



Foreign &  
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Ministry of Foreign Affairs of the  
Netherlands

**Nuclear  
Security  
Summit  
2014 The Hague**

**The Nuclear Security Summit 2014: challenges and opportunities**

Wednesday 27 February – Friday 1 March 2013 | WP1226

Held in the Hague



## Conference report

# The Nuclear Security Summit 2014: challenges and opportunities

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*‘Three years after its instigation, the Nuclear Security Summit (NSS) process can be regarded as a dynamic one, as extra commitments have been established and new areas of work identified’*

### Key points

- The NSS process has made clear and measurable progress on securing nuclear materials since its inception. However, some objectives (nuclear security improvements, reactor conversions, removals of nuclear material) will not be completed during the four-year effort.
- Priorities for the period leading up to the 2014 Summit are: strengthening the legal dimension; limiting the use of highly-enriched uranium (HEU) and plutonium; strengthening the interface between government and industry; strengthening the regime for radiological sources; developing the concept of assurances in nuclear security; and developing the nuclear security architecture on a technical and political level.
- There are two key factors that will determine whether the 2014 Summit will be the last. First, the balance of leadership; and second whether the developments have been sufficiently boosted by the three Summits so far.

### Looking towards the Nuclear Security Summit 2014

- Three years after its instigation, the Nuclear Security Summit (NSS) process can be regarded as a dynamic one, as extra commitments have been established and new areas of work identified after the first Summit in 2010. The Seoul Summit was an important step in enhancing and developing this process: leadership performance was more targeted than in Washington, attendance increased, and the issue received recognition at the highest level in governments. Furthermore, the number of new proposals and the incentivising of new states to enter the area were impressive. Overall, the NSS community became more independent, cooperative and flexible. On the basis of that dynamic aspect of the NSS process, the aim for 2014 is to set out high but realistic goals for further progress.
- Considering this, a number of areas are likely to receive priority. First, the legal dimension can be strengthened: for example, currently only 65 countries have ratified the amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM), leaving over 30 countries to go. In the end, shaping a legal basis is a composite of having a vision of improvements of the system and getting countries to subscribe to common and internationally established values. Subscription to those values should be shared by all countries irrespective of whether they possess any nuclear material.
- Second, specific measures to limit the use of highly-enriched uranium (HEU) and plutonium, and to locate stocks of these materials in countries that are good at protecting them, can be developed. In order to make progress, further international cooperation between countries and also between sectors, is essential.
- Third, strengthening the interface between government and industry. Industry has a great deal of expertise to offer: strengthening the interface is therefore important

but also a difficult task because the relationship between both sectors differs per country and is culture dependent.

- Fourth, the regime for radiological sources needs strengthening.
- Fifth, developing the concept of assurances in nuclear security. How do we provide assurances and who provides them, while simultaneously respecting sovereignty and securing information? The question is why assurances are important. And the answer to that question is that we globally depend on each other's performance. At the World Economic Forum on WMD, the idea of a gold standard was brought forward to encourage countries to meet the highest standards. This itself raises several questions: how could this goal be implemented? Has something similar been done before? And finally, how do you get countries to implement such a standard.
- Finally, strengthening the nuclear security architecture on a technical and political level should be addressed. Information sharing and reporting, new treaties, peer reviews (such as IPPAS missions), both formal and informal ways to support and promote nuclear security through both international and national channels, should be established.

