



2012 Nuclear Security Summit: The Korean Twist

By Duyeon Kim

The March 2012 Nuclear Security Summit (NSS) in Seoul, Korea comes at a critical juncture when the world continues to experience a growing number of terrorist attacks leading to mounting concerns about the threat of nuclear terrorism. Nightmare scenarios include vulnerable nuclear materials falling into the wrong hands and nuclear facilities becoming attractive targets. These possibilities were evidently considered by al Qaeda before its attacks of 11 September 2001, by the plotters of the November 2008 Mumbai attack, and by the homegrown Norwegian Anders Behring Breivik who detonated a powerful bomb in downtown Oslo in 2011. The NSS also comes as a time when the Fukushima Daiichi nuclear disaster reminded the world of yet another adversary—the force of nature—that combined with the force of malice threaten the very foundations of nuclear facilities that are intended to protect, not harm, life. Against this backdrop, some 50 world leaders are charged with the difficult task of agreeing on measures that will indeed secure all vulnerable materials around the world.

Introduction

Initial thoughts of this paper formed in 2010 as an attempt to explore key issues and policy recommendations in preparation for the 2012 NSS. It began with the title “The Korean Twist” to suggest ways Seoul could give the second NSS a Korean flair as the next summit chair.

The paper, however, quickly took on a twist of its own in light of the nuclear disaster at Japan’s Fukushima Daiichi nuclear power plant in March 2011. The disaster ushered in a wave of questions about the quake-tsunami’s implications for the upcoming 2012 NSS, and the conclusion was that the safety and security interface should be on the summit agenda.¹ At the time, many nuclear security experts in the United States contended that the summit agenda should not be expanded to include nuclear safety since other international forums

deal with this issue extensively. The concern was that it would dilute the focus of the NSS.

The fundamental difference between nuclear “safety” and nuclear “security” lies in the human factor. The Fukushima disaster is a safety concern caused by a natural disaster, while unauthorized entry to a nuclear power plant, sabotage, a terrorist attack, and theft involving nuclear materials fall under security.² In the same vein, the safety of radioactive sources means reducing the likelihood of accidents that could harm people, while the security of radioactive sources refers to measures to prevent these materials from going astray or being diverted for illegal and malevolent acts.

However, nuclear safety and nuclear security do share a fundamental objective—to protect life.

Therefore, the Fukushima disaster has provided the impetus to broaden the Seoul 2012 NSS agenda to include nuclear safety—more specifically, the nexus of safety and security—as well as to place a higher priority on radioactive materials. These issues apparently are now included on the agenda, but the questions are *how* and *to what extent*.

Official negotiations on crafting the 2012 NSS agenda and the Seoul Communiqué for the summit began among Sous Sherpas³ on June 27, 2011, in Seoul as participating countries began putting their fingerprints on a draft communiqué.⁴ Discussions began with 10 key items on the table, and it remains to be seen if and how they will be included in the Seoul Communiqué next year, as seen in **Table 1**. The goal is to formulate responsibilities and commitments that are politically acceptable for state leaders, consistent with national and international regulations.

It is important that the all-encompassing document not only ensures full implementation of the results of 2010 summit but also deepens those results and prioritizes measures to deal with press-

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ing nuclear security dilemmas of today and tomorrow.

Table 1: Starter Discussion Topics for the 2012 Nuclear Security Summit

1. Management guidelines for highly enriched uranium (France)	6. Treaty ratification (Indonesia)
2. Transportation security (Japan)	7. Coordination of existing initiatives (Pakistan)
3. Illicit trafficking (Jordan)	8. Information security of sensitive technology and knowledge (UK)
4. Nuclear forensics (Netherlands)	9. Radioactive sources (Germany, Korea)
5. Nuclear security culture (Russia)	10. Nuclear safety and security (Korea)

Source: Various official sources, 13 April 2011.

The fundamental challenge for world leaders going forward will be overcoming political and diplomatic hurdles in all areas of nuclear security.

Taking into account the unique position of the Republic of Korea (ROK) on the global stage, this paper will address key areas in which Seoul could impact the agenda and outcome of the 2012 NSS with a Korean flair, including:

- Nuclear safety-security nexus and culture;
- Nonproliferation via implementation of legal frameworks and international nuclear instruments;
- The International Atomic Energy Agency (IAEA) and international cooperation; North Korea and outlier states and regimes;
- Strategy for follow-on summits.

Why Seoul?

