

# **NSS 2016: Gift Basket on Minimizing and Eliminating the Use of Highly Enriched Uranium in Civilian Applications**

Subscribed by: Argentina, Armenia, Australia, Canada, Czech Republic, Chile, Denmark, Finland, Georgia, Indonesia, Mexico, Netherlands, Nigeria, Norway, Philippines, Poland, Republic of Korea, Romania, Singapore, Sweden, United Kingdom, United States

## *Introduction*

The participating States of the Nuclear Security Summit, in recognizing their national and international responsibilities, have pledged to make every effort to achieve further progress with regard to minimizing and eliminating the use of highly enriched uranium (HEU) in civilian applications.

By minimizing and eliminating HEU stocks, States also eliminate the risk that terrorists could acquire HEU in their country. Therefore, HEU minimization is a form of permanent threat reduction and an integral component of the global effort to combat the threat of nuclear terrorism.

Bearing in mind that most civilian applications of HEU have proven non-HEU alternatives, HEU minimization – and ultimate elimination of HEU use in civilian applications – should continue to be a top priority for all States that continue to possess HEU.

There has already been considerable progress made with regard to HEU minimization, including through HEU reactor conversions, shut downs, fuel removals, technology substitution and downblending. Over 25 States have already removed all HEU from their territory – and in doing so, have significantly strengthened global nuclear security. We will continue these efforts, working towards ultimately eliminating the use of HEU in civilian applications, to the maximum extent possible

## *The Initiative*

The States listed above commit themselves to the following elements of a comprehensive plan aimed at minimizing – and ultimately eliminating – the use of HEU in civilian applications:

### **Refrain from use of HEU in new civilian facilities or applications.**

- Avoid to the extent practicable the use of HEU in new civilian facilities or applications, including in research reactor facilities, critical assemblies, subcritical assemblies, pulsed reactors, fast reactors and civilian propulsion and power production reactors as well as for production of radioactive isotopes.

## **HEU Reactor Conversions or Shut Downs**

- Convert or shut down all HEU civilian reactors, including research reactors, critical assemblies, subcritical assemblies, pulsed reactors, and fast reactors, as soon as economically and technically feasible.
- Continue to support and foster the development and qualification of high-density LEU fuels including multinational cooperation programs<sup>1</sup>.
- To readily share, within appropriate conditions, their experience and technologies regarding the minimization of use of HEU.

### **HEU Stocks Removals, Downblending or Disposition**

- Repatriate all civilian HEU to their countries of origin or otherwise permanently dispose or downblend remaining stocks of civilian HEU, where economically and technically feasible, and where there is a viable non-HEU alternatives.
- Support regional efforts to minimize or eliminate HEU.
- Where practicable, downblend HEU stocks already declared excess, and continue to identify additional HEU stocks to be declared excess and downblended.
- Establish, by December 31, 2016, a voluntary reporting mechanism – through the IAEA – to track States’ progress on HEU removals, downblending, disposition and stocks.

### **LEU Alternatives for Medical Isotope Production**

- Where technically possible convert existing molybdenum-99 (Mo-99) medical isotope production facilities to use 100% LEU targets by December 31, 2017<sup>2</sup>.
- Focus efforts globally to expedite licensing approval of non-HEU-based Mo-99 and its daughter product technetium-99m (Tc-99m).
- Consistent with international trade agreements and the schedules of the major Mo-99 producers to convert to LEU targets, and subject to applicable domestic laws, end imports and exports of HEU-based Mo-99 unless the members of the Organization for Economic Cooperation and Development’s Nuclear Energy Agency High Level Group on the Security

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<sup>1</sup> Referring to the multinational cooperation on high-density low-enriched uranium fuel development launched by the Four-party Joint Statement (Belgium, France, the Republic of Korea, the United States) issued at the Seoul Nuclear Security Summit and further strengthened by the Five-party Joint Statement (Belgium, France, Germany, the Republic of Korea, the United States) issued at the Hague Nuclear Security Summit

<sup>2</sup> Referring to the Four-party Joint Statement (the United States, France, Belgium and the Netherlands) issued at the Seoul Nuclear Security Summit, highlighting the ongoing cooperation to support conversion of production industries to non-HEU based processes.

of Supply of Medical Radioisotopes deem that the licensed global non-HEU production capacity of Mo-99 and its daughter product Tc-99m have become insufficient and unsustainable.

- Ensure that any exports of HEU are done within the existing legal and regulatory frameworks and are either (1) for the sole purpose of producing needed medical isotopes or tied to a pledge from the facility receiving the HEU for demonstrated actions to convert to the use of LEU, or (2) for the specific purpose of disposition in the receiving country by blending down that material to LEU or by other secure means.

### **Tracking progress**

- The participating states will meet to review progress on the measures set out in this paper at an international conference in 2018.
- Norway will serve as point of contact for this conference. Specifics will be announced in due time.