Planning for Success at the 2012 Seoul Nuclear Security Summit

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In April of 2010, President Barack Obama hosted the largest gathering of foreign leaders an American president has assembled since the founding of the United Nations. The occasion was the Washington Nuclear Security Summit. The goal was to enhance international cooperation to prevent nuclear terrorism. At the summit, President Obama and nearly fifty world leaders discussed the threat of nuclear terrorism and what should be done to stem it by securing nuclear material and suppressing illicit nuclear trafficking. The summit produced a communiqué and work plan aimed at achieving these objectives. Moreover, during the meeting, participants were encouraged to commit to tangible steps they would undertake to improve security or prevent smuggling. For example, Chile worked with the US National Nuclear Security Administration to return about 18 kg of spent, slightly irradiated, and fresh highly enriched uranium research reactor fuel to the United States for secure storage.

President Obama’s strategy is to place nuclear terrorism, and the actions necessary to prevent it, at the center of the agenda for the heads of government or state in the leading nuclear nations. (Although the G-8’s Global Partnership dealt with improving nuclear security in Russia and other states of the former Soviet Union, the group was smaller and the agenda more limited than those of the Washington Nuclear Security Summit.) Choosing to deal with the issue at the highest level carries many benefits and a few costs. The analysis below is an attempt to maximize the former and minimize the latter at the upcoming Seoul Nuclear Security Summit in 2012.

Strengths and Weaknesses of the Washington Nuclear Security Summit

The Washington Nuclear Security Summit succeeded in establishing a consensus that nuclear terrorism is a serious threat to all nations, and that all vulnerable material should be locked down within four years. Under this broad consensus, the summit had several specific, signal effects. By raising the issue of nuclear security to the agenda of world leaders, the summit sliced several Gordian knots created by bureaucracies preventing effective action. (Although the Minsk government did not participate, Belarus’ decision to give up its highly enriched uranium is a significant example.)

The summit also very likely created a constructive dynamic within governments, whereby leaders have directed their subordinates to be particularly attentive to the nuclear security issue, in the hope of avoiding any embarrassing incidents between the Washington and Seoul summits. Finally, the summit evoked more than four dozen specific, tangible actions embodied in commitments by individual countries and the joint work plan. India, for instance, announced its intention to create a nuclear energy center with a security component.

Nonetheless, the Washington Nuclear Security Summit also exhibited important limitations. The communiqué was vague and nonbinding, and undermined further by escape clauses. For example, the communiqué notes that the leaders, “Recognize that highly enriched uranium and separated plutonium require special precautions and agree to promote measures to secure, account
The narrow focus on nuclear security—to the exclusion of other issues related to state proliferation, safety, etc.—was effective and should be maintained. It may, however, make sense to broaden the agenda to other elements of nuclear security beyond plutonium and highly enriched uranium, such as security for radiological sources and security for nuclear power plants. (Some acknowledgement of reform necessary in light of the Fukushima nuclear disaster may be appropriate, especially if it is in the context of the truism that: “There can be no safety without security, nor security without safety.”)

Finally, as the relatively vague communiqué demonstrates, the consensus-based approach made it difficult to reach agreement on effective, far-reaching commitments given that some four dozen governments with widely divergent interests and capabilities were represented at the summit.

Obstacles to Progress
Establishing an international consensus on nuclear security measures is very difficult. Complacency (driven by assumptions that the threat is modest and existing security measures are sufficient, or that if the threat is real, it most affects other countries), secrecy (regarding sensitive national security facilities and practices), political disputes (which may also reflect safety, environmental, and industrial capacity issues), and bureaucratic obstacles (among scientific, national security, and foreign policy establishments with differing interests) all pose barriers to an international consensus on nuclear security. Moreover, the underlying suspicion held most obviously by the Non-Aligned Movement—but also affecting other states—that nuclear security is being used as a pretext to deny access to useful technologies is a shaky foundation upon which to build an international nuclear security edifice.

