among nations than their common challenges, particularly as it relates to nuclear disarmament and the Iranian nuclear program. But it is an opportunity to address a number of global nuclear challenges including nuclear material security dangers. The NPT has broad international legitimacy which is critical and an institution in the form of the IAEA that is heavily relied upon by many nations. But the NPT and the IAEA have never been perfect barriers against nuclear leakage and weaponization. This is why the nuclear material security mission is such an essential corollary to the NPT.

The next opportunity is the joint meeting in Canada of the G-8 and G-20 nations. The G-8 Global Partnership will be a subject of discussion at the meeting and I hope that this initiative will be re-shaped, re-energized, and re-financed so that its focus is global and its

implementation effective. Additionally, the G-20 nations, now solely addressing economic issues, should become more concerned with global security issues (including nuclear dangers), and offer their contributions to the effort.

The final opportunity rests with the Congress. The president has requested a \$320 million increase for nuclear security activities in the FY11 budget and the Congress will need to act on that request beginning this Spring.

Need for Robust Funding

Last year President Obama made a very bold pledge to “secure all vulnerable nuclear materials around the world within four years” in order to prevent a nuclear terrorist attack, but he then offered up a budget for 2010 that was less than the last budget of the Bush administration. The fiscal year 2011 (FY11) budget request of \$3.1 billion for international weapons of mass destruction (WMD) security programs gives a significant boost to nuclear and biological security programs. It also corrects some of the shortfalls of the FY10 budget. These included a decline in overall National Nuclear Security Administration (NNSA) program funding and limited growth in the budget and mission of the Department of Defense (DoD) Cooperative Threat Reduction (CTR) program.

Notably, the FY11 budget includes an additional \$320 million over FY10 to support the four year effort to secure all vulnerable nuclear materials around the world. This includes: a sizable funding increase for NNSA’s Global Threat Reduction Initiative’s (GTRI) nuclear removal program; a modest increase in NNSA’s International Nuclear Materials Protection and Cooperation (INMPC) program; and funding for a new nuclear security initiative in the DoD CTR budget.

Among all of the U.S. agencies, there is just one new initiative, CTR’s Global Nuclear Lockdown program at a requested \$74 million. The remainder of the budget mainly accelerates existing activities, but it doesn’t expand their scope. There are a number of new initiatives that the Administration could have proposed that would have both justified higher spending and improved the nuclear security effort. I will detail some of these options later in my testimony.

There are two key programs in NNSA that are carrying out the bulk of the four year commitment – the International Nuclear Materials Protection and Cooperation (INMPC) program and the Global Threat Reduction Initiative (GTRI). In the INMPC budget the biggest FY11 increase (\$34 million) is to continue security upgrade work at Russian nuclear weapons related facilities, a mission that the Department of Energy (DoE) has been engaged in since 1994. Today, as has historically been true, the overwhelming percentage of the nuclear material protection funding in this program’s budget (about \$300 million in FY10) is directed at Russia. There is little for other efforts around the globe.

The biggest FY11 increase is in the GTRI budget for nuclear material removals (\$211 million). This funding is in part slated to increase the removals of highly-enriched uranium in 2011 and to plan for even more accelerated removal in 2012. This is

extremely important work but perhaps not as dramatic as the President’s “global” pledge might indicate. The handful of countries targeted for this accelerated removal, at least in 2011, have dangerous nuclear material that is better off removed. But some of these countries, while high priorities, may not be considered the highest priority nuclear dangers on the globe (they include Mexico, South Africa, Germany, Slovakia, Ukraine, and Belarus).

Similarly, the DoD Global Nuclear Lockdown program, which is a \$74 million new initiative for CTR, supports the President’s four year objective. But, what’s really new here is a request of \$30 million for Nuclear Security Centers of Excellence. The first of these, if approved, will likely be outside the Russia/former Soviet Union region. But the remainder of the \$44 million in this initiative is slated for activities in Russia mostly supplementing activities that NNSA and CTR already have been doing.

The requested State Department budget to combat WMD proliferation and promote global threat reduction is down over \$5 million, or by about 3 percent. This includes a substantial \$18 million cut in the Nonproliferation and Disarmament Fund (NDF). This can in part be explained by the fact that the NDF was until this year the only program in this area that had “notwithstanding” authority, which meant it could spend its funding as circumstances dictated without receiving congressional approval, including funding projects implemented by other government agencies. But in the current year, the Congress granted limited notwithstanding authority to a number of threat reduction programs. But State is a valuable partner with NNSA and DoD and at the very least its funding should match that of FY09, which would require a \$34 million increase. However, one notable addition to the Department of State’s FY11 request is \$3 million to support the implementation of UN Security Council Resolution 1540 which requires countries to implement supply-side controls on equipment and materials relevant to nuclear, chemical, and biological weapons and criminalize proliferation activities within their territories.

