



Experts Available: the 2014 Nuclear Security Summit and Preventing Nuclear Terrorism

Media Advisory & Backgrounder
March 20, 2014

The following experts from European-based research and academic institutions are available for immediate comment about the March 24-25 Nuclear Security Summit (NSS) in The Hague, Netherlands, and the threat of nuclear terrorism. They will be in the Netherlands for the official non-governmental expert side event to the NSS: the Nuclear Knowledge Summit (March 21-22—www.knowledgesummit.org).

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Cindy Vestergaard is a senior researcher at the Danish Institute for International Studies (DIIS). She is currently leading the global 'Governing Uranium' project which looks at the governance and control of the very front end of the nuclear fuel cycle in 17 uranium-producing and consuming countries. Previous to DIIS, Ms. Vestergaard worked on non-proliferation, arms control and disarmament policy and programming at Canada's Department of Foreign Affairs and International Trade (DFAIT). She is a regular contributor to media outlets and lectures nationally and internationally on weapons of mass destruction, proliferation and disarmament issues.

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2014 Nuclear Security Summit Media Backgrounder

Synopsis:

Experts, policymakers, and politicians across regional and ideological divides agree that nuclear terrorism is one of the greatest risks facing the global community. However, efforts to secure vulnerable nuclear materials have not been commensurate with the threat. The Nuclear Security Summits (NSS) in 2010 and 2012 helped overcome international inertia and generated incremental improvements in securing materials that could be used in a nuclear attack. But much more remains to be done before there is a global system that ensures nuclear terrorism will be prevented, not responded to. The upcoming summit in The Hague in March has the potential to advance the goal of reducing and ultimately eliminating weak links in the current approach to nuclear security as well as to set the stage for an enduring legacy after the NSS process ends.

Key Points

- **LEGACY:** World leaders must seize the 2014 summit as an opportunity to create an enduring legacy of nuclear security improvement.
- **SUCSESSES:** The NSS process has produced important steps forward, including expediting the removal of dangerous nuclear materials and drawing global attention to nuclear security challenges.
- **ACTION:** Bolder action is needed to eliminate weak links in nuclear security, create an effective global security system, and prevent terrorists from acquiring nuclear materials.

WORLD LEADERS CALL FOR ACTION

“In short, it is increasingly clear that the danger of nuclear terrorism is one of the greatest threats to global security – to our collective security.” — [Barack Obama](#), President of the United States (2010)

“In this age there is no place that can be free from nuclear terrorism. I believe that it is our joint responsibility to work towards making a community of peace where humankind live peacefully together by contributing to world nuclear security.” — [Lee Myung-bak](#), former President of the Republic of Korea (2012)

“There is a considerable amount of nuclear material present in the world. If that ends up in the wrong hands, the consequences would be incalculable.” — [Mark Rutte](#), Prime Minister of the Netherlands (2013)

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THE THREAT

Nuclear terrorism is a severe and ongoing threat

- Experts, policymakers, and politicians around the world agree that nuclear terrorism poses a grave threat that must be prevented, not responded to.
- Terrorist groups, including al-Qaeda, have demonstrated a serious interest in acquiring weapons of mass destruction (WMD) and WMD-expertise.
- Terrorists could replicate a gun-type bomb design like the one that destroyed Hiroshima if they had weapons-grade uranium.

Significant and dangerous amounts of nuclear materials exist

- The global stockpile of nuclear materials is large enough to build more than 20,000 new weapons like the one that leveled Hiroshima and almost 80,000 like the one that destroyed Nagasaki. (This includes civilian and military stockpiles.)
- A grapefruit-sized amount of plutonium or enough weapons-grade uranium to fit into a 5 pound bag of sugar can be fashioned into a nuclear weapon, which could instantly kill and injure hundreds of thousands of people.
- Weapons-usable materials continue to accumulate, including in regions of the world where terrorists are most active.

Current stockpiles are vulnerable

- The current global system for securing materials, while improved, is still a patchwork of agreements and voluntary commitments.
- Because terrorists or criminals will go where material is the most vulnerable, nuclear security is only as strong as its weakest link.
- More than a hundred thefts and other incidents involving nuclear and radioactive material are reported to International Atomic Energy Agency (IAEA) every year in regions ranging from Latin America and Europe, to Central Asia and Africa.

Nuclear terrorism is a shared global risk

- Virtually every nation possesses nuclear or radiological materials that could be used in a nuclear terrorist attack or a dirty bomb.
- No single country can address the threat on its own, and it is not just a problem for nuclear weapons states.
- A nuclear terror attack anywhere in the world would have devastating economic, societal, and security impacts far beyond the immediate tragedy.
- Kofi Annan, former Secretary General of the United Nation, warned that: “Were a nuclear terrorist attack to occur, it would cause not only widespread death and destruction, but would stagger the world economy and thrust tens of millions of people into dire poverty... [creating] a second death toll throughout the developing world.”