“Global Korea” Policy

Since the end of the 1950–53 Korean War, the ROK has quickly transformed itself from being a recipient of international aid to being a donor. Its policy, which was focused heavily on diplomatic and security solutions confined to the Korean Peninsula, also began to steer outward. In other words, the ROK has been steadily positioning itself as a major power center in our increasingly multipolar world. Seoul plans to increase foreign aid and has chaired the Group of 20 (G-20) summit as the first country outside the Group of Eight (G-8). With the acknowledgement of the evolving global security environment, Seoul has also stepped up its contributions to world peace and security far from home. In an exemplary display of the ROK’s leadership and commitment to international security, the Lee Myung-bak administration has filled its calendar with the hosting of several major international and domestic endeavors (Table 2).

Such is the pursuit of the current Lee administration for a “global Korea,” a catchphrase symbolizing President Lee’s vision to become a more assertive contributor in the international arena. The seeds to this policy were first planted during his inauguration speech in 2008,⁵ and a global Korea quickly moved higher on his policy agenda with a national security objective of “enhancing competence and status internationally.”⁶

Korea has a record of chairing major international summits and events over the years, and the upcoming NSS is an opportunity, as well as a challenge, for the business-minded Korean president to showcase his country’s leadership in the security realm both effectively and substantively. Just as Seoul was tasked to lead and enforce expanded economic cooperation at the 2010 G-20 summit, the pressure is on the ROK again to intensify global coordination of nuclear security initiatives while addressing the various gaps between nuclear and non-nuclear states.

Road to NSS Chairmanship

Seoul’s agreement in 2010 to receive the NSS baton from Washington appears to have had several considerations and meanings. First, Washington was said to have picked Seoul on the basis of deep trust and friendship between their presidents. President Barack Obama reportedly felt secure about having a patron and close ally, who would also have served as the G-20 chair prior to the NSS, to help continue his vision of a nuclear-free world.⁷ President Obama’s considerations seemed to have included Seoul’s position as the direct recipient of North Korea’s nuclear threat and the potential to realize his vision for a nuclear-free world starting with a nuclear-free Korean Peninsula.⁸

Table 2: Major International Events Hosted by the Republic of Korea

Year	Events and Plan
2010	Group of 20 Summit
2011	Global Initiative to Combat Nuclear Terrorism (GICNT)
2012	Nuclear Security Summit (NSS)
2014	Korean Nuclear Center of Excellence (completed construction)

Source: Author’s data.

The ROK would want to show its growing stature by hosting two major economic and security summits. But more importantly, the NSS will instead hold Seoul accountable to initiated agreements in the future and place a burden of proof that it will continue to be a responsible international player on the global stage.

In accepting the chairmanship, Seoul could have considered the symbolic and pivotal timing of the NSS in geopolitical history. The year 2012 is when the world will witness presidential elections and leadership transitions in the ROK, the United States, China, and Russia. It is also the year when Pyongyang claims it will open its doors to becoming a “strong and prosperous nation” as it celebrates the centennial of the regime’s founding father, Kim Il-sung.

The summit might also have been considered a chance for the ROK to highlight to the world the stark contrast between it—the responsible user of nuclear energy and growing nuclear exporter—and North Korea—the rogue aspirant for nuclear weapons—while implicitly pressuring Pyongyang to denuclearize and join the peaceful nuclear club. An assessment might have also been made that the summit could be a venue for Seoul to advertise its 32-year accident-free record as it shops for potential buyers of nuclear reactors, especially after having won a major nuclear deal with the United Arab Emirates in 2009.

Chair Duty

The Washington summit, rightfully so, focused exclusively on nuclear security. With Fukushima adding a new twist, the ROK as the next NSS chair is uniquely positioned to lead a summit with a more global focus. It is a non-nuclear weapons state that has proven to be a responsible member of the Nuclear Non-Proliferation Treaty (NPT) and a host of other international regimes and institutions. Its 21 reactors provide almost 40 percent of the country's electricity with five more reactors under construction, and Korea is becoming a competitive nuclear exporter in the world energy industry. It is a non-nuclear weapons state with a nuclear-armed neighbor, North Korea, in its backyard. Seoul can also play a vital role in bridging the nuclear and non-nuclear weapons states as well as the developed and developing states.

Against this backdrop there are clear ways in which Seoul could add a "Korean twist" to the upcoming summit while leading more intensified efforts to prevent nuclear terrorism.

Korean Flair

Nuclear Safety-Security

The Washington 2010 NSS was in effect an important initiative stemming from President Obama's Prague speech in April 2009. It rightly focused narrowly on securing all vulnerable fissile materials and preventing nuclear terrorism, particularly in the aftermath of 9/11.

In the wake of the Japanese nuclear disaster, however, the 2012 Seoul summit will in part be an inevitable reaction to Fukushima, which has prompted calls to incorporate safety issues in the security discussion. A Fukushima-like terrorist act is plausible. The emphasis would be on areas in which safety and security overlap so as not to duplicate existing safety initiatives.

