



Seoul's Turn: The Second Nuclear Security Summit

By Sung-Hwan Kim

ON MARCH 26-27, 2012, Korea will host the second Nuclear Security Summit in Seoul. Building upon the achievements and agreements from the first summit held in Washington, D.C., in 2010, the Seoul Summit will provide an invaluable opportunity for leaders worldwide to further substantiate this endeavor.

The first Nuclear Security Summit was initiated through the vision of US President Barack Obama to achieve “a world without nuclear weapons.” Realizing this goal will be a long process considering the substantial amount of stockpiles of nuclear material around the world. It is quite sensible, therefore, to prevent nuclear terrorism by strengthening nuclear security.

Nuclear security, as defined by the International Atomic Energy Agency (IAEA), refers to “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.” Put simply, nuclear security is about making the world safer by keeping nuclear material out of the wrong hands.

Nuclear terrorism is a subject that has captured the popular imagination. It has been depicted in a number of movies and TV series. From the James Bond films of the Cold War era to the more recent movie, *Mission Impossible 4: Ghost Protocol*, it has been a source of lurid popular fascination. Nuclear terrorists in the Korean drama *IRIS*, for example, almost succeeded in nuking the center of metropolitan Seoul.

All of these fictional depictions of nuclear terrorism serve to illustrate the difficulties of thwart-

ing a nuclear attack once nuclear materials and devices get into the hands of terrorists. As a result, it is clear there is heightened public awareness worldwide of the threat of nuclear terrorism. Due to the development and proliferation of nuclear technology, as well as open access to the necessary equipment — some of which can actually be ordered over the Internet — making a nuclear device has become relatively easy. The hard part is finding enough fissile material to make a core. The source of concern stems from the many forms that nuclear material takes — such as raw ore, yellow cake, hexafluoride, metal oxide, ceramic pellets and fuel rod assemblies. Significantly, at each and every step in this process, there is potential for

through the inertia surrounding nuclear security issues. Most important, it contributed to bridging the gap in threat perceptions by providing an opportunity for all participating states to deepen their common awareness of the importance of this matter at the highest political level and seek a co-ordinated response. The summit upgraded what had previously been considered an unfamiliar and technical area into an international co-operative mechanism. This has enabled nuclear security to emerge as one of the crucial platforms for advancing nuclear disarmament, non-proliferation and peaceful uses of nuclear energy, thereby helping to realize “a world without nuclear weapons.” It is also noteworthy that the summit was

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a breach in security. For this reason, the focus of the Nuclear Security Summit is to secure all vulnerable nuclear material worldwide by strengthening the three core elements of nuclear security — namely prevention, detection and response.

THE WASHINGTON SUMMIT: HOW IT BEGAN
On April 12-13, 2010, leaders from 43 countries and representatives from three international organizations — the United Nations, the IAEA, and the European Union — gathered in Washington for the Nuclear Security Summit. Conducted in an interactive fashion where leaders engaged in open discussions, the summit helped to break

attended by so many countries — indeed, it was the largest diplomatic gathering hosted by the US government since the founding conference of the United Nations in San Francisco in 1945.

As such, the Washington Summit proved to be more than diplomatic fanfare. There were a number of concrete outcomes, in addition to the Washington Communiqué that was issued by the leaders. A Work Plan was adopted that set out 50 co-operative measures in 11 areas. They include: minimization of highly enriched uranium (HEU); ratification of relevant international agreements such as the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT)

and the amended Convention on Physical Protection of Nuclear Material (CPPNM); and the establishment of “Centers of Excellence” to provide effective training in nuclear security. In addition, 30 countries delivered voluntary commitments called “housegifts.” Korea, for instance, announced its decision to host the 2012 Seoul Nuclear Security Summit and the 2011 Global Initiative to Counter Nuclear Terrorism Plenary, which was held in Daejeon last June. Seoul also unveiled a plan to establish a Center of Excellence for training and education.