Also in the NNSA account, what is not made clear in the budget documents is that the radiological protection budget in particular has been sacrificed to some degree in the short term to pay for the nuclear security initiative. It’s a little tricky to figure this out and it requires analyzing past years budgets as well as past and present out year spending projections. But the radiological protection budget has dropped each year since 2009 and it spikes in the out years seemingly to compensate for its lower priority now. The radiological removal budget, is boosted in the FY11 request (in part to compensate for a congressional reduction in FY10) but could be higher given the plethora of sources at home and around the globe and the higher likelihood (though significantly lower impact) of a dirty bomb attack over a nuclear attack.

The nuclear detection budget in DHS is roughly steady compared to the FY10 level, despite that agency being tasked with the development of a global nuclear detection architecture.

Despite the limitations of the proposed budget, some in Congress have questioned the NNSA budget increase and whether it can all be spent in fiscal year 2011. This is not an idle challenge in a tough budget year, especially since any reductions by one committee can set the tone for others.

But, the real question should be whether we can afford *not* to aggressively finance the President's four year goal. Compare the budget for locking down nuclear weapons and materials with another global challenge like climate change. In 2007, climate change funding was at \$6.5 billion –over triple what we spend today on nuclear security. And nuclear security spending is only about one-third of 1% of the total defense budget this year.

I would argue that the Congress should be the strongest possible partner in the global nuclear security process by not only fully funding the FY11 budget request but going beyond it.

First, it should correct the FY10 budget shortfalls by providing supplemental appropriations funding of \$115 million. At the very least the FY10 cut to the GTRI program should be reversed and its funding restored at least to the FY09 level of \$395 million (an addition of \$62 million). This could help boost the radiological mission at a minimum. Similarly, the INMPC budget should be closer to \$625 million (an addition of about \$53 million) to allow for additional activities outside of Russia.

Then the FY11 budget should be front loaded to ensure adequate funding for existing and new opportunities. In order to accomplish the President's four year goal, a more realistic budget for both the INMPC and GTRI programs needs to be constructed. For INMPC funding of about \$650 million in FY11 and then growth up to an average of about \$700-\$750 million per year for FY12-15 seems warranted. Half of this amount could be directed to nuclear security improvements in Russia, the former Soviet states, and other regions and countries of concern. The other half of the funding could be used for the second line of defense. In order for GTRI to accelerate the removal of high priority nuclear and radiological materials and meet its research reactor conversion objectives its FY11 budget should be in the \$560-600 million range. It should then grow to about \$700-\$750 million per year for FY12-13 and then top out at over \$800 million per year in FY14 and 15. This would reduce some of the bubble-like growth in the program's currently projected FY14 budget and allow it to ramp-up its activities more effectively in support of the President's objectives.

In addition, the radiological security mission should be boosted. A large numbers of radiological sources exist in the United States, and many are in public buildings. Hundreds of thousands of these sources can be found abroad. As a result, the challenge of securing all radiological materials is significant, but it can seem too unwieldy. The administration at the very least, should commit to secure all the radiological sources in public buildings, beginning with major metropolitan hospitals, in the U.S. on an accelerated timetable.

Further, the congressional limit on nuclear security spending in Russia and the former Soviet states begins in FY12. This needs to be modified so that the Russia-focused programs can continue. This is especially important not just because the job will not have been completed in that country by that date, but also because security equipment installed at the start of this cooperation in the early and mid-1990s is nearing the end of its life expectancy and is becoming obsolete. Improvements on the original security measures, therefore, may be required.

And finally, the President should leverage the momentum created by the Nuclear Security Summit at the June meeting of the G-8 and G-20 countries to generate support for a global fund for WMD security that should total \$2.5-3.0 billion per year over the next ten years. This would underscore the need for continued multilateral involvement in this area and make clear to recipient nations that there is a renewable WMD security investment fund that they can utilize.

At the end of the day the President's four year goal is may not be met in the timeframe he has endorsed for budgetary, bureaucratic, and diplomatic reasons. But, incrementally funding the fight against nuclear terrorism is a prescription for making it more likely rather than reducing its likelihood. If nuclear terrorism occurs the cost of the response will dwarf the cost of its inadequately funded prevention.

Where Do We Go From Here

The President has taken an important step forward in establishing global fissile material security as a top-level international objective. But, this mission will require actions beyond the current mechanisms and the international consensus that has been generated around them. New policy initiatives will be required to achieve this objective. Below are some proposals for post-summit activities and new initiatives that can be addressed domestically and internationally.

