Issues Facing the Global Nonproliferation Regime

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Two years ago, I was privileged to come to this city to address an IAEA symposium on international safeguards and nuclear materials security. We met in the immediate aftermath of the September 11 attacks, which gave a pointed urgency to our discussions.

In my remarks of October 2001, I cited the IAEA's indispensable role in world security, and the danger if IAEA's budget stayed flat as its responsibilities grew. I noted the lack of any international requirement for the physical protection of nuclear material within a state, and called for an amended Physical Protection Convention with binding international requirements for in-state security. Finally, I announced a 3-year grant from NTI in the amount of $1.2 million to expand the Agency's ability to review security for nuclear facilities, identify needed security upgrades and organize contributions from member states to carry out the upgrades.

Today, two years later, the international community has moved forward in many important respects. But we have not seen the degree of urgent action necessary to prevent nuclear terrorism.

Let us recall that before September 11, many of us – especially those of us familiar with the inadequate security surrounding nuclear materials – had been harboring the hope that we had time to attend to these deficiencies and that even if hostile groups could acquire nuclear weapons and launch a nuclear attack – that no one would. We had the hope that there was an element of human decency in even the most hate-filled human beings that would hold them back from the massive killing of innocents.

September 11 shattered that hope. We understood on that day that if we are to prevent nuclear terrorism, we have to aggressively block terrorists in their efforts to acquire nuclear weapons and materials. The most stunning fact of September 11 – and what alarms me most today – is not that September 11 happened, as horrid and wicked as it was. What alarms me most is that September 11, after it happened, did not give rise to new and urgent worldwide

actions to physically secure weapons and nuclear materials at their source to preclude the possibility that terrorists could get their hands on them. As people in this room well understand, unsecured weapons and materials anywhere are a threat to everyone, everywhere. We also understand that, in these last two years, our efforts to prevent nuclear terrorism have not come close to matching the threat.

In the years before September 11, there were numerous informed voices warning of an impending and dramatic terrorist attack. One of these, a book called *Preventive Defense* co-authored by former U.S. Defense Secretary William Perry and Ash Carter of Harvard University's Kennedy School, predicted that the United States would suffer a catastrophic terrorist attack, and outlined the steps necessary to minimize the risk. The book also predicted that because the preventive actions were expensive and inconvenient, they would not be taken until after the first attack. The authors were right in both predictions.

Today, you don't need to be an expert or a prophet to foresee the rising possibility of a nuclear 9/11. Yet our response is eerily similar to the response to earlier predictions of an attack before September 11 – we are not yet doing what we can or acting as fast as we must.

Osama bin Laden has been frank to tell the world that he sees it as a "religious duty" to acquire weapons of mass destruction. Reportedly, the terrorist who took hostages in the Moscow Theater last October had similar ambitions for nuclear weaponry. However, the danger that bin Laden or other terrorists might succeed in getting nuclear weapons, while deadly serious, is a wholly containable threat <u>if</u> we have the will to act.

The nature of nuclear weapons and materials, and the difficulty in creating them, make nuclear security a straightforward undertaking. We know what to do. We know how to do it. We simply need to do it. As NTI Board member U.S. Senator Richard Lugar has observed, we need to dedicate ourselves to a <u>global</u> <u>cooperative</u> <u>effort</u> to make sure that every nation with nuclear weapons capacity: "accounts for what it has, secures what it has, and pledges that no other nation or group will be allowed access."

I don't want to deny that we're making some progress. We are. The $22 million pledged to the IAEA's National Security Fund is progress. The IAEA Board's recent agreement to increase the Agency's safeguards budget is progress. The G8 commitment to a Global Partnership to stem proliferation is progress; and the negotiated Amendment to the Convention on Physical Protection of Nuclear Material -- if it is successfully completed -- will be progress. But we cannot afford to think that "As long as we're doing something, we're doing enough." People in this room know that what's been agreed to in the Amendment is not enough; the G8 pledges have yet to materialize into concrete action; there is not an apparent sense of urgency to either of these actions.