HOW REAL IS THE THREAT?

Concerns about nuclear security did not just suddenly pop up. In fact, the issue is as old as the nuclear age itself. Nobel Physics Laureate Pierre Curie warned as early as 1905 that radium could be very dangerous in criminal hands. Since countries rediscovered the power of uranium towards the end of World War II, it has emerged as a valuable material, with major powers engaged in heated competition to secure as much uranium as they could. Naturally, the development of uranium mines worldwide has meant that the availability of uranium is scattered around the globe, and cases of theft and loss have also increased. In addition, radiological substances can be extracted from equipment used in our daily lives, including medical isotopes, radiological photos and even fire alarms and humidity gauges.

Since the attacks of Sept. 11, 2001, nuclear terrorism has been perceived as a real, rather than an imaginary threat. The incident made it all too clear that nothing is impossible. Currently, it is estimated that around 1,600 tons of highly enriched uranium and 500 tons of plutonium are stored in locations scattered around the world. This is enough nuclear material to fashion some 126,500 nuclear weapons. According to the IAEA’s Illicit Trafficking Database (ITDB), 2,164 cases of illegal trafficking, theft or loss of nuclear and radiological materials were reported around the world from 1993 to 2011; and of those, around 60 percent have not been recovered. This figure only includes cases voluntarily reported to the IAEA by Member States. Galya

Balatsky of the Los Alamos National Laboratory pointed out that more than 100 countries were reported to have been involved in illicit nuclear trafficking in some capacity.

Just to highlight a few incidents, a UN Panel reported in 2006 on nuclear smuggling that “the frequency of seized consignments in the Central African region leaves no doubt that extraction and smuggling must be the result of organized efforts, and that these illegal activities must be highly rewarding financially.” It is known that Osama bin Laden described acquiring nuclear weapons as a “religious duty,” and that the *9/11 Commission Report* concluded that al-Qaeda has tried to acquire or make nuclear weapons. The illicit proliferation activities of the network led by A.Q. Khan, the father of Pakistan’s nuclear program, showed clearly that not only nuclear technology but also nuclear material can easily be transacted.

If a nuclear terrorist attack were to occur, it would not only cause massive loss of life but also lead to social, environmental and psychological devastation and entail exponential recovery and clean-up costs. In a globalized world marked by deepened interdependence, the aftermath of a nuclear terrorist attack would reverberate beyond the target country and have a wider impact in the form of serious disruptions to the global economy and financial system. In other words, an attack on one country would be an attack on the whole global community, with no country being an exception. The ramifications of nuclear terrorism are global, so our response should also be global.

A WORLD FREE OF NUCLEAR WEAPONS

A milestone in the pursuit of a nuclear weapons-free world came on Jan. 4, 2007, when four well-known “Cold Warriors” jointly authored an editorial that appeared in *The Wall Street Journal* under the title, “A World Free of Nuclear Weapons.” The four authors — former US Secretaries of State Henry Kissinger and George Schultz, former US Secretary of Defense William Perry, and former US Senator Sam Nunn — renounced the policy of nuclear deterrence that had dominated the Cold War era as not only obsolete but also increasingly hazardous. On Jan. 15, 2008, they followed up

Keeping Tabs on the Black Marketeers

The IAEA established a database in 1995 to track incidents of illicit trafficking in or loss of regulatory control of nuclear and other radioactive material.

The Illicit Trafficking Database (ITDB) covers all types of nuclear material recognized by the agency — uranium, plutonium and thorium — naturally occurring and artificially produced radioisotopes and radioactively contaminated material, including scrap metal.

As of Dec. 31, 2011, the database contained:

- 2,164** confirmed reported incidents. This number included:
 - 399** involving unauthorized possession and related criminal activities,
 - 588** involving reported theft or loss,
 - 1,124** involving other unauthorized activities and events.
 - 16** involving unauthorized possession of highly enriched uranium or plutonium.

