



BACKGROUND

Office of Public Affairs

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Nuclear Security

While security of the nuclear facilities and materials the NRC regulates has always been a priority, the terrorist attack of Sept. 11, 2001, spurred even more stringent security requirements. Today, NRC-regulated nuclear facilities are considered among the most secure of the nation's critical infrastructure.

Robust security is achieved in layers, with multiple approaches at work concurrently – just as safety in



nuclear power plants is accomplished through duplicate back-up systems. Nuclear power plants are inherently secure, robust structures. They are built to withstand hurricanes, tornadoes and earthquakes. Licensees are required to maintain robust security measures, such as well-trained and armed security officers, physical barriers, and intrusion detection and surveillance systems to defend against possible threats.

Federal and state agencies work together to communicate threat information and coordinate response activities. The NRC works closely with

the Department of Homeland Security, FBI, intelligence agencies, the departments of Defense and Energy, as well as state and local law enforcement agencies. These relationships ensure the NRC can act quickly on any threats to its licensed facilities.

Nuclear Facility Security

The NRC requires nuclear power plants and some nuclear fuel facilities to have significant security measures in place. Research and test reactors, radiological material holders and others licensed by the NRC also must have security measures in place.

Security enhancements put in place since 2001 for nuclear power plants include:

- Upgraded physical security plans
- Enhanced security officer training
- Increased security patrols
- Additional physical barriers
- Greater stand-off distances for vehicle checks
- More restrictive site access controls

Nuclear power plants and certain fuel fabrication facilities must show they can defend against a set of adversary characteristics called the Design Basis Threat. The specific details of the DBT are not publicly available. But, in general, the DBT outlines threats and adversary characteristics against which these facilities must demonstrate they can defend. The DBT is based on realistic assessments of the tactics, techniques and procedures used by terrorist groups and organizations. The NRC is constantly evaluating the threat environment and considers changes to the DBT if necessary.

The NRC's security baseline inspection program is the primary way the agency verifies nuclear power plants are operating according to security regulations. Force-on-force security inspections are part of this program. In these inspections, a specially trained mock adversary force "attacks" the facility using the DBT attributes. In 2004, the NRC implemented more realistic force-on-force exercises on a more aggressive schedule that tests facilities more frequently and with more challenging scenarios.

Security Personnel

One of the most important components of security programs at nuclear power facilities is the security force. Regulations enacted since 2001 required power plants to add more training and higher qualification standards for security personnel, while increasing the number of officers on the force. In order to minimize security personnel fatigue and ensure a vigilant and effective security force, the NRC also instituted additional fitness-for-duty requirements and work hours controls.

In January 2006, the NRC entered into an agreement with the federal Terrorist Screening Center to review records of individuals with unescorted access to nuclear power reactor facilities. This collaborative effort streamlined the collection and dissemination of information used to determine, and periodically verify, the trustworthiness of individuals with unescorted access to certain vital areas of nuclear power plants.



Research

Research has always played a large part in supporting the NRC's mission. Since 2001, changes in the threat environment and improvements in technology that allow more sophisticated analyses have accelerated the pace of power plant research. The NRC initiated a security and engineering review based on the 2001 terror attacks. The review looked at what might happen if terrorists used an aircraft to attack a nuclear power plant. The NRC also assessed the potential consequences of other types of terrorist attacks. To assist the NRC, experts from Department of Energy's laboratories used state-of-the-art experiments and structural and fire analyses. While the details are classified, the studies confirm the likelihood of a radioactive release affecting public health and safety is low. Another study analyzed how nuclear power plants would withstand damage to, or loss of, large areas of the plant caused by large fires or explosions. Based on insights from these studies, additional mitigating capabilities were put in place at all nuclear power plants.

Coordination and Communications

The NRC coordinates with many federal organizations to assure security of its licensees. The timely sharing of accurate information among the NRC, other federal agencies and the nuclear industry is critical to preventing or mitigating the effects of terrorist attacks. The NRC has agreements with the Federal Aviation Administration and the North American Aerospace Defense Command to provide early warning of airborne threats to NRC-licensed facilities. Additionally, the NRC's highly-trained specialists review intelligence and threat-related information from a range of sources in order to assess suspicious activity related to its licensees.

NRC Operations Center and Emergency Plans

The NRC's Operations Center, located at agency headquarters, is staffed around the clock to receive information regarding events involving licensed nuclear materials, assist in emergency response activities, and promptly notify other federal agencies of those events. The NRC upgraded its Operations Center to enhance the effectiveness of safety and security response and coordination activities. Similar upgrades have been completed at the NRC's four Regional Incident Response Centers. The NRC participates in emergency response exercises related to security and terrorism, and participates in national-level interagency exercises.

More Information

While many of the details of the NRC's security requirements are not public to avoid assisting potential adversaries, general information about security at nuclear power plants is available to the public through the NRC Web site and a variety of NRC publications. See related information about security here:

[Cyber Security](#)

[Force on Force Inspections](#)

[Protecting our Nation](#)

[Dirty Bombs](#)

[National Source Tracking System](#)

[Incident Response](#)

[Emergency Preparedness](#)

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