

Alternative Physical Security for Advanced Reactors - Proposed Rule

Proposed Eligibility Criteria Breakdown

Handout for September 16, 2021 Public Meeting

Criterion A: Reliance on inherent characteristics (i.e., loss of cooling equipment and containment structures; no security considerations)

Criterion B: Reliance on installed design features, limited security features, and MCR/CAS/SAS actions

Criterion C: Reliance on recovery/mitigation strategies, offsite resources, security features, personnel actions

	Conditions and Assumptions	Criterion A	Criterion B	Criterion C
1	Design basis threat (DBT)-initiated events	√	√	√
2	DBT damage to fuel, the facility, and structures, systems, and components (SSCs); the effect on accident progression; and the release of radiological material are analyzed, and anything allowed in analysis must survive the DBT adversary attack.	√	√	√
3	Recovery/mitigation strategy/equipment/personnel implementation timeline starts after the reasonable assurance of protection time (RAPT)	N/A	N/A	√
4	Human actions / interactions	N/A	Limited (onsite autonomous engineered safety and security systems, only applicable to credible target sets)	√
5	Recovery/mitigation (safety and security) can be included in the analysis.	N/A	Limited (autonomous engineered safety and security systems)	√
6	Offsite dose analysis timeline starts when target set is compromised.	√	√	√

7	Recovery/mitigation strategy/equipment/personnel implementation can be considered.	N/A	Limited (autonomous engineered safety and security systems)	√
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What is Allowed in the Analysis	Criterion A	Criterion B	Criterion C
Inherent characteristics	√	√	√
Passive engineered safety features/SSCs	N/A	√	√
Active engineered safety features/SSCs	N/A	Limited (systems or features that are passive and autonomous after activation or deployed by human actions initiated onsite)	√
Action that can be taken in the Main Control Room (MCR), Central Alarm Station (CAS), Secondary Alarm Station (SAS), or other secured areas	N/A	Limited (autonomous engineered safety and security systems)	√
Physical security detection & assessment capabilities	N/A	Limited (autonomous engineered systems onsite)	√
Physical security delay capabilities	N/A	Limited (autonomous engineered systems onsite)	√
Onsite physical security interdiction & neutralization capabilities	N/A	Limited (autonomous engineered systems)	√
Onsite security personnel	N/A	N/A	√
Onsite armed responders	N/A	N/A	√
Passive engineered security features/equipment	N/A	√	√
Active engineered security features/equipment	N/A	Limited (systems or features that are passive and autonomous after activation or deployed by human actions initiated onsite)	√
Security features/equipment initiated by MCR/CAS/SAS	N/A	Limited (autonomous engineered systems onsite)	√

Remotely operated weapons system (ROWS) (assuming an operator panel is inside MCR/CAS/SAS)	N/A	Limited (autonomous engineered systems onsite)	√
Offsite security response (e.g., law enforcement, licensee personnel, hired contractor personnel)	N/A	Limited (puts a timeframe on DBT capabilities, outside of target set space)	√
Physical security interdiction & neutralization capabilities that are controlled from offsite (e.g., ROWS)	N/A	Limited (autonomous engineered systems onsite)	√
Offsite safety or security equipment	N/A	N/A	√
Offsite assistance/capabilities (safety, emergency preparedness, etc.)?	N/A	√	√
Time limit on analyzing DBT events (e.g., RAPT)	?	√ (RAPT ¹)	√ (RAPT)

¹ RAPT may need to be set at a different timeline than is used for currently operating reactors.