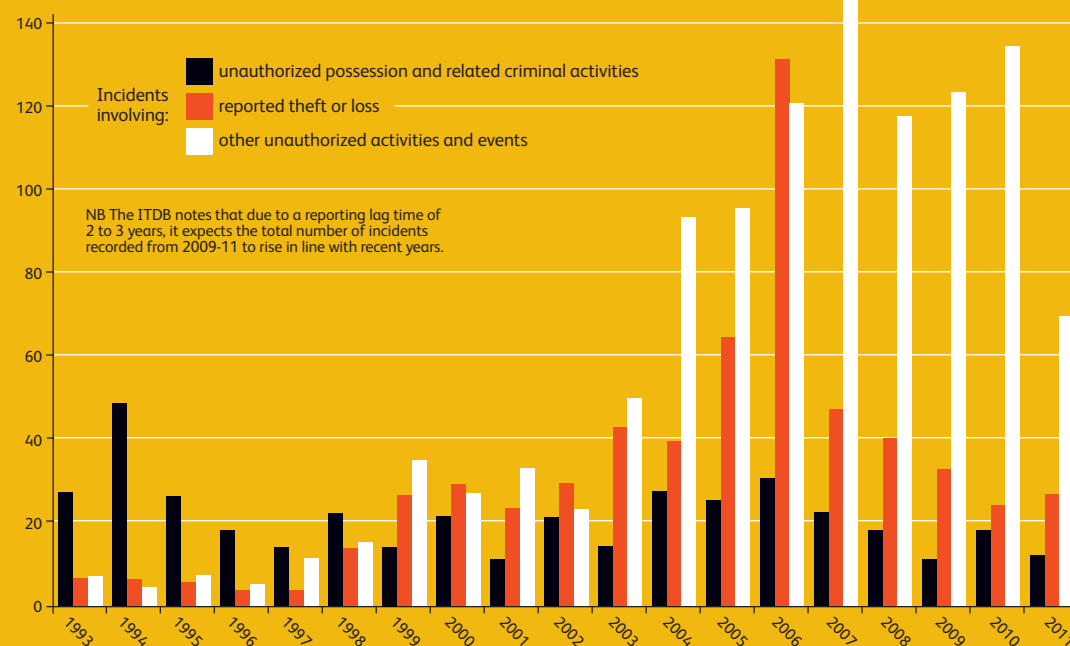
The database shows that some incidents involved attempts to sell or traffic these materials across international borders. A small number involved seizures of kilogram quantities of potentially weapons-usable nuclear material, but the majority involved gram quantities. In some of these cases, there were indications that the seized material was a sample from a larger unsecured stockpile.

According to the IAEA, “incidents involving attempts to sell nuclear or other radioactive material indicate that there is a perceived demand for such material ... Where information on motives is available, it indicates financial gain to be the principal incentive behind the majority. Many trafficking incidents could be characterized as ‘amateur,’ as demonstrated by ad-hoc planning and a lack of resources and technical proficiency.

“However, there are a few significant cases that appear more organized, better resourced and that involved perpetrators with a track record in trafficking nuclear/radioactive material. Based on current indications, an attempt to traffic nuclear or radiological material by an experienced professional group could be difficult to prevent.”

Only a Matter of Time? Reported Incidents by Year

Source: IAEA Illicit Trafficking Database



with an editorial entitled, “Toward a Nuclear-Free World,” in which they argued that the “accelerating spread of nuclear weapons, nuclear know-how and nuclear material has brought us to a nuclear tipping point.”

Then, as mentioned earlier, President Obama in a speech in Prague in April 2009 presented his vision for a “world without nuclear weapons,” rightly pointing out that nuclear security is the foundation for realizing that ultimate goal. He also stressed that nuclear terrorism is the most immediate and extreme threat to global security and announced his plan to secure all vulnerable

first in terms of its domestic commitments and capacity. In addition, the Seoul Summit reflects Korea’s elevated international standing and the international community’s growing confidence in its peaceful nuclear activities.