More broadly, it is difficult for any political leader to admit a weakness in his or her country’s nuclear security. Such an admission could be seen as inviting an attack. It might undermine support for programs viewed as vital to a state’s national interest, e.g. nuclear energy. Most basically, it could appear to be an admission of failure by the leader making the statement.

A New Context for the Seoul Nuclear Security Summit
Since the 2010 Nuclear Security Summit, several events have created a new context for issues related
to nuclear security. First, Japan’s Fukushima nuclear tragedy challenges basic assumptions about our ability to assess accurately the combined probability of highly unlikely events that could undermine safety systems, and to defend against them. Of course, terrorists do not respect the laws of combined probability; they seek to destroy them. Unfortunately, the dire consequences of a successful attack on a spent fuel pool or its cooling systems have now been abundantly demonstrated to potential terrorists.

Second, in the Middle East, governments in Tunisia and Egypt have fallen, and Libya is beset by civil war. Unrest ferments in Bahrain, Jordan, Syria, and Yemen. Even some governments outside of the region are watching warily, lest the instability spread. Given the newfound potential for widespread instability, its potential to undermine nuclear security arrangements must be taken into account. What, for example, would be the consequences of a mob breaking into a research reactor fuelled with highly enriched uranium? Moreover, nuclear facilities are planned, built, and operated over many decades, and political instability seemingly can erupt within a matter of days or weeks—even if its root causes are much older. Design basis threats should probably be revised in many countries, although acknowledging the potential for political instability is, from a political standpoint, inconceivable for many.

Organizing the Seoul Nuclear Security Summit

Agenda

“Sherpas” planning for the summit on behalf of their leaders have already established key elements of an agenda for Seoul, maintaining a focus on nuclear security (although issues related to nuclear safety, efficiency, or waste disposition have all been raised), while highlighting certain areas (e.g. transportation security and measures to suppress nuclear smuggling). The key challenge is to identify steps that participants may be willing to agree to, especially where that agreement would tangibly and materially improve security. Reportedly however, many potentially useful measures were considered and rejected in negotiations prior to the Washington summit. While at any summit meeting the optimal must be alloyed with the possible, the extraordinary nature of these events offers an opportunity to recast assumptions and overcome bureaucratic impediments.

The Seoul Nuclear Security Summit should maintain a specific focus on nuclear security, rather than nonproliferation, disarmament, nuclear energy, or nuclear safety. It may make sense to expand the scope beyond plutonium and highly enriched uranium to include security for radiological material and security for major nuclear facilities.

The Republic of Korea could profitably work to shape the context of the Seoul Nuclear Security Summit agenda. Detailed briefings on the nuclear terrorism threat—the plausibility that terrorists could make a nuclear bomb if they obtained sufficient nuclear material, the real nuclear activities that terrorists have already undertaken, etc.—should be provided to key officials in many countries, to help build a common understanding of the threat. Then, intensive diplomacy in individual country capitals to elicit commitments to specific measures, involving a wide range of experts and political officials, supporting but going well beyond the Sherpa process, would facilitate stronger measures by the leaders.

Consensus and the Communiqués

The Washington summit communiqué was quite general, contained no binding language, and offered many loopholes that could justify inaction by states. Unfortunately, with nearly fifty states participating, representing all inhabited continents, and intentionally chosen to represent a diverse set of political, economic, and security perspectives, arriving at a consensus agreement is difficult. Demanding unanimity guarantees that the state with the least ambitious agenda, that is willing to exercise its effective veto, will set the bar for commitments.

