

Similarities and Differences between Safety and Sabotage Analysis

Safety Analysis addresses accidental and natural events	Sabotage Analysis addresses intentional, malicious events
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Similarities (examples)

Basis of similarities is similar objective “protect society and environment from harmful effects of radiation”

- Unacceptable Consequences
 - e.g. core damage, radiological release
- Structured Deterministic and Probabilistic based Risk Approach

Differences (examples)

Basis of differences is the intentional and unpredictable nature of an adversary that can make a plan to disable equipment and structures to facilitate the unacceptable consequence, and the ability of adversary to supplement internal energy to disperse radioactive materials with the introduction of external energy (explosives).

Assumptions

Rules or Conventions for Analysis	Design Qualification derived for safety analysis may not apply to security
<ul style="list-style-type: none"> • Design Qualification: e.g. design and construction standards as a basis for excluding pressure retaining components from failure 	may not have considered introduction of explosives—particularly shaped-charges

Probability of Event

Assumptions that discount scenario probability based on component reliability	Several intentional sabotage acts can be carried out simultaneously on equipment in different areas
Assumptions that discount scenarios probability based on separation, redundancy, or independent systems	
Probability minimized through Administrative Limits and Conditions to prevent events initiated by humans	An adversary will violate administrative limits

Consequences of Event

Consequences mitigated by Human Actions	Facility response staff can be insiders
	Facility response staff can be targeted by adversaries
Consequences that are acceptable due to limited internal energy available to disperse	Adversary can introduce external energy in optimal manner to disperse