This summit will enjoy a larger presence than the previous summit. The participating states will represent some 80 percent of the world’s population and 90 percent of the world’s gross domestic product. In addition to those countries that attended the Washington Summit, we have invited several more countries in light of their commitment to, and interest in, strengthening nuclear

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nuclear material in the world in four years. This speech gave birth to the first Nuclear Security Summit in Washington, and the world now eyes Korea as the host of the second summit.

WHAT DOES THE SEOUL SUMMIT AIM TO ACHIEVE?

The fact that Korea, the world’s fifth largest producer of nuclear power, is hosting the Second Nuclear Security Summit is a reflection of the high standards the country maintains with regard to its own nuclear facilities and personnel. To illustrate, the Nuclear Threat Initiative (NTI) released a Nuclear Materials Security Index in January this year that rated Korea as the most secure country in Asia overall. In particular, it ranked Korea

security, as well as to reflect balanced regional representation. The fact that so many countries have shown an interest in this summit shows that there is significant global awareness and understanding of the gravity of this issue. As an active contributor to a number of key international forums, Korea is poised to serve as a bridge between various groups on this priority issue, encouraging contributions from both the Nuclear Security Summit Participating States and non-participants.

The Seoul Summit will consolidate the highest political resolve of leaders worldwide and take the important next step in making the world safer from nuclear threats. By fostering substantial cooperation among 53 countries and four international bodies — comprising both NPT and non-

NPT states as well as nuclear and non-nuclear weapon states, under the shared principle of preventing nuclear terrorism — the summit will contribute to building the confidence which will be an important asset in our long journey to achieving a world without nuclear weapons. In this regard, we hope the Seoul Summit will be a stepping-stone to breakthroughs in broader areas of nuclear non-proliferation and disarmament.

While addressing the three key agendas of nuclear security — namely, response to nuclear terrorism, protection of nuclear material and facilities and prevention of illicit trade in nuclear material — the Seoul Summit will reflect on the changes in the international security environment since the Washington Summit and expand the scope of discussions. One focus will be the interface and synergy between nuclear security and nuclear safety, which has emerged all the more significantly since the Fukushima nuclear disaster last March. The discussions on the implications and effects of nuclear safety in the context of strengthening nuclear security could enable us to achieve both of these key objectives without compromising either element.

Another important issue will be the threat of radiological terrorism that threatens to use more primitive yet sufficiently devastating “dirty bombs” — radiological dispersal devices. Because radiological materials are more accessible due to their wide range of use, and thus their greater vulnerability to theft, this issue warrants more attention and action.

Other areas of key interest at the Seoul Summit are strengthening the security of sensitive information, nuclear forensics, nuclear culture and transportation of nuclear material. In particular, forensic examination of trace nuclear material will help to determine the material’s origin and other crucial details in the case of an attack.

The Seoul Communiqué that will emerge from this summit will weave together existing architecture and new initiatives to break fresh ground on nuclear security. As a result of the Sherpa meetings and consultations held over the last two years, we have garnered widespread support for the Seoul Communiqué. Once adopted, this document will

provide a solid ground for sustained political, diplomatic and technical engagement from the participating states.

The Seoul Summit will also comprehensively assess the progress made since the Washington Summit. For instance, the US and Russia have dismantled seven tons and 48 tons of HEU, respectively, equivalent to some 2,200 nuclear weapons. Around 400 kilograms of HEU were repatriated by seven countries to the US and Russia, the original providers. More than 10 countries additionally acceded to or ratified the CPPNM and ICSANT. The IAEA guideline on physical protection of nuclear facilities (INFCIRC/225) was further strengthened. Many more countries are expected to contribute to the IAEA Nuclear Security Fund and establish Centers of Excellence for training and education in nuclear security. Moreover, as at the Washington Summit, participating states are expected to put forth new voluntary national commitments in Seoul.