Nuclear safety and nuclear security share a common denominator and objective—to protect life. Therefore, Fukushima has not only made it necessary to address safety issues at the NSS, but it has also been a reminder and opportunity to reaffirm that safety and security are not mutually exclusive. Safety measures provide the basic foundation for additional security measures to prevent malicious acts; safety and security steps can be taken to create synergies that reinforce and support each other without handicapping the other. The challenge will be to balance the discussions so as not to lose sight of the main objective: nuclear security.

At the summit and in the Seoul Communiqué, world leaders could first acknowledge the relationship between nuclear safety and security. They can then agree on implementing steps to strengthen safety measures that serve nuclear security purposes and vice versa. Just as United Nations Secretary-General Ban Ki-moon's September 2011 system-

wide study on Fukushima states, "there are several common characteristics shared by accidents and sabotage, such as reduced effectiveness of remaining systems, including through the loss of power, communications, computer, safety and physical protection systems; and the loss of key operating, safety and security personnel."⁹

The 2012 NSS coupled with the September 2011 UN high-level meeting on nuclear safety and security could serve as the main drivers that help initiate and cement nuclear safety and security cultures and governance around the world.

The main obstacle in shining sufficient attention on the nuclear safety-security nexus is the gap in perception and interest among states. It appears international awareness and consensus on the need to strengthen safety and security measures have grown quickly since Fukushima. However, the translation of such awareness into concrete action remains unclear, especially in light of the currently ostensible priority gap between Seoul and Washington on the need to highlight the issue in the final Seoul Communiqué.

At the UN high-level meeting, President Lee said Seoul is "keen to contribute to the peaceful use of nuclear energy by leading the 2012 Seoul Nuclear Security Summit to a success."¹⁰ In its pursuit to become a competitive nuclear exporter and enjoy prestige in the nuclear industry, Korea would need validation by a communiqué that adequately includes the nuclear safety-security interface. However, the verdict on whether the final document is deemed a success for nuclear safety-security may eventually be determined by the interpretation of the language by respective countries.

Nuclear power plants and facilities. The safety and security of nuclear power plants and facilities are topics of great interest and urgency for many countries, particularly the ROK in light of the Fukushima disaster as well as Seoul's rising role as a major nuclear exporter that also relies on nuclear power for electricity. Fukushima not only ushered in a wave of safety concerns but it naturally led to security concerns at nuclear power plants and facilities as well.

The safety of power plants is a far more established concept than the security of them. However, Fukushima has shown that reactors are not always 100 percent safe and that accidents can happen anywhere. Fukushima has prompted the need to further develop reactor designs to withstand multiple hazards and cope with system failures.

On the security front, Fukushima gave terrorists and other malefactors a major tip: by targeting nuclear plants, they can wreak havoc comparable with that wrought by an earthquake and tsunami, crippling a great economic and military power. In other words, they could re-create the effects of Fukushima—damage to a reactor's cooling system, inability to supply outside power to the reactor, and damage to the diesel generator—all of which could lead to a meltdown and radiation leaks.

World leaders at the NSS could begin by working nationally, bilaterally, or multilaterally to implement stronger safety and security measures at nuclear power plants and facilities pursuant to and building upon the recommendations outlined by the IAEA Nuclear Security Series documents.¹¹ World leaders could support measures that strengthen nuclear facilities against sabotage, attack, and insider threats.

The IAEA Nuclear Safety Group’s 2010 report on the nuclear safety and security interface, shown in **Table 3**, and the U.S. Nuclear Regulatory Commission’s 2008 security regulations, in **Table 4**, are existing models that can be considered in parallel or in conjunction with each other.

World leaders could also place greater emphasis on implementing measures to ensure the safety and security of stored spent nuclear fuel. Particularly controversial proposals such as placing more armed guards at nuclear plants and facilities would require persuading states with differing threat perceptions of the value of such measures and then deciding whether specific baselines—in this case on the type of arms used by guards—are needed.

The same logic applies to calls for a baseline security standard:¹² the challenge is how to overcome political barriers, sovereignty issues, and differing threat perceptions before adopting a much-needed, and preferably mandatory, universal standard.

Radioactive materials. As a representative of states that possess neither nuclear weapons nor fissile materials, Seoul is apparently placing a higher priority on radioactive sources. For some countries, the threat of a “dirty bomb” that disperses radioactive materials is considered greater than or as serious as that posed by a nuclear weapon, although nuclear weapons states do recognize the serious risks posed by them.

Hundreds of medical and industrial radioactive sources are abandoned, stolen, or lost each year, thus constituting both safety and security concerns. The threat of radiation leaks or loss of control over radioactive materials caused by nature, internal system failures, or malicious intent could be included in this category of discussions as well as radiological terrorism prevention.