We need to face facts and acknowledge painful truths:

1. We must acknowledge that the very broad distribution of know-how and technical expertise in the world makes it <u>possible</u> for an only moderately sophisticated or well-funded terrorist organization to acquire the means to make a nuclear weapon <u>if it first</u>

succeeds in acquiring nuclear material. (This is clearly so for highly enriched uranium and a number of us fear it is also true of plutonium.);

2. We must acknowledge that plutonium produced in civilian nuclear power programs yields plutonium suitable for making nuclear weapons and that highly enriched uranium (HEU) at research reactors throughout the world is at risk. (The world does not yet universally admit the first fact about reactor-grade plutonium and is entirely too casual about addressing the second fact about HEU at research facilities.);

3. We must acknowledge that current physical security arrangements for nuclear materials at many facilities around the world are inadequate in the post-September 11 world;

4. We must acknowledge that current safeguards designed to keep material from being diverted by a state to military use are inadequate to the task, and this inadequacy is particularly evident when it comes to safeguarding fuel cycle facilities.

5. We must acknowledge that three non-NPT states, India, Pakistan and Israel, have nuclear weapons and materials inventories and that the world has a strong interest in seeing to it that these capacities are safely secured and controlled.

6. And lastly, we must acknowledge that the international community has yet to develop a plan to roll back North Korea's nuclear weapons program.

If we can make these acknowledgments, we will be speaking in a straightforward manner about the extent of the threat. Then we will be forced to confront the fact that our current efforts aim at something far short of full security.

How many of the officials here today would sign a document guaranteeing that nuclear materials are secure against a well-organized and well-funded attempt by terrorists willing to sacrifice lives to acquire or divert those materials? Who in this room would assert the adequacy of a safeguards regime without a supporting Additional Protocol and a reliable means of enforcement? Who in this room has confidence in a nuclear future that contemplates the unbounded distribution of both civilian nuclear power and fuel cycle facilities in the developing world? Who in this room has a plan for bringing India, Pakistan and Israel under the NPT, or creating some transparent arrangement for giving the world confidence over the security and control of their nuclear stockpiles? Yet who can deny these are the challenges we must face and solve if we are to give any assurance of safety to the people of the world? So where should we concentrate our efforts? We must, of course, insist on the universal adoption of the Additional Protocol and enforcement of the safeguards system. Beyond that, I suggest we concentrate initiative and thinking in two areas – how to better secure weapons and weapons material – our most urgent security need -- and how to strengthen the nonproliferation regime to address better the particular problem of securing fuel cycle facilities – a problem made evident by the developments in Iran.

Best practices

To counter the threat of nuclear terrorism, our first order goal -- our highest priority -- is to secure weapons and materials at the source. And an important part of this effort must include

a global effort to share with all countries the best nuclear security practices in the world. It's unjustifiable and unconscionable that any facility with bomb materials does not have state of the art protection. Yet we know that sovereign sensibilities and the requirements for consensus decisionmaking are such that the current negotiated Amendment to the Physical Protection Convention will not mandate best practices but its modest provisions are probably all that is achievable at this time. At best, the Amendment's improvement in the physical security practices of member states is indirect and somewhat far off. Nevertheless, we should finalize the Amendment and insist on its entering into force. But we can and must do more to improve physical security within a state. I believe we need to pursue a parallel path by aggressively developing a global program to voluntarily share best practices among all states with nuclear capability. This path to improved physical protection is also indirect but perhaps much more likely to bear fruit in the near term. And here I believe the United States and Russia and its Academies have a special role to play.

Over the last 50-plus years, the United States and Russia learned a great deal about the safe and secure handling of weapons and nuclear materials. The great bulk of this experiential record is unclassified. Even in the case of nuclear weapons, ninety percent of what we do to protect and safeguard them is unclassified. To the extent that these steps can be discussed and the lessons we've learned and the mistakes we've made can be shared with others, we can develop a much more robust system for protecting weapons and nuclear materials than what would otherwise evolve – certainly in the next few years. And the days of living dangerously are now.