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Nuclear Security in Western Europe

Fissile Materials

While the states of Western Europe have made progress on nuclear security since the 2012 Nuclear Security Summit, there is still room for improvement. Significant progress has been made in reducing fissile material stocks in Western Europe, with Austria and the Czech Republic having removed all weapon-usable fissile materials, and Hungary returning all HEU to the US. However, France and the United Kingdom still maintain large stocks of civilian HEU and separated unirradiated civilian plutonium (as well as military stocks of HEU and Pu); Belgium, Germany, Italy, the Netherlands, Norway, Poland, and Switzerland also hold stocks of civilian HEU. Continued progress on transitioning to non-HEU production of medical isotopes and converting research reactors to LEU fuel is needed to allow Western Europe to become HEU-free in the civilian sector. In this regard, the 2012 initiative launched in Seoul by Belgium, France, the Netherlands, and the United States on the minimization of HEU in the production of medical isotopes is a laudable undertaking.

Next steps should be focused on other hard cases: 1) devising solutions for converting to LEU or find other replacement alternatives for remaining civilian research reactors still using HEU in France and Germany; 2) developing technical solutions and policy recommendations for the reduction of stocks of separated plutonium; and 3) addressing the reduction and elimination of excess military stocks of fissile materials. Hopefully, at the 2014 Summit in The Hague, countries from the region will be forthcoming with new pledges for the clean-up and minimization of both HEU and Pu in Western Europe. Western Europe is also well positioned to lead efforts on ridding off of excess military HEU and Pu and putting these stocks under international verification and monitoring.

International Agreements

Further progress is also needed on international nuclear security instruments, since neither the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT) nor the 2005 Amendment to the Convention on the Physical Protection of Nuclear Material (CNNPM) have universal ratification within the region. It is particularly worrisome that several countries participating in the nuclear security summit process are still behind on their ratifications. It would also be desirable to see more progress among Western European countries in the area of transparency of their security arrangements, including pledges to routinize nuclear security peer reviews in the region.

Training & International Cooperation

Western European and European Union are key contributors to the capacity building, education and training on nuclear security issues. In 2013, Delft University of Technology in the Netherlands, along with universities in Austria, Germany, Greece, Norway, and the United Kingdom, has established a master's degree program in nuclear security. For several years, Italy has been hosting training programs on nuclear security in cooperation with the IAEA. King's College London runs train-the-trainer programs for faculty on nuclear security. In addition to these individual accomplishments by countries in Western Europe, the European Union has identified an opportunity to foster global nuclear security and other WMD security progress and

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improve cooperation among states in regions outside of Western Europe, and has begun establishing EU Chemical, Biological, Radiological, and Nuclear (CBRN) Centres of Excellence (COE). Of these EU CBRN COEs, five regional secretariats have already been established in Jordan, Algeria, Morocco, Philippines, and Georgia and four more are in progress at to represent Central Asia, GCC, Eastern and Central Africa.

QUESTIONS

How much damage could these materials cause?

- The global stockpile of nuclear materials is large enough to build more than 20,000 new weapons like the one that leveled Hiroshima and almost 80,000 more like the one that destroyed Nagasaki. (These figures include both military and civilian stockpiles).
- A nuclear terrorist attack in a major global city would immediately kill tens of thousands of people and sicken a much larger number, many of whom would ultimately die.
- Such an incident would make a significant geographic area unusable for potentially decades and cost hundreds of billions of dollars to repair.
- The costs to the global economy would be extremely high. There would be incalculable stress on national and global political and security systems, which would most likely lead to international transportation and security issues receiving priority over economic, development, and other issues.

How easy would it be for terrorists to carry out a nuclear attack?

- No part of planning or carrying out a nuclear terrorist attack would be easy, but by far the hardest part is acquiring nuclear material.
- There are still vulnerable nuclear materials in hundreds of sites across 25 countries to which terrorists and other non-state actors could potentially gain access.

If these materials are so vulnerable, why hasn't there been an attack?

- We have been lucky.
- Terrorist organizations have proven to be patient and methodical. The 9/11 Commission reported that preparation for the attacks in 2001 began more than a decade earlier.
- There have been two attacks on a nuclear facility in South Africa in 2007 by unknown assailants who penetrated several layers of security but did not acquire any fissile materials.
- In 2010, authorities in Georgia reported that they broke up an effort to smuggle highly-enriched uranium (HEU) to an unknown buyer.

Is the terrorist threat less now that Osama bin Laden has been killed?

- The threat is dynamic and involves groups other than al-Qaeda.
- For instance, a January 2014 story in the *Times of India* reported that a mujahedeen leader in India admitted to actively seeking a Pakistani nuclear weapon.

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- Al-Qaeda has established dangerous affiliates such as al-Qaeda in the Arabian Peninsula and al-Qaeda in the Islamic Maghreb. Recent events in Iraq demonstrate that the threat posed by al-Qaeda has not been eliminated.

