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Aircraft Attacks

Operating Power Reactors and Operating Reactors Spent Fuel Pools

The Office of Research is assessing the vulnerability of operating power reactors and their associated spent fuel pools to aircraft attacks.

The objectives of the assessment are:

- Characterize the potential for damage to structures systems, and components (SSCs);
- Characterize the conditional probability of core (spent fuel) damage and potential offsite radiological consequences;
- Identify potentially effective and efficient mitigation strategies.

There are seven elements of the vulnerability assessment:

- Engineering characterization of threat and "hittability" analysis
- Structural analysis
- Fire analysis
- Fragility analysis
- Systems analysis
- Accident progression, source term, and consequence analysis
- Evaluation of mitigation options

Fuel Cycle, Materials, and Waste Facilities

The Office of Nuclear Material Safety and Safeguards is performing a series of risk-informed vulnerability assessments for material licensees. These vulnerability assessment activities will be conducted for the following NRC licensed facilities:

Only NS section Out of Scope

- Uranium conversion facility
- Gaseous diffusion plants
- Fuel cycle facilities with Cat III level physical protection measures
- Fuel cycle facilities with Cat I level physical protection measures
- Uranium mills
- Low-level radioactive waste sites storage, treatment and disposal facilities
- Planned gas centrifuge uranium enrichment facilities
- Independent spent fuel storage installations
- Spent fuel and non-spent fuel transportation packages
- Irradiators
- Materials of concern for use in RDDs

These facility or material specific vulnerability assessments will determine potential consequences beyond those already evaluated in the licensing basis or that could result from the loss of control of radioactive material. Vulnerabilities of structures, process and protective systems, security operations and physical protection systems, information systems, material control and accountability (MC&A) systems and access control systems vulnerabilities will be assessed as applicable. The vulnerability assessments will consider a range of threats including potential aircraft attack.

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