While it is unlikely that any state could be coerced into action by a communiqué that it only reluctantly agreed to, some states may willingly follow any reasonable standards set by wide agreement. Thus, lowering the expected standards for nuclear security or preventing illicit trafficking would lower the level of effort by these states. It may, therefore, be desirable to pursue a consensus communiqué without requiring unanimity. One possibility would be to require a supermajority to adopt the communiqué and work plan—perhaps two-thirds or three-quarters of participating states. Of course, neither would be legally binding in any event, and even the effects of political suasion would vary from state to state. Nonetheless, the tradeoffs between a unanimous but anodyne statement, versus one that loses support from a few participants, but establishes better standards, favor the latter approach.
In executing such a strategy, the leading participants should exercise care that the dynamic of the summit not come to resemble that of International Atomic Energy Agency general conferences or Nonproliferation Treaty Review Conferences, where deep, sometimes bitter cleavages paralyze progress. This is entirely possible because divisions over the most ambitious proposals do not break along a north-south divide; rather, many of the most important steps would place the greatest burden on developed countries, because they also tend to have the greatest number of nuclear facilities.

"House Gifts"
The US government encouraged participant countries in the Washington summit to bring "house gifts" in the form of announced new steps to secure nuclear material or prevent illicit nuclear trafficking. While perhaps in conflict with standards of gracious behavior for a host, the effort was a diplomatic success. Twenty-nine nations made fifty-four commitments. Some of these were quite modest, e.g. a $300,000 contribution to the International Atomic Energy Agency’s Nuclear Security Fund. Furthermore, in many cases the commitments merely recorded actions that were already planned or underway. Nonetheless, the national political commitments increased the impetus to complete the efforts, often accelerated the pace of action, and in several instances initiated new lines of activity—for example, establishing a nuclear security center of excellence in China.

Not only did the “house gift” concept initiate or accelerate important nuclear security work, it also helped to establish a norm that nations should constantly be looking to improve their efforts in this field—and conversely that no nation should be complacent about the status quo. As summit traditions go, it is manifestly more constructive than leaders wearing national costumes or performing in a talent show. The Republic of Korea would do well to make a significant diplomatic effort to bolster this element of the nuclear security summit. The most important national commitments brought to the Washington summit were the product of skilled and sustained diplomacy; similar achievements at Seoul will require a similar level of effort.

Participants
The participants in the Washington Nuclear Security Summit were chosen to represent geographically, economically, and politically diverse nations, while including those states with the most influence over, and the most at stake with respect to, nuclear security. While some states chose not to participate at the head of state or government level, most were willing to do so.

Belarus was not invited to the Washington summit, after its president, Alexander Lukashenko, declared that his government would not give up its stocks of highly enriched uranium. After removal of a portion of those stocks to secure storage in Russia, and agreement by Minsk to give up the remainder by 2012, the South Korean government said it would invite Belarus to the Seoul summit.

Broadening the invitation list further would be unlikely to improve the effectiveness of the meeting, because all states with significant nuclear programs or materials stocks are already participating—except for North Korea and Iran. Including Pyongyang or Tehran would jeopardize the consensus necessary for effective action, and could be seen as accepting nuclear activities in both states that contravene United Nations Security Council resolutions. (South Korea offered a conditional invitation to the North, insisting that Pyongyang manifest a commitment to denuclearization, but this was quickly rejected.) Thus, the Republic of Korea should seek continuity in participation, with the addition of Belarus, contingent upon removal of the balance of its highly enriched uranium, as has been agreed.

Follow-on Summit
The 2010 Nuclear Security Summit, and importantly, preparations for the Washington and Seoul meetings, have focused the attention of responsible government officials on the need to improve nuclear security. Nuclear security will not, however, be complete after the Seoul summit—even to a level where prudent sustainability efforts are sufficient. One goal of the Seoul summit should be an agreement to hold a third nuclear security summit—though there is no need yet for a decision as to whether the process should continue after that. Planning for a third summit would help to ensure the completion of tasks outlined in the national commitments and work plan. Moreover, it would be useful to agree on a third summit sooner rather than later, as it is impossible to plan a rational agenda for the Seoul summit without making an assumption about whether or not there will be a follow-on meeting. (If there is to be no third summit, it would be better to know now, and to plan the agenda of the Seoul summit accordingly.)
Substantive Ideas for the 2012 Nuclear Security Summit

Vision

The goal of the Seoul Nuclear Security Summit should be to go beyond what was agreed in Washington and reach new accords that will contribute to material and substantive improvements in nuclear security. Agreements should be sufficiently general and flexible to allow different countries to pursue their own approaches, but specific enough to ensure that high levels of nuclear security are attained, and provide the basis for discussions among countries about the specifics of their commitments.