Radiological terrorism or sabotage—either through the use of a radiological device (radiological dispersal device or radiation-emitting device¹³) or attacks on nuclear facilities—would be an attractive means for terrorists to cause public fear and serious damage.

The ROK could also capitalize on its renowned technology for tracing and tracking radioactive sources by setting an example and sharing its know-how with summit participants. World leaders could also discuss ways to export Korea’s tracking technology (**Table 5**).

Table 3: Nuclear Safety and Security Recommendations by the International Nuclear Safety Group, 2010

Level	Recommendation
International level	Promote coordination between safety and security at nuclear installations by developing security guidelines and safety standards that are consistent and complementary while developing combined assistance programs and review and training missions.
State level	Integrate safety and security authorities into a single regulatory agency responsible for both safety and security regulations, or ensure compatibility and coordination among regulatory agencies, and develop ways to promote safety and security cultures taking into account their similarities and differences.
Operating organizational level	Prime responsibility for safety and security lies in the management of the operating organization that ensures the coordination of safety and security from the conceptual stages of development through all phases of a nuclear installation while ensuring that optimal balance between safety and security are achieved.
Emergency response by the operator, regulator, and the state	The operator should centralize decision making in a single management chain; emergency preparedness and response plans in safety and security need to be well coordinated, complementary, and coherent between all relevant entities; joint exercises should be organized, and any on-site actions by outside security forces should be coordinated with the operator.

Source: International Nuclear Safety Group, *The Interface between Safety and Security at Nuclear Power Plants*, Report no. INSAG 24 (Vienna: International Atomic Energy Agency, 2010).

Table 4: U.S. Nuclear Regulatory Commission Recommendations, 2008

Recommendation	Description
Safety and security interface	Requirements to ensure that security measures do not compromise plant safety
Mixed oxide (MOX) fuel	Physical security requirements to prevent theft or diversion of MOX fuel
Cyber security	Required submissions from nuclear power plants of how digital computer and communications systems and safety networks are protected against cyber attacks
Aircraft attack mitigative strategies and response	Strategies to respond to aircraft attacks and mitigating the effects of large explosions and fires
Plant access authorization	Implementation of more rigorous programs for authorizing access
Security personnel training and qualification	Security personnel requirements include additional physical fitness standards, higher qualification scores for mandatory personnel tests, and on-the-job training requirements

Source: Mark Holt and Anthony Andrews, *Nuclear Power Plant Security and Vulnerabilities*, RL34331 (Washington, D.C.: Congressional Research Service, 23 August 2010).

Multiple hazards. The world has entered an age in which nuclear and radiological threats emanate not from a single source but from nature’s fury, human error, crime, and terrorists—and combinations of those factors. Countries are not only threatened by the forces of nature (“natech disasters”) but are put increasingly at risk from “maltech disasters”¹⁴ wrought by any type of malicious action, including insider threats from a facility’s workforce. Further complicating the picture is a third adversary—a combination of forces—in which opportunistic antagonists may seek to time malicious activity with natural disasters. This scenario would not only weaken safety systems but also overburden security personnel and distract managers’ attention.¹⁵

The possibility of such combined disasters warrants their consideration in integrated and complementary nuclear safety and security plans for nuclear facilities. Safety personnel tend to be composed of operators, engineers, and technicians; the security staff is usually made up of military personnel, police, and guards. It is vital that these two cultures are well coordinated in the overall emergency planning.¹⁶ Safety and security considerations cannot be improvised on the fly during an emergency. They must be built into a plant throughout all phases of its service life, from design and construction, to routine operation, to decommissioning and dismantlement. Safety and security thus begin

at the drawing board, with an assessment of candidate sites for the plant and the design of the installation itself.

Actionable steps should be coordinated and applied throughout the different segments—vertically from the highest level of international legal frameworks down to national legislation and human resources development, as well as horizontally among nuclear facilities, infrastructure, and organizations that transport nuclear material and use radioactive sources. Instilling the right habits and traits in responders—the right culture and governance—is critical. Leadership and management need to be demonstrated at

Table 5: Korea's Systems to Trace and Track Radioactive Sources

System	Description
Radiation Safety Information System (RASIS)	Web-based cradle-to-grave control system integrating necessary regulatory activities and safety management processes to protect the public and environment from harmful radiation exposure
Computerized Technical Advisory Systems for a Radiological Emergency (AtomCARE)	Identifies the safety status of a power plant in the case of abnormal radiological events, predicts radiological effects, predicts affected areas, and recommends necessary actions
Radiation Sources Location Tracking System (RADLOT)	Combines global positioning system (GPS) with mobile telecommunications technology to track the location of lost or stolen radiation sources in real time
Integrated Environmental Radiation Monitoring Network (IERNet)	Detects radioactive contamination in the early stages of an accident, collects and manages information from 37 regional monitoring stations nationwide, and publicly discloses such information on the Internet in real time

Source: Korea Institute for Nuclear Safety.

the highest levels—hence our emphasis on governance—to ensure effective coordination and balance between safety and security. This could be a challenge for nuclear “newcomers” and amid a steady post-Fukushima trend among some states, particularly in Asia, that continue to opt for nuclear power to meet their energy needs.

