



# National Infrastructure Protection Plan

## Nuclear Reactors, Materials, and Waste Sector

Homeland Security Presidential Directive 7 (HSPD-7) identified 17 critical infrastructure and key resources (CIKR) sectors and designated Federal Government Sector-Specific Agencies (SSAs) for each of the sectors. Each sector is responsible for developing and implementing a Sector-Specific Plan (SSP) and providing sector-level performance feedback to the Department of Homeland Security (DHS) to enable gap assessments of national cross-sector CIKR protection programs. SSAs are responsible for collaborating with private sector partners and encouraging the development of appropriate information-sharing and analysis mechanisms within the sector.

### Sector Overview

Nuclear power accounts for approximately 20 percent of the Nation's electrical use, provided by 104 commercial nuclear reactors licensed to operate in the United States. The Nuclear Reactors, Materials, and Waste (Nuclear) Sector includes: nuclear power plants; non-power nuclear reactors used for research, testing, and training; nuclear materials used in medical, industrial, and academic settings; nuclear fuel fabrication facilities; decommissioning reactors; and the transportation, storage, and disposal of nuclear material and waste.

The Nuclear Sector has identified interdependencies with other CIKR sectors, including:

- **Energy**, as a supplier to the Nation's electrical grid;
- **Transportation Systems**, through the movement of radioactive material;

- **Chemical**, related to hazardous chemicals at fuel cycle facilities;
- **Public Health and Healthcare**, through nuclear medicine, radiopharmaceuticals, and sterilization of surgical supplies; and
- **Government Facilities**, through Federal and State facilities that use radioactive material for various purposes.

### Sector Partnerships

HSPD-7 assigned responsibility for the protection of the Nuclear Sector to DHS. Within DHS, the Sector-Specific Agency Executive Management Office (SSA EMO) and specifically, the Nuclear Sector-Specific Agency will maintain responsibility for CIKR protection of the sector, in close cooperation with the Nuclear Regulatory Commission (NRC) and the Department of Energy (DOE).

To plan and coordinate CIKR protection efforts for the sector, DHS established government and private sector coordinating councils in 2004. These councils provide a structure through which representative groups from all levels of government and the private sector can collaborate and share approaches to CIKR protection. The Government Coordinating Council consists of representatives from DHS, NRC, DOE, the Environmental Protection Agency, the Federal Bureau of Investigation, and the Department of State, as well as representatives from several state nuclear regulatory agencies and organizations. The Nuclear Government Coordinating Council (GCC) coordinates civilian nuclear security strategies, activities, policies, and communications across and between the government and the Nuclear Sector. The Nuclear Sector Coordinating Council consists of representatives from the nuclear industry who collaborate to share information and concerns regarding CIKR protection.

### CIKR Protection Issues

While the loss of the electricity generated by a single nuclear power plant may have only a minor impact on the Nation's overall electrical capacity, a terrorist attack on a nuclear power plant or research reactor would be a significant security event, especially if a successful terrorist strike resulted in the release of radioactive material. For this reason, Nuclear Sector facilities are among the best defended and most physically hardened of the Nation's CIKR, designed to withstand such extreme events as hurricanes, tornadoes and tornado-generated missiles, and earthquakes.

Radioactive source materials are used in a variety of medical and industrial settings and licensed by the NRC. If stolen or otherwise misappropriated, these materials could be used in a radiological dispersal device (RDD) or a radiological exposure device (RED). GCC members are therefore working through a variety of programs and initiatives to ensure that radioactive sources are used only as intended.

### Priority Programs

Protective programs in the Nuclear Sector are operated by DHS, NRC, DOE, and other sector partners. Some current Nuclear Sector security and preparedness programs include:

- **Comprehensive Review (CR) Program.** The CR program is a cooperative Federal, State, local, and private sector analysis of CIKR facilities to determine the security and response capabilities of the facilities and their surrounding community. The Nuclear Sector recently completed Comprehensive Reviews at all of the Nation's 65 nuclear power plants. DHS coordinated this interagency effort and is working with its partners to address potential enhancements identified during the CR process.

- **Buffer Zone Plans (BZPs).** BZPs identify and recommend security measures and local law enforcement coordination for the area surrounding a facility (the "Buffer Zone"), making it more difficult for a potential attacker to conduct surveillance, or to plan or launch an attack. DHS has set aside grant funds to address potential security enhancements identified through the CR assessment process. Grants issued under this program will be strictly risk-based and carefully targeted at creating or reinforcing specific capabilities in the communities surrounding critical infrastructure and key resources.
- **Radiological Emergency Preparedness (REP) Program.** FEMA's REP Program provides oversight of radiological emergency planning and preparedness activities. REP leads offsite emergency planning and reviews, and evaluates radiological emergency response plans and procedures developed by State and local governments. This program serves to enhance planning, preparedness, and response for all types of peacetime radiological emergencies with Federal, State, and local governments and the private sector.
- **Atomic Energy Act.** This statute ensures proper management, safety, and security of the Nation's atomic energy by providing a program for government control of the possession, use, and production of atomic energy and special nuclear materials, whether owned by the government or the private sector. The Act assigns control of special nuclear materials, source materials, and byproduct materials to the NRC. It requires licensing of civilian uses of nuclear materials and facilities, and empowers the NRC to establish and enforce standards to govern the use of such materials. While Nuclear Sector facilities are largely run by private companies, the NRC is charged with ensuring that the facilities are operated according to NRC rules and regulations.



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For questions or more information, please contact [NIPP@dhs.gov](mailto:NIPP@dhs.gov) or visit [www.dhs.gov/nipp](http://www.dhs.gov/nipp).