This puts Russia and the United States in a position to lead by example to help other nations secure and protect their inventories to the highest standards. As stewards of the world's largest arsenals and inventories, we have first-order experience and responsibility for best practices. Some say we were lucky during the Cold War to have avoided a catastrophic accident or miscalculation. Perhaps luck played a role, but knowledge and skill played a role as well. The dedicated scientists, engineers and military officers on both sides put a great deal of effort into ensuring the safety and security of our weapons and materials. Together, we have continued to learn even in the post-Cold War world, through projects in the Nunn-Lugar Cooperative Threat Reduction program. The United States and Russia could jointly organize a team of laboratory and military personnel who would compile a comprehensive list of best practices and be prepared to travel, teach, and share with any other state with weapons and materials. The U.S. and Russia should welcome the contributed resources and expertise of the other NPT weapons states. We should marshal this resource in the service of our global security – by using the best known means to secure weapons and materials at the source. This would include surveillance cameras on the interior; detectors at the door; seals, vaults, locks, storage containers backed up by rigorous accounting and intensive monitoring.

Further, when it comes to sharing best practices, particularly on the civilian side, we should readily acknowledge that the world could learn and benefit from the experiences of non-nuclear weapons states, Germany, Sweden, Canada, Belgium, Japan, etc. Indeed, we can and must all learn from each other to improve the safety of each other.

Finally, as I noted earlier, the world has a stake in making sure non-NPT states -- Pakistan, India and Israel -- have adequate controls and security on their weapons and materials. We have to be able to share best practices with non-NPT nations without violating Article I of the NPT. We could do this by a consensus interpretation that the Article allows such technical assistance. I have heard the arguments that providing even this limited assistance on nuclear security would increase a nation's ability to further develop nuclear weapons or fight a nuclear war. I have heard them, and I'm not persuaded. The risk is mostly theoretical. The danger we must defend against is clear and proximate. In these circumstances, I would push theory aside and act pragmatically to increase our security against catastrophe.

Fuel cycle

The best practices approach to securing nuclear materials and preventing nuclear terrorism will not assuredly preclude the intentional diversion of nuclear materials by a state for military use. Just as is the case in financial accounting, no set of internal controls is invulnerable to manipulation by a corrupt internal management. This is especially true of reprocessing, enrichment and related fuel cycle facilities, which, by their very function, can create a short path to a nuclear weapons program.

In 1946, Dean Acheson and David Lilienthal famously observed in their report to U.S. President Harry Truman that no system of preventing diversion of materials to military use would ever work if it were fundamentally dependent on the pledged word and good faith of sovereign states[1]. There are, they said bluntly, too many opportunities to cheat. They urged a central authority to ensure safety.

President Eisenhower had a similar vision. In his 1953 speech proposing the creation of the IAEA, he said: "The Atomic Energy Agency could be made responsible for the impounding, storage and protection of the contributed fissionable material."
Fifty years later, the IAEA does not have custodial responsibility for fissionable material. The governments of sovereign states do. As current events now demonstrate, this is not a failsafe method of preventing government diversion of nuclear materials to military use.

The IAEA is now facing a crisis to its authority in Iran. As you all know, Dr. ElBaradei visited Iran in February and was dismayed with what he found. In an August report, the IAEA said it found traces of weapons-grade highly enriched uranium. Iran conceded the presence of the HEU, but said it had been on the machinery when Iran bought it. Two weeks ago, the IAEA passed a resolution giving Teheran until October 31 to prove it is not running a secret nuclear weapons program. In an early response, one Iranian official said the country would "review" its cooperation with the IAEA, and another official said that Iran might withdraw from the NPT. Yet it is also appropriate to note that Iran's official response delivered to the IAEA on September 16 said Iran would continue to cooperate under their comprehensive safeguards agreement and continue negotiations on an Additional Protocol.