Nonproliferation via Nuclear Instruments and Legal Frameworks

As a country that shares a border with a nuclear-armed regime, the ROK will find it difficult to ignore a discussion on nonproliferation due to its nuclear proliferating northern neighbor, and because the crux of nuclear security is ensuring that vulnerable nuclear materials do not fall into the hands of terrorists or rogue regimes. Seoul may wish to highlight nonproliferation in the context of implementing nuclear instruments and legal frameworks that prohibit and criminalize the illegal trafficking and smuggling of nuclear parts, materials, and know-how. This focus would prevent both repeating existing nonproliferation discussions in other international forums and legitimizing, for example, North Korea's nuclear programs as well as those of other states and actors that are not signatories of the NPT.

UN Secretary-General Ban Ki-moon's September 2011 report also stressed that “in order to properly address nuclear security, the international community should promote universal adherence to and implementation of relevant international legal instruments.”¹⁷ Korea should prod world leaders to not only support the objectives of key, international nuclear security instruments stipulated in the 2010 NSS Communi-

qué¹⁸ but to ratify, commit to, and strengthen them. The summit chair should drum up more support for aggressively and fully implementing two key instruments in particular: the Convention on the Physical Protection of Nuclear Materials (CPPNM) and its 2005 Amendment, the International Convention on the Suppression of Acts of Nuclear Terrorism (ICSANT), and UN Security Council Resolution 1540 (Table 6).

A priority for the NSS could be to rationalize the existing legal frameworks by designating, with certain organizational adjustments, the IAEA to help coordinate the relevant national, regional, and multilateral bodies.¹⁹ Practical measures that have been proposed by some experts include harmonizing national laws and seeing that law enforcement, intelligence agencies, emergency responders, the nuclear industry, and civil society organizations for the stringent implementation of the laws.²⁰

North Korea

The North Korean nuclear problem was apparently one of the key considerations when Seoul assumed the NSS chairmanship. The South Korean Foreign Ministry's 2011 Work Report also stipulated plans to use the 2012 NSS to persuade North Korea's denuclearization.²¹ It is not realistic to expect that a discussion on North Korea will take center stage at the NSS. It would, however, be a grave political loss for Seoul if leaders neglect to mention Seoul's biggest security threat, particularly in the face of the general public, who usually associate “nuclear threats” with “North Korea.” Because the NSS aims to secure fissile materials in respective countries, the challenge will be to deal with it in a manner that does not legitimize Pyongyang's nuclear

Table 6: International Nuclear Frameworks and Instruments

Convention on the Physical Protection of Nuclear Materials (CPPNM) and 2005 Amendment	Entered into force in 1987. ¹ The legally binding convention was amended in 2005 to include commitments to the physical protection of nuclear facilities and materials in domestic use, storage, and transit. ² However, the amendment will enter into force when two-thirds of the convention parties ratify, accept, or approve it. The United States and the ROK have yet to ratify the amendment, although Seoul plans to ratify it at the end of 2011. Participating states should also agree to protect all nuclear materials and facilities at the level consistent with the fifth revision of the IAEA's <i>Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities</i> (INFCIRC/225 Rev 5).
The International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT)	Criminalizes specific acts of nuclear terrorism and aims to prevent threats, attempts, and attacks involving possible targets such as nuclear power plants and reactors. The convention obligates alleged offenders to be either extradited or prosecuted. It went into force on 7 July 2007.
UN Security Council Resolution 1540	Obligates all member states to establish strict national controls to prevent proliferation of weapons of mass destruction. Primary obligations are to prohibit support to nonstate actors seeking such items; to adopt and enforce effective laws prohibiting the proliferation of such items to nonstate actors, and prohibiting assisting or financing such proliferation; and to take and enforce effective measures to control these items in order to prevent their proliferation as well as to control the provision of funds and services that contribute to proliferation. Implementation is measured by the number of states that have submitted national reports to the 1540 Committee as required by the resolution. Twenty-nine of the 192 member states of the UN have not submitted country reports as of May 2011.
Global Initiative to Combat Nuclear Terrorism (GICNT)	International partnership of 82 nations with the mission of strengthening global capacity to prevent, detect, and respond to nuclear terrorism by conducting multilateral activities that strengthen the plans, policies, procedures, and interoperability of partner nations. Launched in July 2006 by the United States and Russia, the GICNT builds on ICSANT, CPPNM, and UN Resolutions 1373 and 1540. The latest meeting was held in Daejeon, Korea, on 29–30 June 2011.
G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (GP)	Aims to prevent terrorists or states that support them from acquiring or developing weapons of mass destruction. It addresses nonproliferation, disarmament, counterterrorism, and nuclear safety issues through cooperative projects in areas including destruction of chemical weapons, the dismantlement of decommissioned

programs. Among the world's nuclear facilities, the reclusive regime's facilities may be the installations most secure from outsider threats, but their safety remains a concern. The other challenge would be to provide further impetus to existing frameworks like the six-party talks while trying to draw a line between the NSS process and the NPT.