Where are materials most vulnerable?

- Ungoverned or poorly-governed areas around the world pose an increased risk of nuclear theft, or could be used to transit materials to another country.
- Many countries with stockpiles do not yet have adequate security to combat smuggling and protect their stockpiles, while many states without nuclear material have limited ability to prevent illicit movement of nuclear material across their borders.

Do current policies adequately address the threat of nuclear terrorism?

- There is no effective global system for securing all nuclear materials.
- The current regime is a patchwork of agreements and voluntary commitments.
- Since 1993, there have been at least 2,331 confirmed cases of illicit or unauthorized trafficking of nuclear and radioactive material logged by the IAEA—160 of these occurred in 2012. Many more may be unconfirmed or completely undetected by the international community.

What will constitute success from the NSS process?

- All states should adhere to internationally recognized standards and best practices for securing dangerous nuclear material.
- Institutions like the IAEA and new nuclear security training centers should contribute to strong and continuously improving nuclear security practices.
- The risks of all dangerous materials must be addressed, including: civilian and military HEU, separated plutonium, and radiological materials.
- States should build confidence in the effectiveness of their national nuclear security practices.
- Ultimately, a legally-binding international framework convention on nuclear security is crucial to strengthening the nuclear security regime.

What are specific examples of necessary policy improvements?

- Convert reactors to use low-enriched uranium (LEU), which cannot be fashioned into a nuclear weapon. More than one hundred civilian nuclear reactors around the world still run on HEU.
- Countries should stop stockpiling materials in excess of what they need to run existing civilian nuclear power plants.
- Nations should minimize the number of storage sites for their materials.
- The IAEA should be empowered to assess how states are securing nuclear materials and assist those states that need help in meeting international standards.

What are some nuclear security success stories from the NSS process?

- HEU has been cleaned out of 12 countries since 2009, including 7 since January 2012.

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- More than 10 nuclear security training centers, known as “centers of excellence,” have been established.
- Dozens of countries have updated their national nuclear security laws and regulations.
- New counter smuggling activities and alliances have been initiated.
- More countries are taking steps to ratify treaties and support international initiatives to secure materials.

Will the 2014 summit get in the way of plans to develop nuclear power?

- No, it will help protect the continued use of nuclear power by demonstrating that nuclear security is taken seriously.
- Industry representatives are organizing a Nuclear Industry Summit in the Netherlands only days before the NSS, as they did in 2010 and 2012.

How large are the global stockpiles of nuclear materials?

- Roughly 1,390 metric tons of HEU and 490 metric tons of separated plutonium exist for both civilian and military applications, according to the International Panel on Fissile Materials. This includes civilian and military stockpiles.
- It only takes 50 kg of HEU to make the simplest gun-type bomb.
- There is no baseline inventory and no shared global accounting system for nuclear materials.

What’s the difference between a nuclear weapon and a dirty bomb?

- A nuclear weapon is a device that creates a fission reaction, which produces a significant explosion and causes a mushroom cloud. A dirty bomb can be as simple as combining dynamite and any material that gives off radiation, many of which are used for industrial or medical purposes.
- Nuclear weapons are far more destructive, but both spread dangerous levels of radiation.

What is the difference between nuclear safety and nuclear security?

- Nuclear safety measures protect against accidental releases of radiation while nuclear security measures defend against intentional misuse or sabotage of a nuclear facility.
- The disaster at Fukushima Daiichi in Japan was a nuclear safety accident, but similar damage could result from sabotage.

How are arms control and nonproliferation different from nuclear security?

- Arms control involves reducing existing stockpiles of nuclear arms through agreements such as the US-Russia New START deal.
- Nonproliferation efforts focus on stemming the spread of nuclear weapons to additional countries. The Nuclear Nonproliferation Treaty is the major instrument here.
- Nuclear security seeks to prevent the deliberate and malicious misuse of all existing dangerous nuclear material.

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Why aren't North Korea and Iran involved?

- Iran and North Korea are both under sanctions because of their nuclear activities and engaged through separate tracks.

What is US President Barack Obama's role?

- President Obama initiated the NSS process, hosting the first summit in Washington, DC in 2010. He has announced that the United States will hold the fourth and likely final summit in 2016.
- The United States has historically played a leading role in funding and implementing efforts to lock down dangerous nuclear materials.
- The Obama administration can do more to press the Senate to complete ratification of international agreements, such as the 2005 Amendment to the Convention on the Physical Protection of Nuclear Material, and the International Convention for the Suppression of Acts of Nuclear Terrorism.
- The United States still accounts for the vast majority of global nuclear security financing and must continue to prioritize these programs in future budget requests.

What is the most important take-away for the 2014 summit?

- World leaders must seize the opportunity to create a nuclear security legacy that will protect the citizens of the world and the global economy not only today, but for the future.

For the latest on NSS-related events, publications, and expert availability:

www.fmwg.org/2014NSS

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