



# NUCLEAR SECURITY SUMMIT 2014

## NATIONAL PROGRESS REPORT

### UNITED STATES OF AMERICA

As host of the first Nuclear Security Summit, and in accord with President Barack Obama's leadership of a global effort to lock down vulnerable nuclear materials, the United States strongly supports the Washington and Seoul Communiqués, the Nuclear Security Summit Work Plan that was set forth in Washington in 2010, and the actions associated with their implementation. Nuclear terrorism represents the most immediate and extreme threat to global security, requiring a strong and enduring commitment to domestic and worldwide action. The United States continues to apply new approaches and learn from the experience of others in order to remain ahead of a changing threat environment. This progress report covers actions taken since the 2012 Nuclear Security Summit in Seoul and lists new pledges in italics. This national progress report also represents a public measure to build confidence in the United States' effective implementation of its nuclear security responsibilities.

#### SUPPORT FOR MULTILATERAL INSTRUMENTS

The United States strongly supports the universal implementation of the Convention on Physical Protection of Nuclear Materials (CPPNM) and its 2005 Amendment, and the International Convention on Suppression of Acts of Nuclear Terror (ICSANT). Ratification of the amended CPPNM and the ICSANT require the passage of implementation to update the federal criminal code. Implementation legislation was passed by the United States House of Representatives in 2012 and 2013, and still needs to be passed by the United States Senate. The United States looks forward to depositing its instruments of ratification at the earliest possible opportunity.

#### STRENGTHENED NATIONAL NUCLEAR AND RADIOLOGICAL MATERIAL SECURITY SYSTEMS, INCLUDING MEASURES TO SHOWCASE THE EFFECTIVENESS OF THE NUCLEAR SECURITY EFFORTS

- The United States removed all Category I and II special nuclear material from Lawrence Livermore National Laboratory that required the highest level of physical protection.
- The United States completed zero-based security assessments at all National Nuclear Security Administration (NNSA) facilities and completed security upgrades at the Y-12 National Security Complex and is on schedule to complete security upgrades at a Los Alamos National Laboratory facility in 2014.
- The United States took measures to enhance force-on-force and performance testing for U.S. facilities.
- The United States recovered over 4,390 domestic radiological sources from licensees that have identified no further use for those sources and repatriated U.S.-origin sources where feasible.
- The United States has installed security upgrades at over 240 domestic facilities.
- The United States conducted 17 domestic exercises in 2012-2014 to increase nuclear preparedness, response, recovery, and resilience.
- The United States continues to update existing regulations regarding the physical protection of nuclear plants and materials, taking into consideration the latest version of INFCIRC/225 Rev.5.
- The United States updated access requirements to sensitive nuclear information that could be of interest to terrorists in order to guard against the exploitation of such information.
- *The United States intends to host and support an additional WINS-led force-on-force security workshop by 2016, and support WINS-led best practices workshops on insider threat identification and mitigation,*



*effective integration of cyber security and physical protection, and nuclear material control and accountancy in support of nuclear security by 2016.*

- *The United States will host a P-3 expert-level security information exchange in 2014 to discuss site vulnerabilities and good practices at a U.S. site with significant amounts of weapons-usable nuclear material.*
- *The United States intends to assess and verify through inspection activities that operating nuclear power plants are implementing cyber security regulatory requirements in accordance with their cyber security plans. These ongoing activities ensure that licensees establish and maintain appropriate levels of cyber security. In addition, the program is designed to identify lessons learned throughout the process and implement improvements as needed.*

## CONTRIBUTION TO AND USE OF THE IAEA'S NUCLEAR SECURITY-RELATED ACTIVITIES AND SERVICES

- The United States made contributions to the IAEA's Office of Nuclear Security totaling more than \$28 million since 2012.
- The United States hosted an IAEA International Physical Protection Advisory Service mission which took place on September 30-October 11, 2013. This mission identified 21 good practices during its review of security at the National Institute of Standards and Technology's Center for Neutron Research.
- The United States contributed to the development of the IAEA national nuclear forensics libraries framework.
- The United States led international efforts that led to the IAEA's update and publishing of INFCIRC 225/Rev5.
- *The United States plans to contribute an additional \$1M to the IAEA's Nuclear Security Fund in 2014.*

## SUPPORT FOR NUCLEAR SECURITY-RELATED INTERNATIONAL ACTIVITIES

- The United States Nuclear Regulatory Commission hosted the first "International Regulators Conference on Nuclear Security" in December 2012, attended by representatives from over 40 countries.
- The United States has contributed \$1.5 million to the UN Fund for 1540 Committee work.
- In October 2013, the United States submitted a new report on measures it has taken to implement its UNSCR 1540 obligations, documenting that its measures meet or exceed international standards, including all those for securing and physically protecting nuclear items.
- In October 2013, the U.S. submitted to the UNSCR 1540 Committee its 1540 Implementation Report updating U.S. accomplishments since the last report in 2010.
- The United States continues its strong commitment to the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (Global Partnership) and in that context continues to fund and implement cooperative projects aimed at preventing non-state actors from acquiring nuclear weapons and related materials. Under the 2012 U.S. Chairmanship of the Global Partnership, a Nuclear and Radiological Security Sub-Working Group was initiated to promote coordination and collaboration of projects among the now 27 partners.
- *The United States will continue to collaborate with partners under the Global Partnership on projects to ensure the security of nuclear and radiological materials, contributing to the objectives of the Nuclear Security Summit.*
- *The United States intends to continue its efforts to establish a material attractiveness approach to better risk inform its graded security regulations, including through continued discussions with nuclear security regulators from governments around the world.*
- *The United States intends to contribute to improving the international emergency management system by conducting training in consequence management for nuclear or radiological events, which will both bolster nations' overall response capabilities and contribute to the integration of nuclear safety and nuclear security.*