*'it is becoming plain that the four-year effort will not be the end of the efforts regarding nuclear security'*

### **Assessing the NSS process since 2010**

- In assessing the progress made by the NSS process since its inception in 2010, at least three significant achievements stand out. The first is the clear and measurable progress on securing nuclear materials. However, some objectives (nuclear security improvements, reactor conversions, removals of nuclear material) will not be completed during the four-year effort.
  - Second, it is becoming plain that the four-year effort will not be the end of the efforts regarding nuclear security. In 2014, some countries will still have unsecured nuclear material; insufficient nuclear security rules; no or few armed guards at key facilities (even ones with HEU or plutonium); easily defeated insider protections (e.g., seals that can be broken and replaced without detection, exits not covered by effective monitors); facilities with little incentive to sustain effective security. Furthermore, consolidation and conversion efforts will be far from complete by 2014. Current schedules for HEU reactor conversion stretch to 2025; and many categories of facilities and materials not yet being addressed.
1. This means that the global nuclear security regime still needs improvement after 4 years of NSS. Currently there are no international standards that specify what levels of security nuclear weapons, plutonium, or HEU (or major power facilities) should have; no regular international mechanism for verification or transparency to build confidence that states are putting effective nuclear security in place; no political forum for continuing high-level discussion on nuclear security after the NSS process comes to an end. The current patchwork of agreements and initiatives is clearly insufficient, but efforts to negotiate new treaties are unlikely to succeed in a timely way. It is more likely to succeed with political commitments among groups of like-minded states
  2. A key goal for the 2014 Summit should therefore be strengthening nuclear security for the long haul. There are some important questions that need to be answered: are all facilities available to secure nuclear material? Is our material secured as we want it to be? We need to consider the capability of securing and decreasing the number of locations where the material is present. To achieve this, global governance is needed. Proposals to take this forward are:

3. This would be tasked with ensuring all nuclear weapons and weapons-usable nuclear materials are protected against the full range of possible terrorist and criminal threats (insider and outsider). It would work to provide well-equipped, well-trained, professional guard forces; put in place effective and well-enforced nuclear security rules and regulations, and carry out realistic tests of the performance; ensure accounting and control systems adequate to detect and localize any theft of weapons-usable nuclear material; review each site with nuclear weapons, HEU, or plutonium for potential consolidation.

#### *New steps to reduce nuclear weapons and materials sites*

4. On HEU, there are still some 120 research and training reactors using HEU fuel or targets. The NSS 2014 could agree on target of a complete phase-out of all civil use of HEU, and the large amounts of civilian HEU not currently being addressed by the NSS should all be put on a path to elimination. New incentives should be established to shift toward international sharing of small number of high-capability, LEU-fueled reactors, and shut down the remainder (the IAEA estimates that around 80% of current reactors are not needed). On plutonium, the Summit could agree to end build-up of stocks, and limit the number of sites.
5. The NSS has had a positive impact. The number of countries that participated in the conventions increased during and after the first two summits. Furthermore, the NSS generates additional funding for nuclear security projects. In general, even the modest achievement has an impact already. Based on the achievements and the difficulties of the NSS process, there are several challenges. First, a strategic choice about the agenda of the NSS process is required. Potentially, more achievements are possible with a relatively narrow agenda. Second, it will be necessary to think beyond 2014 and consider the possibility of a global partnership. To achieve that, we have to identify the goal, the target, and identify priorities and implement projects with financial and political support. It will be necessary to achieve sustainable progress. Often it is thought that there is no need for change because we have not had a serious nuclear security incident. Consequently, there are no formal structures to sustain progress and because political objectives have not been formulated (or the political object is lost) the technical aspect is not working effectively.
6. The concept of information security, or the way in which sensitive and crucial information in the nuclear security sector is currently secured, is an important issue that deserves attention. The NSS was developed for different purposes, and information and technology protection is still missing. However, many people have access to sensitive information. Consequently, new mechanisms to address this issue are needed. It should not solely focus on 'more secrecy and less transparency'.