In the post-summit period it will be important to keep the dialogue among nations moving, expand the engagement beyond just the summit attendees and also to report on progress. Therefore several activities should be initiated:

- **Regular Technical Dialogue:** These could be semi-annual bilateral and multilateral meetings among specialists from participating countries, as well as private sector and civil society representatives, when appropriate to assess progress on summit commitments and discuss new initiatives.
- **Annual Reporting on Implementation Progress:** The summit nations could issue annual public reports on steps taken to implement summit commitments.
- **Generate Support from All Nations:** Use the summit as a starting point for initiating and continuing regional security dialogues with countries not attending as well as drawing new private sector and nongovernmental partners into the nuclear security discussion.

In addition, there needs to be a **Fissile Material Security Framework Agreement**. At present there is no international framework agreement on fissile material security and, as

a result, no organizing force to drive this complex transnational issue. This framework agreement would identify the threats to humankind from vulnerable fissile materials, especially the threats posed by terrorists, and list actions required to mitigate them. A framework agreement would allow the subject to be acknowledged at a very high political level as a global priority and then require the adherents to take specific steps to achieve the agreement's objectives.

The framework could include a number of items and usefully package them so that its norms are unified, clear, and cohesive. For example, the framework could recognize all the relevant existing conventions, agreements, and Security Council resolutions, including conventions on the suppression of acts of nuclear terrorism and of terrorist financing and bombings. It could underscore the legitimacy of the ad hoc nuclear security mechanisms such as the CTR program, the Global Partnership, the Proliferation Security Initiative, the Global Initiative to Combat Nuclear Terrorism, and others. It could identify a minimum standard for nuclear and radiological material security based on IAEA standards, while encouraging implementation of the highest possible security standards through an intensive, global best-practices engagement process. In addition, it could encourage public-private partnerships in support of nuclear security and recognize the important role that the civil society sector plays in this area. This agreement should be universal, but it could begin with support from a coalition of the committed. Models for the framework include prior U.N. Security Council Resolutions the U.N. Framework Convention on Climate Change.

In the United States, the Congress and Administration could take a number of useful actions, including:

- **Secure All Radiological Sources in Public Buildings Beginning with Metropolitan Hospitals:** Radiological sources, which are in use in every major metropolitan hospital in the world, pose a danger if they fall into the wrong hands. The NNSA has completed a pilot project with the Hospital of the University of Pennsylvania to make all the hospital's radiological sources more secure and to initiate cooperation with the local authorities. In the United States, approximately 500 major metropolitan hospital buildings use radiological sources. At a cost of roughly \$250,000 per building, the total cost of securing all of them would be about \$125 million. The U.S. should commit to take this course of action and its partners should take similar actions in their countries.
- **Create a Nonproliferation Enterprise Fund:** Similar to past partnerships between the federal government and research universities to aggressively fund basic science research, this fund could support U.S. government partnerships with NGOs and universities for nonproliferation analysis and also provide support for the next generation of nonproliferation and technical nuclear security experts. The education and training support could be in exchange for some government service by the recipient. This project could begin with a modest initial investment of \$25 million.

- **Create a Nuclear Energy Industry Nonproliferation Fund:** Steps should be taken to ensure that the nuclear energy industry becomes a strong partner in the nuclear material security process. The nuclear industry held their own nuclear security conference the day after the official summit, entitled, *The Role of the Private Sector In Securing Nuclear Materials*. One idea for further integrating the industry into the material security agenda is to have them contribute to a security fund. For example, the President has proposed \$54 billion in loan guarantees for nuclear power construction. A small percentage of the underwriting costs (0.1%) of those guarantees should be devoted to nonproliferation funding, similar to the nuclear waste fee that industry now pays. Such a requirement would link the nuclear industry into the security debate, increase the pool of nuclear security funding, and offer a reputational benefit to the power sector. Of course, the industry may have other equally important alternative ideas in this area.
- **Elevate the Use of Financial Tools to First-Tier Nonproliferation Option:** The Treasury Department's "smart" sanctions program is a new tool in the U.S. nonproliferation arsenal that recognizes the reality of integrated global financial networks and utilizes them to combat proliferators. Better analysis of the economic leverage points (both punitive and incentive) that can be used on a national, regional, and global basis are needed and the economic component of the nonproliferation architecture needs to be better understood and utilized.
- **Modernize Metrics of Success:** The FY10 Defense Authorization Act directs the Secretary of Defense to "develop and implement" metrics for measuring CTR's "impact and effectiveness" and provides up to \$1 million for the Secretary to work with the National Academy of Science on this. The value of the softer, more intangible benefits of the threat reduction approach, such as cooperation and engagement, must be legitimized and formally integrated into modern metrics for success.