The leaders should agree to the goal of excellence in nuclear security, sustained far beyond the end of the four-year effort agreed to at the first nuclear security summit. As with nuclear safety, the approach to nuclear security must be based on seeking continual improvement, to meet an evolving threat and address issues as they are identified. Each country might pledge to publish a description of what it believes excellence in nuclear security includes. The newly formed World Institute for Nuclear Security, which aims to share security best practices among nuclear operators, can also contribute to this effort.

• The leaders might agree to take steps to reduce the probability of theft of nuclear material to a level as low as reasonably achievable (ALARA). This concept is familiar from nuclear safety, and provides a basis for a continual search for ways to improve.

• The leaders might pledge to protect all of their plutonium and highly enriched uranium (HEU) against all insider and outsider threats their security and intelligence services judge to be plausible. This would make clear the objective of protecting against all plausible threats, while leaving the specifics of what threats will be defended against to the discretion of each country. (Such an approach would bypass disputes about the nature of the threat in any one country or reluctance to share sensitive intelligence information.)

• The leaders might pledge to ensure that all their nuclear materials and facilities are protected at least at a level consistent with the recently released fifth revision of the International Atomic Energy Agency physical protection recommendations, Information Circular 225, which finally established new standards given the post 9/11 terrorism threat. They might also agree to provisional implementation of the Amended Convention on the Physical Protection of Nuclear Material even before entry into force, as all states would benefit from such an action.

Individual Country Commitments

The approach of seeking individual pledges from participants resulted in some of the most important steps agreed to at the Washington Nuclear Security Summit, and such pledges should be sought again. The Republic of Korea and the United States should consider developing targeted suggestions for each participating country, which they could pursue through bilateral diplomacy in capitals, well beyond the sherpa meetings. There are many steps for which it probably will not be possible to obtain sufficiently wide support for inclusion in the communiqué, but which many participating countries may individually be willing to commit to take. Some of these might include:

• Providing at least an agreed baseline of security for all their plutonium and highly enriched uranium.

• Agreeing to end their civil use of highly enriched uranium and eliminate their civil stocks of such material by a date certain.

• Agreeing to minimize the civil use of plutonium separated from spent fuel.

• Agreeing to declare their stockpiles of highly enriched uranium and plutonium, limit further accumulation of such stockpiles, consolidate their storage facilities, and reduce these stockpiles as rapidly as practicable.

• Committing to establish targeted programs at each nuclear facility to strengthen nuclear security culture.

• Committing to participate in exchanges of nuclear security best practices, to establish programs aimed at ensuring that best practices are implemented at nuclear sites, and to support (including financially) and participate in the World Institute for Nuclear Security.

• Committing to carry out regular, realistic tests of their nuclear security systems’ ability to counter intelligent adversaries (e.g., force-on-force exercises, also insider tests).
• Committing to accept International Atomic Energy Agency-led peer reviews of their nuclear security arrangements, as was done before the Washington summit.

• Committing to provide detailed public reporting to summit participants on what they have done in recent years to improve nuclear security in their country and around the world.

• Committing to undertake measures to make information available to build international confidence that their nuclear security measures are fully effective, within the boundaries of necessary secrecy. For example, countries might publicly disclose what kinds of inspections and tests they use to assess nuclear security performance, and what fraction of their sites were judged to be performing well, moderately, or poorly according to these inspections and tests (as the United States already does).

Specific Proposals
Seoul Nuclear Security Summit participants should consider the following proposals:

• Nuclear Terrorism Threat Briefings. Leaders could agree to initiate a series of high- and mid-level briefings on national, regional, and global assessments of the nuclear terrorism threat. An approximate consensus on the severity and immediacy of the nuclear terrorism threat would make consensus on corrective actions much easier. Although even a rough consensus would be difficult to achieve, it would carry a high payoff.