*' International assurances delivered unilaterally, bilaterally or multilaterally can provide confidence to others that nuclear materials and facilities are properly secured'*

#### **International assurances**

7. Although ensuring nuclear security is a sovereign responsibility, the consequences of a nuclear incident are global. International assurances delivered unilaterally, bilaterally or multilaterally can provide confidence to others that nuclear materials and facilities are properly secured; they can also facilitate confidence in the effectiveness of global nuclear security measures, but how much assurance is enough? What are international assurances, why are they important, what are specific examples of assurance mechanisms, and how can leaders, ministries, regulators and operators contribute to providing such assurances?
8. The architecture of a system for nuclear facilities should be strengthened, for example through the International Physical Protection Advisory Service (IPPAS) missions. There

are five elements of a strengthened system:

- It should be comprehensive, covering all weapons-usable nuclear materials and facilities in which they might be present, at all times.
  - It should employ international standards and best practices, consistently and globally.
  - Each state's system should have internal assurance and accountability mechanisms.
  - Globally, the system should facilitate a state's ability to provide international assurances that all nuclear materials and facilities are secure.
  - The system should work to reduce risk through minimizing or, where feasible, eliminating weapons-usable material stocks and the number of locations where they are found.
9. Based on these five elements, activities should be undertaken and information should be shared voluntarily by the state or other stakeholders that provide confidence of the effectiveness of NS within a given state to others. It should be noted that international assurances can be provided while simultaneously protecting sensitive information about materials and sites.
10. The economic and security consequences of assurances are global in scope. For our mutual security we depend on each other's performance. In other words, we are 'hostaged' by each other's performance. Assurances help to raise the level of practice and they help to improve security measures. Thus, international assurances can help to build confidence among other governments and the public.
11. Assurances is not a 'one size fits all' concept. Assurances can vary in who provides them, and to whom they are provided (government, bilaterally/multilaterally/unilaterally). Some examples of assurances:
- Information sharing and reporting (such as annual reports of nuclear regulation); legal regulatory measures;
  - Overview of how much material there is and how it is secured;
  - Implementation of international legal commitments (ICSANT, CPPNM, 1540);
  - Peer review (IPPAS);
  - Exchange of best practices;
  - Bilateral programmes;
  - Certification and training.
12. Nuclear security has, for obvious reasons, a history of limited transparency and consequently there are opportunities to do better. Sovereignty is important but it does not mean that states cannot share anything. States in fact cannot fully exercise their sovereign response for security without assurances. While on the one hand states can develop confidence around their own facilities through legal frameworks, they cannot be confident about others, without knowing what these others are doing. Transparency between partners is becoming an urgent requirement: it is not possible to encourage best practices unless all partners know what these best practices are. In other words, to strengthen assurances it is necessary to share information. NSS states could, for example, declassify IPPAS reports partly or in whole. Government activities and industry activities have also been too separated. It is unclear how to facilitate cooperation, information sharing and coordination. Should it happen nationally? On a multilateral, regional, international or bilateral basis? Finally, debate about assurances has for the most part focused on the prevention side of the agenda, searching for the best practices and assurances to secure our nuclear material. However, we should also

focus on the question of what response will be forthcoming if assurances are not fulfilled.

13. This new and complex concept may offer benefits. It would allow better communication to the public about confidence in nuclear safety, it could provide the basis for support to countries to improve their systems, it could make sure that governments really work closely with the nuclear industry. A next step will be in the upcoming Sherpa meeting to provide extensive briefing on this concept to promote understanding.

