U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Fact Sheet

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Safety and Security Improvements at Nuclear Plants

Post 9-11 Actions

The Nuclear Regulatory Commission (NRC) - responsible for protecting public health and the environment from potential hazards involved in using nuclear materials - took prompt action to enhance safety and security, and has comprehensively re-evaluated security at nuclear power plants and other facilities it regulates.

Since September 11, 2001, NRC has strengthened security at nuclear facilities by working with national experts using state-of-the-art structural and fire analyses to realistically predict the consequences of terrorist acts. These studies confirm that, given robust plant designs and the additional enhancements to safety, security, and emergency preparedness and response, it is unlikely that significant radiological consequences would result from a wide range of terrorist attacks, including one from a large commercial aircraft.

Actions taken by Federal aviation safety and security agencies - Federal Air Marshals, reinforced cockpit doors, airport passenger and baggage screening, improved ability to detect deviation from planned flight paths and greater military aircraft intercept capability - have reduced the likelihood that large commercial aircraft could be used to attack critical infrastructure, including a nuclear facility. Other actions, such as improved communication between military surveillance authorities, NRC, and its licensees, would allow plant operators to prepare the plant for safe shutdown should it be necessary. These actions, coupled with those taken by the NRC and the nuclear industry, are an integral part of the government's overall strategy for protecting the nation's critical infrastructure.

NRC has strengthened requirements at nuclear power plants and enhanced coordination with Federal, State and local organizations since 9-11

NRC major actions include:

- Ordered plant owners to sharply increase physical security programs to defend against a more challenging adversarial threat;
- Required more restrictive site access controls for all personnel;
- Enhanced communication and liaison with the Intelligence Community;
- Ordered plant owners to improve their capability to respond to events involving explosions or fires;

- Enhanced readiness of security organizations by strengthening training and qualifications programs for plant security forces;
- Required vehicle checks at greater stand-off distances;
- Enhanced force-on-force exercises to provide a more realistic test of plant capabilities to defend against an adversary force; and
- Improved liaison with Federal, State, and local agencies responsible for protection of the national critical infrastructure through integrated response training.

Safety and security studies show that a radiological release affecting public health and safety is unlikely from a terrorist attack, including large commercial aircraft

- Power plants are among the most hardened commercial structures in the country and are designed to withstand extreme events, such as hurricanes, tornadoes, and earthquakes;
- Power plants have redundant safety systems and are operated by highly trained staff;
- Multiple barriers protect the reactor and prevent or minimize off-site releases;
- With mitigation strategies and measures in place, the probability of damaging the reactor core and releasing radioactivity that could affect public health and safety is low;
- Significant releases due to a terrorist attack on a spent fuel pool are very unlikely;
- It is highly unlikely that a significant release of radioactivity would occur from a dry spent fuel storage cask; and
- No release of radioactive material is expected from an aircraft attack on a transportation cask.

Time is available to protect the public in unlikely event of a radiation release

- If a radiation release did occur, there would be time to implement mitigating actions and offsite emergency plans at power plants, spent fuel pools, and dry-cask storage installations; and
- Safety and security studies confirm that NRC's emergency planning basis remains valid.

NRC has taken action to strengthen security and safety

Increased aviation security and aggressive NRC action provide enhanced protection against terrorist attacks

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