• Encouraging Effective Nuclear Security Regulation. Leaders might pledge to enact nuclear security and accounting regulations meeting high standards, and give their regulatory bodies the authority, resources, and expertise to ensure that facilities have implemented them effectively. States might agree to exchange best practices in nuclear security and accounting regulation, and to explore means to provide public information to increase confidence in the effectiveness of their nuclear security and accounting rules and procedures without compromising sensitive information. In many nations, regulatory oversight is a key weak link in the nuclear security chain, with bureaucratic inertia or government secrecy used to shield against scrutiny of inadequate security practices.

• Learning From Nuclear Theft and Loss Cases. Leaders might agree to carry out in-depth analyses of past cases in which weapons-grade material escaped state control, develop root cause analyses and lessons learned, and use that data to improve nuclear security performance. Although the International Atomic Energy Agency has identified some 18 cases in which stolen weapons usable material has been recovered, in very few of these cases are all of the following known: where the material originated; who stole it; who abetted the theft or transfer of the material; and, where it was headed. Without answers to these questions, we cannot even be confident that known leaks have been plugged, let alone that there is a generally sufficient level of nuclear security. Moreover, it may be possible to learn broad lessons from these cases. For example, in all but one case, the seized material was in bulk form—powder, not an ingot that might be easily counted. Should bulk processing plants be given a special level of attention to prevent theft of nuclear material?

• Establishing a Shared Incidents Database. To help policymakers and operators better understand the threats against which nuclear material should be protected, the leaders could agree to establish a shared database with reliable information about thefts, theft attempts, and terrorist attacks at guarded facilities. These would detail what can be said in such a shared system about what tactics were used, what capabilities the adversaries had, and lessons learned about how to defend against such incidents in the future. Interpol has such an effort underway, and reportedly has plans for an expanded effort, but it is understaffed (two full-time equivalents) and overwhelmed with reports on radiological material.

• United Nations Security Council Resolution 1540 Nuclear Security and Accounting Workshops. The participants could agree to hold workshops on key measures to achieve “appropriate effective” nuclear security and physical protection, and “appropriate effective” nuclear accounting, as required by UNSCR 1540. These terms were left vague in adoption of the resolution to gain consensus for its passage, and because the specific details were beyond the competence of the Security Council. Nonetheless, such workshops could form the basis for a common view of measures necessary to meet those requirements. Indeed, they might well be more rigorous and far-reaching than even the revised International
• Funding International Efforts to Improve Security. The organizers of the Washington summit made clear that the effort was aimed at strengthening, not replacing, existing mechanisms to improve nuclear security. The Washington Nuclear Security Summit led to several expanded contributions to the International Atomic Energy Agency Nuclear Security Fund, and the Seoul summit should do the same. In addition, it might be worthwhile to create the same kind of global fund for United Nations Security Council Resolution 1540 implementation. Similarly, the World Institute for Nuclear Security could benefit from additional national contributions. These efforts are force multipliers because they help to marshal and improve the effectiveness of government and industry resources in many countries. Even if only a fraction of the participants wanted to make such contributions, those contributions would be welcomed.

Metrics for Judging Success
Judging the Success of the Seoul Summit
The Washington summit placed nuclear security on the agenda of world leaders, increased their understanding of the issue, fostered specific national commitments, and developed a work plan for future action. The Seoul summit will be a success only if it expands upon these efforts by creating a common vision advancing excellence in nuclear security; obtaining additional national commitments to specific actions to improve security (beyond those already underway); and adopting a work plan that undertakes new lines of action to improve security or to thwart illicit nuclear trafficking.

