

## Partnership for Securing Nuclear and Radioactive Materials

### Background

Nuclear and radioactive materials are a critical and beneficial component of global medical, industrial, and academic efforts. The possibility that these materials could be used by terrorists is a national security concern. Domestically, the Department of Energy/National Nuclear Security Administration (NNSA) and the Nuclear Regulatory Commission (NRC) have partnered with state, local, and tribal governments, other federal agencies and the private sector with a common goal of preventing nuclear and radiological material from being used in an improvised nuclear device, a radiation exposure device, or a radioactive dispersal device – a so-called “dirty bomb”. Internationally, NNSA and NRC cooperate to identify countries and regions where the two organizations can work either together or independently to improve nuclear and radiological security.

### Domestic Security Requirements

The NRC and state regulatory agencies have worked together to create a strong and effective regulatory framework that includes licensing, inspection, and enforcement. This partnership ensures the security of 32 civilian nuclear research and test reactors and over 70,000 high-risk radioactive sources without adversely impacting their beneficial uses. This framework provides a **common baseline level of security to ensure adequate protection** of public health and safety and the common defense and security. Key elements include:

- **Background checks**, including fingerprinting, employment history, education and personal reference checks, to limit access to approved individuals;
- **Enhanced physical barriers and intrusion detection systems**, including guards and alarms, to monitor and immediately detect, assess and respond to unauthorized access;
- **Coordination with local law enforcement** to respond to an actual or attempted theft, sabotage, or diversion of nuclear or radioactive materials;
- **Prompt notification of incidents** to the appropriate government agency; and
- **Closer monitoring of shipments** to ensure the security of nuclear and radioactive material during transit.
- **National Source Tracking System** to track and account for, from cradle to grave, all the radioactive sources that warrant greatest control.

### Domestic Voluntary Security Enhancements

The ultimate responsibility for securing nuclear and radioactive materials in the United States rests with the licensees who possess these materials. To assist in that effort, NNSA works with the NRC, the materials licensees, state, local and tribal governments, and other federal agencies, to **build on the existing regulatory requirements by providing voluntary security enhancements**. Examples of these enhancements include:

- **Remove disused radioactive sources**, including packaging, transport, and secure disposition;
- **Voluntary security upgrades based on best practices**, including federally funded upgrades such as cesium-chloride irradiator hardening and facility specific security upgrades (e.g. deterrence, control, detection, delay, remote monitoring to ensure response, and sustainability);

- **Specialized training for local law enforcement** so they can better protect themselves and their communities when responding to alarms at facilities with nuclear and radioactive materials;
- **No-fault table top exercises**, co-sponsored with the Federal Bureau of Investigation, to promote cross communication, cooperation, and training in response to terrorist acts involving nuclear and radioactive materials; and
- **Transportation Security**, including a test bed and voluntary pilot demonstration of cargo hardening, alarm assessment, and shipment tracking.

These voluntary security enhancements are **complementary to and do not replace** the licensees obligation to meet NRC and Agreement State regulatory requirements. The voluntary security enhancements are **sound, cost-effective, and prudent best practices which further improve security above regulatory requirements.**

NNSA is also working on alternative technologies research and development (R&D), focusing on non-radioactive replacements (e.g. x-rays) for the highest risk radioactive sources.

These efforts are an excellent example of Federal, State, Tribal, and local agencies working in cooperation with the private sector to **further reduce the risks of terrorism involving nuclear and radioactive materials** in the United States.

### **International Efforts**

NRC and NNSA have complementary and coordinated programs aimed at assisting our international counterparts improve the security of nuclear and radioactive materials. International efforts include working bilaterally with the host country, regionally with the host and other donor countries, and/or in partnership with the International Atomic Energy Agency (IAEA).

NNSA's program includes a variety of security efforts including:

- Searching for, securing, and/or recovering orphaned and abandoned radioactive sources;
- Designing and installing physical protection upgrades for sites with nuclear and radioactive materials;
- Assessing security of the transportation of nuclear and radioactive materials and providing training and transportation security upgrades;
- Conducting response force training; and
- Assisting countries in sustaining and properly operating these nuclear and radiological security upgrades by working with each country to establish national-level regulations and inspection mechanisms.

NRC works internationally with select international regulatory counterparts to implement key provisions of the IAEA-sponsored Code of Conduct on the Safety and Security of Radioactive Sources including:

- Development and maintenance of a national registry of radioactive sources;
- Development, implementation and maintenance of legal, technical and licensing bases for safety and security regulatory oversight; and
- Conducting workshops that describe NRC's physical protection requirements for radioactive materials and provide an overview of U.S. legal and regulatory framework, source security requirements, increased controls, security inspections and enforcement.

These efforts, in total, improve long-term nuclear and radiological security by ensuring **that nuclear and radioactive materials are subject to continuous, effective nuclear regulatory safety and security oversight.**