The situation in Iran has progressed to the point where it will require a resolution tailor-made to Iran's particular circumstances. However, we should recognize that the current scenario

[1] March 16, 1946, Acheson – Lilienthal Report

in Iran could be repeated in other countries in the coming decades because the existing nonproliferation regime allows countries with fuel cycle facilities to come right to the edge of a nuclear weapons capability. We have to find a way to manage the fuel cycle better going forward. Insistence on acceptance of the Additional Protocol for any state possessing fuel cycle facilities should be the minimum required. And perhaps we need to go beyond this requirement. As President Eisenhower noted 50 years ago in his Atoms for Peace address to the General Assembly of the United Nation, "The release of atomic energy constitutes a new force too revolutionary to consider in the framework of old ideas." We need new thinking. Some have recently proposed an idea in which "on a going forward basis" non-nuclear weapons states would be divided into two classes – those permitted to have fuel cycle facilities and those who would be permitted only nuclear reactors. I understand and applaud the search for new solutions to this danger. Conceivably, in the 60's when the NPT first entered into force, it might have been possible to restrict ownership and operation of fuel cycle facilities to weapons states. However, while I believe there could well be individual circumstances to preclude a state from owning or managing fuel cycle facilities for reasons of past violations or other misdeeds, I do not foresee the success of a program that asks the international community of today to legitimatize yet another set of "have and have not" nations. I seriously question whether an across-the-board distinction could be drawn along any lines or principles that the international community would see as unbiased and objective.

However, there might be a generalized approach – borrowing from the vision of Eisenhower -- that could address this challenge on terms that would improve on the status quo and, potentially, be made more acceptable. Under this approach, "on a going forward basis," any country that chooses to develop a fuel cycle facility would have to accept the Additional Protocol and give over or, in Eisenhower's words, "contribute" the facilities and any separated plutonium or highly enriched uranium produced from such facilities to the sovereign-like custody of the IAEA with continuous on-site oversight. Under such a system, clandestine operations would be much easier to detect and prevent through continuous and unrestricted monitoring. Moreover, with sovereign-like custody akin to that exercisable over embassies, a state's ability to throw the inspectors out and take over the facilities or materials would be greatly curtailed under well-established principles of international law, which, in turn, could be backed up by pre-determined enforcement mechanisms. Would such a system work? Would it be acceptable to a state desiring new fuel cycle facilities? Could it be achieved through amendment to the NPT or by conditions imposed universally by suppliers of fuel cycle technologies? Of course, I don't know.[2] But I do know we have to start talking about new approaches to securing these highly-sensitive fuel cycle facilities. Failing that, it is hard to see how we can avoid a world in 50 years time that has many more nuclear powers and far more nuclear danger.

I began these remarks by asserting that those of us who have experience with nuclear matters must face facts and acknowledge painful truths about the inadequacies of our actions. I do this to draw attention to the gap between the threat and our response, and to generate discussion about how to close the gap. I am confident that in the ensuing discussions, a number

[2] I should make it clear at this point in these remarks that the approach to better securing fuel cycle facilities outlined above represents my own thinking on the matter and does not constitute an official NTI position.

of creative and serious ideas will emerge to address the perils we face. Yet we know that even the best ideas will not protect us if they are merely subjects of discussion in workshops like this.

We need to do more to exhort our governments to act. I am worried about the disconnect between the rising danger, stagnant government response, and falling sense of public urgency. Two years ago when I came here to Vienna, I reported that I had asked NTI staff to run a search in major world newspapers for news stories about terrorism and nuclear weapons. In the month before the attacks of September 11, there were 57 stories about terrorism and nuclear weapons. In the month following, there were 1,106 stories. We recently checked again – two years later. There were 348 stories – a 66% plunge.

Let me close by quoting NTI's donor and founder Ted Turner, who wrote the following words last year in *USA Today*, the largest circulation daily newspaper in the United States: "Public pressure for action is weak, partly because media attention on nuclear terrorism has begun to fade. And it's fading not because the threat has been addressed or reduced, but because media covers what changes, and threats don't change much day to day. They just keep on ticking."

We have a great challenge: we have to find a way to get the leaders of our governments to act with the same urgency they would after an attack, but to do so before an attack – because that's the only way to prevent an attack. That is the final acknowledgement, and it confers a great responsibility on us all. Thank you.