The following ideas could have resonance within the international community:

- **Strengthen the IAEA:** Developed countries should increase their voluntary contributions for 4 years and earmark the funds for the IAEA Nuclear Security Fund (with a goal of +\$150 million per year – equal to the IAEA safeguards budget). Key countries also should agree to train a specific number of additional nuclear security specialists for assignment at the IAEA.
- **Establish a Multilateral WMD Emergency Rapid Reaction Force:** Based on the success of the Proliferation Security Initiative, this proposal would establish a multilateral force that could be rapidly deployed to address an urgent nonproliferation or disarmament opportunity. It would delineate roles and responsibilities among nations; require dedicated funding for operations, transport, and training; and ensure that the necessary legal authorities are in place to allow for the rapid protection, extraction, and return of nuclear materials and

technology. This new initiative should also have a domestic U.S. corollary that includes policy objectives, funding needs, specific agency responsibilities, and success metrics. It should specifically assign roles and responsibilities to individual agencies for emergency/contingency nonproliferation operations (for example, requiring DoD to provide and pay for airlift in a timely fashion and identifying national laboratory technical specialists for missions).

- **Install Satellite Uplinks on Portal Monitors and Perimeter Security**

Equipment: The IAEA manages an Incident and Emergency Center to monitor nuclear reactor safety around the globe but the reporting is not done in real-time. This allows for sharing information on nuclear dangers, but it does not allow for real-time rapid reaction to threats. This existing concept could be expanded to the nuclear material security mission. It could include satellite uplinks on all portal monitors and perimeter security equipment that would provide real-time reporting on its operational status and immediately log security alerts and breaches at all civilian facilities that are monitored by the IAEA. A monitoring center could be manned by rotating international experts. But, the goal would be constant real-time monitoring of all nuclear facilities under safeguards and rapid global alerting and response to security breaches. This idea could also be expanded to nuclear weapons states that are not subject to IAEA monitoring. Because of the sensitive location of much of the security equipment in these states the information could be downloaded to a P-5 monitoring center that could be manned jointly by specialists from all five nations.

- **Create a Multi-Party Nuclear Security Hotline:** The satellite uplink effort could be supplemented with a multi-party nuclear security hotline that would allow for immediate communication surrounding suspicious incidents. Such a connection already exists between the United States and Russia to reduce the risk of a nuclear exchange stemming from accident, miscalculation, or surprise attack. These proposals are likely to meet stiff resistance from the nuclear bureaucracy in many states but that should not deter action in support of greater nuclear security.

- **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.

- **Accelerate Efforts to Consolidate and Eliminate Global HEU and Plutonium Stockpiles:** There are 1600 metric tons of HEU and 500 metric tons of plutonium around the globe and these stockpiles are growing. To address this danger there should be rapid implementation of the summit commitment to consolidate the number of locations at which the materials are stored. Countries should also

consider extending international monitoring over all civilian stockpiles and, in nuclear weapon states, over declared excess military fissile material as well.

- **Minimize and then Eliminate the Use of HEU:** There is general agreement within the technical community that HEU is the most attractive fissile material for a terrorist nuclear weapon. The Obama administration has a policy of encouraging the minimization of the use of this material and the summit communiqué called for its replacement with LEU in reactor operations. This should be a starting point but not the end point and ultimately there should be an agreement on a timetable for a phase-out and ultimate ban on the civil use of HEU.
- **Generate More Funding Commitments for the G-8 Global Partnership and Domestic Activities:** The G-8 Global Partnership does not limit its contributions to G-8 members. Over 20 nations now contribute through this mechanism. A number of the countries that participated in the nuclear summit are not Global Partnership donors and should be called upon to help provide the resources needed to operationally expand the Global Partnership's activities. Also, countries should be encouraged to spend more at home on nuclear security and receive credit from the international community for it. The goal should be to have an annual global fund of \$2.5.-3.0 billion.

Conclusion

The Washington Nuclear Security Summit has significantly raised the public profile of the nuclear material security and nuclear terrorism prevention issues. It also has resulted in some new commitments and actions that will be taken by participating nations. But the status quo for protecting the globe against nuclear terrorism is inadequate and additional steps need to be taken. First, the commitments made at the summit need to be implemented as rapidly as possible. By setting another meeting in the Republic of Korea for 2012, the summit participants have built in a forcing mechanism that will require them to fulfill their commitments. But, new initiatives need to be debated and implemented. Nuclear terrorism and nuclear security are complex transnational issues. Right now we have many disconnected components and there is no cohesive and integrated driving mechanism. The key to success in driving collective and unified action on this agenda in the wake of the summit is to integrate all the necessary tools into a comprehensive, flexible, legitimate, and globally focused next generation nuclear material security framework.