President Lee Myung-bak has repeatedly mentioned a possible invitation to North Korean leader Kim Jong-il to the 2012 NSS if Pyongyang displays its commitment to denuclearize.²² It, however, is too early to predict whether Pyongyang's latest warming up to the ideas of the six-party talks' resumption and denuclearization will be sufficient grounds to justify the regime's presence in March 2012 in one way or another. Possible conditions to grant eligibility for the North's participation as an NSS observer could be for Pyongyang to return to the status and spirit of the September 2005 Joint Statement, and for all six parties to finally return to the multilateral bargaining table before the NSS. Attending the summit would also be a win-win situation for North Korea as the Fukushima quake-tsunami, which rocked the reactors in a country known for its state-of-the-art nuclear technology, would have sent a clear safety alert to the regime.

The summit could still provide an opportunity for the international community to call on rogue regimes and nuclear aspirants to surrender their nuclear weapons ambitions and join the community of nuclear nonproliferation and peaceful nuclear energy. Perhaps the most ambitious goal would be to include a vaguely worded phrase in the Seoul Communiqué without explicitly naming North Korea, or even Iran, but choose language with clear implications. Explicitly naming the two regimes would be politically difficult, if not impossible. However, a North Korean (or even Iranian) provocation prior to the summit would easily create a political environment conducive to adopting a separate statement that condemns the provocations and calls on the regime(s) to surrender nuclear weapons ambitions.

Without such provocations, the Seoul Communiqué could be ambiguously worded by perhaps "calling on all states, regimes, and nonstate actors with aspirations to acquire or develop nuclear weapons or nuclear parts, as well as those in violation of the Nuclear Non-Proliferation Treaty to surrender their weapons ambitions, roll back existing nuclear programs, and enjoy greater benefits as responsible international players and users of peaceful nuclear energy while cooperating multilaterally to secure all vulnerable nuclear and radioactive materials." It could also "call on nuclear-armed states and aspirants currently in violation of the NPT to refrain from transferring nuclear materials, parts, technology, and know-how."

Another option could be to adopt a separate chairman's statement on North Korea (and Iran), but the document would still need to overcome the tricky task of agreeing on the most appropriate language for full endorsement by all

participating countries. Any statement separate from the official summit communiqué absent unanimous endorsement would lose credibility and impact. This is why a separate meeting among like-minded states on the sidelines of the summit, though useful and necessary, would lack impact.

At the very least, President Lee and senior officials should reiterate in speeches and conversations the imperative of resolving the North Korean problem at an early date, particularly in light of Pyongyang's November 2010 disclosure of its uranium enrichment program. States involved in the six-party talks could also use the summit to engage in bilateral and multilateral side discussions on the North Korean issue.

IAEA and Subsequent Summits

The NSS should strengthen the essential role of the IAEA as the overseer, adviser, and provider of guidelines and assistance. The summits would be integral in injecting the political force needed to ensure the implementation of any existing and new standards, guidelines, and measures in nuclear security and safety. They can also help breed and integrate security cultures into their national cultures and governance. It is important that the NSS and other ad hoc groups are not alternatives to the IAEA, whose mandate should be updated frequently to adequately fulfill new tasks and respond to evolving nuclear threats. In other words, the IAEA should not remain hostage to the pre-Fukushima status quo.

A third summit would serve as a useful function to complete President Obama's four-year objective and cement the initiatives agreed upon by world leaders. To this end, it would prove helpful for Seoul to strategize near-term (second summit) and medium-term (third summit) goals when crafting the 2012 agenda. A Seoul summit with a slightly expanded scope, that includes nuclear safety-security and radioactive sources, could serve as the turning point in eventually broadening the agenda further at future summits to meet evolving global security challenges. This is why the chair of a third NSS should be chosen well in advance, preferably by the fall of 2011.

Subsequent summits after the third gathering are necessary for maintaining the urgency of nuclear security at the highest level of government and ensuring implementation. Nuclear security is an imperative that will remain as long as the threat of terrorism via nuclear and radioactive means exists. Once nuclear security measures are institutionalized and normalized, the NSS process could be brought down to the senior or working level of governments.