### **Radiological sources**

14. Recently attention has begun to turn to what might be called 'high availability, low risk' materials, such as radiological sources in hospitals, and the prospects for including them in the NSS process. There are a number of potential ways to acquire radioactive materials for misuse: deliberate transfer by a government, insider assistance by a government official or facility custodian, theft or looting during times of political or societal unrest, or licensing fraud. There are less than one dozen corporations producing high risk commercial radioactive sources, but these sources are distributed worldwide. Furthermore, there is also an 'inside threat' of radioactive knowledge, which should be asserted in an effective way.
15. The security of sources is focussed on the prevention of theft, rather than mitigation of consequences (what to do when nuclear material gets stolen). The IAEA Nuclear Security series is important in establishing the international basis for physical protection, and the Agency's IPPAS missions are important for international confidence building as well as for attracting attention and cooperation from one's own government and operators. International recommendations and guidance documents for the protection of radioactive sources are available, but their implementation needs attention. Inspections are mainly for safety reasons instead of security reasons, and it may be possible for safety and security inspections to be combined or integrated.
16. If the NSS process is to successfully incorporate radiological sources, it will be important to prioritize between the different categories of radiological sources, their chemical and physical forms, and their locations. ICSANT parties are already obliged to protect radioactive materials, but further commitments are required to implementing IAEA recommendations and guidelines. IPPAS missions could play an important role. Regional approaches to cooperation should be encouraged.
17. A difficulty is awareness-raising in the absence of disaster or significant event. Risk awareness nonetheless has to be promoted, as well as an improved understanding of liability issues. NSS action on radiological sources could include the location and recovery of missing radiological sources, development of plans and procedures to deal with potential events, better decontamination capabilities, increasing the international response capability and educating the public.

### **Nuclear security post-2014**

18. There are two key factors that will determine whether the 2014 Summit will be the last. First, the balance of leadership; and second whether the developments have been sufficiently boosted by the three Summits so far. The NSS Summit has been a success when in Washington 2010 over 50 government leaders joined. The Seoul Summit maintained momentum without a drop in participation numbers. There was however less public attention in 2012 and one should keep in mind that public attention is never sure. In 2009, Obama gave a speech stating that all nuclear materials should be secured by 2014. Within the current structure there is a clear sense of a job already done. 2014 therefore feels like a natural ending point.

*'attention has begun to turn to what might be called 'high availability, low risk' materials, such as radiological sources in hospitals, and the prospects for including them in the NSS process'*

*'Continuing the NSS process after the 2014 Summit is still a matter of debate, and there are pros and cons'*



19. Success can be measured by a clear and sustainable plan going forward. It is supposed to be a process of continuous improvement that will never end as long as there are such materials in the world. Perhaps a 2016 Summit is necessary to maintain momentum, but there are no single solutions to this challenge and what is important is whether other bodies are able to absorb the Summits and its tasks. A regular process for NSS continuation and for measuring tangible outcomes, and a forum to continue to build relationships are needed and the IAEA might be able to play a central role in this.
20. Nuclear security is a global issue and should therefore be addressed at a global level, but it does however remain a *state* responsibility. Globally there should be continued global guidance, best practice and education. The basic activities of nuclear security are unlikely to change, and the main needs will be in: information, assessment, the production of guidance, research, advisory services, HR, training programs etc. What *will* change is that there will be new ways of engaging with states on the issue.
21. In the absence of a Summit, we will rely on the 1540 UNSC Resolution, the IAEA etc. This is a situation similar to that before 2009. So how does this unify a nuclear security agenda? Is it sustainable? How will it be made from a political standpoint? Will there be penalties in the system? How will outsiders be incorporated in the new system? How will the IAEA move beyond its institutional setup regarding recommendations? There is a need for better integration of implementation. 1540 is very broad, so a good way of integrating is ratifying the relevant conventions. The issue is, in many ways, one of governance: put simply, is it possible to make more collective decisions in a post-NSS era?
22. Continuing the NSS process after the 2014 Summit is still a matter of debate, and there are pros and cons. In the latter can be included: potential difficulty in finding a clearly defined purpose for 2016 with consequent implications for cohesion; 'Summit fatigue' and declining political value of the NSS; the risk of drawing attention away from other pressing nuclear challenges, particularly non-proliferation and disarmament, as well as that of the continuing sense of nuclear security as an exclusive club; and the fact that the original goal in 2010 was for a four-year process.
23. Set against these are some advantages to continuing, notably: a further Summit may yet be needed if 2014 cannot deliver on a more sustainable way forward; Summits draw the highest political attention; the present set of rules is patchwork and needs strengthening, something best achieved via Summits; and the need to get clear directives on assurances and baseline nuclear standards.

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Wilton Park | 10 June 2013

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