As for Korea, we will do our part to contribute significantly to setting up a responsive nuclear security mechanism. We have almost completed our domestic procedures to ratify the ICSANT and the amended CPPNM; last December, the National Assembly approved their ratification, which will come to effect as soon as relevant domestic laws and regulations are accordingly amended. Korea will also propose concrete ways to make the best use of its state-of-the-art nuclear and information technologies, such as making high-density low-enriched uranium powder for use as fuel in research reactors that were originally designed to run on HEU fuel. We will also introduce a technology to integrate a real-time tracking system for radioactive sources that will significantly enhance accounting capabilities.

EMINENT PERSONS GROUP

On Nov. 29, 2011, the Eminent Persons Group (EPG), comprising 15 prominent figures from 10 countries with extensive experience and expertise in this field, was established to advise President Lee Myung-bak. They gathered in Seoul and exchanged views and shared ideas in order to ensure the success of the Seoul Summit.

Following in-depth discussions, the group released a 10-point joint statement. It affirmed the EPG's strong support for Korea's leadership and for the Seoul Summit that would serve as a catalyst for realizing a world free of nuclear and radiological terrorism.

It also highlighted the following six elements in guaranteeing the success of the Seoul Summit: demonstrating tangible progress in implementing the commitments made at the Washington Summit; setting out a practical vision and new concrete measures in the Seoul Communiqué; securing significant commitments from participating states; developing measures for co-operation to reduce the threat of radiological terrorism; strengthening international and regional co-operation to prevent the illicit transfer of nuclear materials; and maintaining the momentum by holding a third Summit.

SIDE EVENTS

In addition to the main summit in Seoul, two special events will also be held on the sidelines. First, a Nuclear Security Symposium will be hosted by the Institute of Foreign Affairs and National Security (IFANS) and the Korea Institute of Nuclear Non-proliferation and Control (KINAC) on March 23. Around 200 nuclear experts will discuss ways to innovate global nuclear security governance. On the industrial side, a Nuclear Industry Summit will be sponsored by Korea Hydro and Nuclear Power Company (KHNP). The event will be attended by around 200 CEOs from the global nuclear industry. In this way, the Seoul Summit will involve all key stakeholders including governments, scientific and industrial communities, as well as the general public, all of whom have vital contributions to make.

LOOKING AHEAD

As UN Secretary-General Ban Ki-moon once said, just one nuclear terrorist attack could bring "unwanted change in the world forever." We face a common security problem that warrants our constant attention and immediate action. We must forge a strong alliance to serve this noble cause and invest today to prevent a catastrophe tomorrow.

row. As former US Senator Sam Nunn has pointed out, global nuclear security is only as strong as the weakest link in the chain.

Through the Seoul Nuclear Security Summit, I am confident that the international nuclear security architecture will advance from the stage of political declarations to practical steps toward concrete implementation. To translate the motto of the Seoul Summit — "Beyond Security Towards Peace" — into reality, the Republic of Korea will do its utmost to contribute its experience, know-how and capabilities. As Chair of this premier security forum, Korea will continue to contribute to the world as a leader in global security governance.

Strengthening nuclear security is a long-term process that warrants sustained investment. Nuclear security cannot be achieved by one country's efforts alone. As such, it is indispensable for us to garner strong international will and commitment to establish firm standards and reinvigorate global nuclear security governance. Complacency has no place in this noble undertaking.

Korea rose from the ashes of the Korean War and achieved economic development and democracy in a remarkably short period of time. As Chair of the 2010 G-20 Summit, Korea demonstrated its capacity as a contributor to the international economic regime. The Seoul Nuclear Security Summit will serve as another opportunity for Korea to take "Global Korea" to the next stage.

Finally, with 58 world leaders gathering in Seoul to engage in discussions on key nuclear issues, the Seoul Summit will also send a message on the vital importance of peace and stability on the Korean Peninsula.

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