It is also important for ensuring continuity to reach out to the candidate for the third NSS chair so that that country understands Seoul's objectives and priorities for the 2012 summit. Therefore, it may be effective to hand over the baton to a European country like France or the UK to host the 2014 NSS. Another symbolic option could be to choose among the BRICs countries, although it may be useful to alternate the subsequent chairs among the different regions.

It may also prove worthwhile to discuss ways for Washington to continue to take the lead in ensuring full implementation of some key 2010 initiatives despite a change in chairmanship, while Seoul could be responsible for seeing through its added initiatives. For example, the United States could continue to track the bulk of country commitments in which it has resources and leverage, such as the minimization of highly enriched uranium (HEU).

The troika system is a familiar one in international forums such as the G-20, where the previous, incumbent, and future chairs work together to ensure continuity and management of the G-20's work. A similar method could be applied, officially or unofficially, to the NSS should participating states decide to hold subsequent summits.

Conclusion

As the 2012 NSS chair, the ROK brings clear advantages and capabilities to the table in leading the global nuclear security initiative. It is a non-nuclear weapons state using nuclear power for peaceful purposes, a major nuclear exporter, and a neighbor to a country that pursues nuclear weapons to threaten peace and stability. The ROK is also positioned to bridge non-nuclear weapons states and nuclear weapons states, emerging nuclear newcomers and established nuclear power users, as well as developing and developed states.

To this end, Seoul would have an interest in an expanded agenda to include nuclear safety-security. Prior to Fukushima, active discussions on nuclear safety were becoming a thing of the past owing to strong safety precautions put in place since the Three Mile Island and Chernobyl incidents. The burgeoning concern is a Fukushima-like terrorist attack. The nuclear and radiological threat is no longer a distant, foreign concept constrained within one nation's borders. Nuclear and radiological incidents and accidents in one country pose security implications across boundaries. World leaders should actively seek ways to work nationally, bilaterally, and multilaterally to mitigate evolving nuclear threats.

It is critical that the 2012 NSS go beyond the pledges made in 2010 and agree to take concrete, actionable steps. It is important that the all-encompassing 2012 communiqué and the absence of a work plan do not compromise or sacrifice depth and the number of actionable steps.

There are clear ways in which Seoul can capitalize on its strengths to flavor the 2012 communiqué with a "Korean twist" as it maintains depth on key substantive issues that ensure the security of nuclear materials, parts, and facilities:

- Seoul could ensure the adequate stipulation of strengthened and synergistic nuclear safety-security measures in the Seoul Communiqué.
- Seoul could persuade more states to sign, ratify, and implement key nuclear security instruments and conventions.

- Seoul could adequately address the North Korean nuclear issue and other outlier states.
- Seoul could help strengthen the IAEA and approach, at the earliest possible date, the 2014 NSS chair as it strategizes for follow-on summits.
- Seoul could further contribute to global nuclear security by sharing its knowledge and expertise in other key areas including the conversion of HEU to low enriched uranium (LEU) as a leading example of a country that cleaned out its HEU and developed LEU-based fuels.

Seoul is tasked with the responsibility and challenge to not only chair a major international summit but show substantive and effective leadership by furthering the nuclear security goals set out in 2010 while leaving behind its legacy. The slightly broader agenda for the 2012 NSS pressures Seoul to prove that an expanded communiqué can provide effective means to combat nuclear and radiological terrorism.

Diplomacy will serve to be an increasingly integral tool in garnering consensus and implementing nonbinding guidelines to safely secure vulnerable nuclear materials, and securely safeguard nuclear materials, around the world. Political force needs to be injected into nuclear security measures from the summit level to help alleviate major budgetary and bureaucratic hurdles.

While March 2012 may be a chance for the Lee administration to raise Korea's international profile, the NSS would in part be a barometer of success on nuclear safety and security. The ROK is a symbolic country faced with two dilemmas: it carries with it the responsibility of dealing with both nuclear security linked to North Korea and nuclear terrorism, and nuclear safety linked to the implications of Fukushima on Korea and in waters shared by neighboring China and Japan. But the NSS is also an opportunity for Seoul to show effective leadership in deepening global nuclear security measures, particularly in a busy political year that will be dominated by domestic issues soon after the close of the summit.