Tracking Country Commitments
Efforts should be made to find a way to build support for some form of tracking of countries’ progress in fulfilling the nuclear security commitments they have made. This has been controversial in the sherpa discussions, but options should continue to be explored. One approach might be for each country to describe itself what it has done, and then to compile these descriptions into a common format, as has been done with tracking countries’ progress in meeting their Global Partnership Against the Spread of Weapons and Materials of Mass Destruction commitments. In the absence of official efforts, nongovernmental organizations can also track progress.

Conclusion
Despite much progress over recent months, and indeed years, nothing has changed the central conclusion agreed to by leaders at the first nuclear security summit:

Nuclear terrorism is one of the most challenging threats to international security, and strong nuclear security measures are the most effective means to prevent terrorists, criminals, or other unauthorized actors from acquiring nuclear materials.

The Washington Nuclear Security Summit drew the attention of world leaders to the threat of nuclear terrorism, fostered or accelerated many specific actions to improve nuclear security, and committed other states to the worthy goal of securing vulnerable material within four years. Nonetheless, it also evinced a continuing refusal by leaders to acknowledge nuclear security threats and vulnerabilities within their own states, or to commit to specific standards necessary to address them. Thus, the 2010 meeting was a good start, but far from a complete effort.

The 2012 Seoul Nuclear Security Summit offers opportunities to extend and to build upon the 2010 meeting. In planning for success, natural inclinations toward complacency, bureaucratic inertia, and conservative security and information sharing practices must be overcome. One way to do so is to build a common understanding of the nature of the threat, and thereby elicit responses to prevent it. Such work is now and should be underway, but can be expanded through vigorous diplomacy. At least ten lines of action in the form of national commitments and six activities that might be embodied in a summit communiqué would materially and tangibly improve the state of nuclear security. Moreover, whatever actions are adopted should be tracked, ideally in some official forum, but absent that, by nongovernmental organizations.

Nuclear terrorism is one of the gravest threats to international peace and security. Much commendable work has been done to prevent it, but the job of the leaders participating in the summit is not yet done. The 2012 Seoul Nuclear Security Summit offers a signal opportunity to advance this essential work. To do so will require creativity from experts, persistence from diplomats, and courage and foresight from leaders. None should forget the grim price of failure; all must rally to the highest purpose.
of government, protecting their populations against a horrific attack. Success at Seoul is not only possible; it is vital.

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Appendix
Washington Nuclear Security Summit Participants

Nation States:
Algeria, Argentina, Armenia, Australia, Belgium, Brazil, Canada, Chile, China, Czech Republic, Egypt, Finland, France, Georgia, Germany, India, Indonesia, Israel, Italy, Japan, Jordan, Kazakhstan, Malaysia, Mexico, Morocco, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Philippines, Poland, Republic of Korea, Russian Federation, Saudi Arabia, Singapore, Switzerland, South Africa, Spain, Sweden, Thailand, Turkey, United Arab Emirates, United Kingdom, United States, Ukraine, and Vietnam.

Additional Participants:
The director general of the International Atomic Energy Agency, the secretary-general of the United Nations, and the president of the European Union.

Select Categories of Summit Participants:
Nuclear Weapons States/P-5 UN Security Council: China, France, Russia, United Kingdom, and United States.

Other States Declared or Reported to Have Nuclear Weapons:
India, Pakistan, and Israel.

States That Once Had Nuclear Weapons: Kazakhstan, South Africa, Ukraine.

Non-Aligned Movement States:
Algeria, Chile, Egypt, India, Indonesia, Jordan, Malaysia, Morocco, Nigeria, Pakistan, Philippines, Saudi Arabia, Singapore, South Africa, Thailand, United Arab Emirates, and Vietnam.

G-8 Global Partnership:
Australia, Belgium, Canada, Czech Republic, Finland, France, Germany, Italy, Japan, Netherlands, New Zealand, Norway, Poland, Republic of Korea, Russia, Sweden, Switzerland, Ukraine, United Kingdom, and United States.

Endnotes
3 See Appendix 3 for a list of participating states, as well as analysis of participating states by select categories.
4 http://www.state.gov/t/isn/73519.htm.

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