## CONTRIBUTION TO MINIMIZATION OF SENSITIVE NUCLEAR MATERIALS

- The United States took necessary steps to bring 21 kilograms of separated plutonium and 1845 kilograms of HEU into the United States for secure storage and disposition.
- The United States has, since the Seoul Summit, spent \$72 million on research and development for new research reactor fuels to enable shorter timelines for domestic and international reactor conversions to low enriched uranium fuel.
- The United States has, since the Seoul Summit, downblended about 13 metric tons of U.S. highly enriched uranium (HEU), cooperated with Russia in the downblending of about 2 metric tons of Russian HEU, and, working in some cases with Russia, supported the removal and elimination of over 400 kilograms of HEU from ten countries – in the aggregate, enough for about 500 nuclear weapons.
- The United States and Russia successfully completed the HEU Purchase Agreement under which 500 metric tons of Russian weapons-origin HEU- the equivalent for approximately 20,000 nuclear warheads - was converted into LEU and used in U.S. power reactors to produce 10 percent of all U.S. electricity during the past 15 years.
- *The United States, in cooperation with multiple international partners, intends to continue to lead efforts to develop new research reactor fuels to allow for the conversion of the remaining high performance research reactors both in the United States and abroad to the use of LEU fuel.*
- *The United States intends to establish an international research effort on the feasibility of replacing high-activity radiological sources with non-isotopic replacement technologies, with the goal of producing a global alternative by 2016.*
- *The United States intends to demonstrate commercial capability to produce the medical isotope molybdenum-99 in the United States using non-HEU technologies by 2016.*
- *The United States intends to continue to conduct safe and secure shipments of spent nuclear fuel containing highly enriched uranium for disposition and storage, as well as modify casks to use in unique reactor designs.*

## SUPPORT FOR CENTERS OF EXCELLENCE AND NUCLEAR SECURITY TRAINING AND SUPPORT CENTERS

- The United States is an active participant in the IAEA Nuclear Security Support Center Network, the IAEA International Nuclear Security Education Network, and the IAEA Information Exchange effort.
- *The United States plans to continue to provide training and equipment to support nuclear security training centers.*

## ENHANCED EFFORTS TO COMBATING ILLICIT TRAFFICKING IN NUCLEAR AND RADIOLOGICAL MATERIALS

- The U.S. extensively tested 12 different categories of nuclear detection technologies. U.S. research is helping to develop and evaluate new radiation detection technologies.
- The United States consistently reported to the IAEA International Incident and Trafficking Database information involving detection of radioactive materials outside regulatory control.
- The United States finalized a national classification guide, continued to develop the U.S. national nuclear forensic library, and conducted bilateral and multilateral training.
- The United States helped partner countries develop counter nuclear smuggling capacity through increased law enforcement and investigative capabilities to disrupt international nuclear smuggling networks. This included co-hosting a workshop in February 2014 with the European Commission to share best practices on countering nuclear smuggling among 38 countries and observing international organizations.
- The United States contributed \$2.4 million to INTERPOL's new Radiological and Nuclear Terrorism Prevention Unit, noting its central role in facilitating rapid exchange of investigative lead information.
- The United States developed a strategic plan for the Global Nuclear Detection Architecture, created a domestic search plan, and trained more than 7,500 Federal, state and local law enforcement officers in nuclear detection.



- *The United States intends to expand and accelerate domestic and international capability to arrest nuclear smugglers, seize illicit nuclear material, and effectively prosecute perpetrators.*
- *The United States plans to conduct WMD counterterrorism tabletop exercises with key foreign partners, designed to strengthen global capabilities to identify and interdict WMD-related commodities used for terrorism purposes and to strengthen the necessary coordination needed to manage WMD terrorism incidents.*
- *The United States intends to equip 84 additional sites/ports worldwide with radiation detection systems, deploy over 60 mobile and man-portable radiation detection systems to 21 countries, and transition another 100 sites/ports to partner country responsibility.*
- *The United States plans to continue to lead and involve international participants in a series of virtual, web-based tabletop exercises on developing and using National Nuclear Forensics Libraries and to offer the National Nuclear Forensics Development Program as an active and practical example of how to transfer and sustain nuclear knowledge and expertise to the next generation of scientists.*

#### STRENGTHENED COOPERATION BETWEEN GOVERNMENT AND NUCLEAR INDUSTRY

- The United States contributed \$2.3 million to the World Institute of Nuclear Security (WINS) to support industry outreach and sharing of best practices.
- The United States hosted and supported a WINS-led force-on-force workshop at the Y-12 National Security Complex in 2012 and another workshop at the Nevada National Security Site in 2014, both of which included industry participation.
- *The United States plans to work with international manufacturers of high-activity sealed source devices to perform voluntary assessments of the vulnerability of their machines (to source theft).*

#### SECURITY OF MILITARY MATERIAL

- The United States secures all military material in exemplary fashion, and takes IAEA INFCIRC 225/Rev. 5 into account in military security provisions.
- The United States publishes regulations governing security of military material, and associated annual budgets.
- The United States maintains human reliability programs for personnel responsible for securing military material.
- The United States has published studies and reviews of nuclear security incidents, including lessons learned and actions taken.
- *The United States intends to report on security of military material through UNSCR 1540 reporting processes.*