Endnotes

1. See Duyeon Kim, “Fukushima and the Seoul 2012 Nuclear Security Summit,” *Bulletin of the Atomic Scientists*, 18 May 2011, <http://thebulletin.org/web-edition/op-eds/fukushima-and-the-seoul-2012-nuclear-security-summit>.
2. “Nuclear security: the prevention and detection of and response to theft, sabotage, unauthorized access, illegal transfer, or other malicious acts involving nuclear material, other radioactive substances, or their associated facilities.” Defined by the IAEA Advisory Group on Nuclear Security, 17 August 2009, See IAEA document GOV/2009/54-GC(53)/18, <http://www-ns.iaea.org/downloads/security/nuclear-security-plan2010-2013.pdf>.
3. “Sous Sherpa” is the term given to the deputy negotiators responsible for crafting the agenda, communiqué, and work plan for the NSS. “Sherpa” refers to lead negotiators.
4. The 2012 Seoul NSS will adopt one detailed document—the Seoul Communiqué—in contrast with the two documents of the 2010 Washington NSS, which also adopted the Work Plan.
5. President Lee Myung-bak said in his presidential inaugural address: “The ROK will take a more positive stance with a greater vision and carry out global diplomacy under which we actively cooperate with the international community. . . . As befitting our economic size and diplomatic capacity, our diplomacy will contribute to promoting and protecting universal values. Korea will actively participate in United Nations peacekeeping operations as well as enlarge its official development assistance (ODA).” Cheong Wa Dae (Blue House), 25 February 2008.
6. Ministry of National Defense (MND), *Defense White Paper 2008* (Seoul: MND, Republic of Korea, December 2008). The language in the ROK’s *Defense White Paper 2010* is: “Keeping security in the forefront of the mind, the ROK Government set its national security objectives as maintaining peace and stability on the Korean Peninsula; establishing the foundation for citizens’ safety and national prosperity; and enhancing the country’s international capacity and stature.”
7. Various media reports in April 2010.
8. Chu Seung-ho, “Securing the 2nd Nuclear Security Summit: Meaning and Background,” *Yonhap News Agency*. 13 April 2010.
9. Report of the (UN) Secretary-General presented at the High-Level Meeting on Nuclear Safety and Security convened by the Secretary-General, “United Nations System-Wide Study on the Implications of the Accident at the Fukushima Daiichi Nuclear Power Plant.” 22 September 2011, New York, p. 20.
10. “Address by H.E. Mr. Lee Mung-bak, President of the Republic of Korea at the High-Level Meeting on Nuclear Safety and Security,” Permanent Mission to the United Nations, New York, 22 September 2011.
11. “Nuclear Security Guidelines,” IAEA, www-ns.iaea.org/security/nuclear_security_series.asp.
12. Kenneth Luongo, “Creating a 21st-Century Nuclear Material Security Architecture,” Policy Analysis Brief, The Stanley Foundation, November 2010.
13. A radiological dispersal device (RDD) contains radioactive materials that can be spread over a wide area and does not result in a nuclear explosion nor is a nuclear bomb. A popular type of RDD is a “dirty bomb.” A radiation-emitting device (RED) is a more passive form of radiological terrorism that exposes people to radioactive sources over a short or long period of time. See “Radiological Terrorism Tutorial,” Nuclear Threat Initiative, http://www.nti.org/h_learnmore_radtutorial/chapter01_02.html
14. For details on “maltech disaster” see Igor Khripunov and Duyeon Kim, “Nature and Malice: Confronting Multiple Hazards to Nuclear Power Infrastructure,” *Bulletin of the Atomic Scientists*, 7 September 2011.
15. Ibid.
16. Igor Khripunov and Duyeon Kim, “Time to Think Nuclear Safety-Security,” *Korea Times*, 8 August 2011.
17. Report of the (UN) Secretary-General presented at the High-Level Meeting on Nuclear Safety and Security convened by the Secretary-General, “United Nations system-wide study on the implications of the accident at the Fukushima Daiichi nuclear power plant,” 22 September 2011, New York, p.20.
18. For the full text of the 2010 Communiqué, see “Communiqué of the Washington Nuclear Security Summit,” White House, Office of the Press Secretary, 13 April 2010, <http://www.whitehouse.gov/the-press-office/communiqu-washington-nuclear-security-summit>.
19. Fissile Materials Working Group, “Strengthening Nuclear Security: The Legal Agenda,” *The Bulletin of the Atomic Scientists*, 8 April 2010, <http://thebulletin.org/web-edition/columnists/fissile-materials-working-group/strengthening-nuclear-security-the-legal-agen>.
20. Ibid.
21. Kim Mi-kyung, “Next Year’s Nuclear Security Summit: North Korean Nuclear Issue Excluded?” *Seoul Shinmun*. 1 February 2011.
22. On 9 May 2011 in Berlin, President Lee said, “I offer a proposal to invite Chairman Kim Jong-il to the Nuclear Security Summit on March 26–27 next year if North Korea agrees with

the international community that it will be firm and sincere about giving up nuclear programs.” This is in line with a similar comment he made after the 2010 Washington NSS when he stated that he would “gladly invite” Pyongyang to the follow-on summit if the regime rejoins and complies with the NPT and demonstrates a clear commitment to denuclearization.

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