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Preliminary Site Characterization

Chinsan NPP Station Information Needs

AIT/TECRO Working Item AE-SNL-G35
Information Management System for a
Spent Nuclear Fuel Interim Dry Storage Facility

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National Nuclear Security Administration

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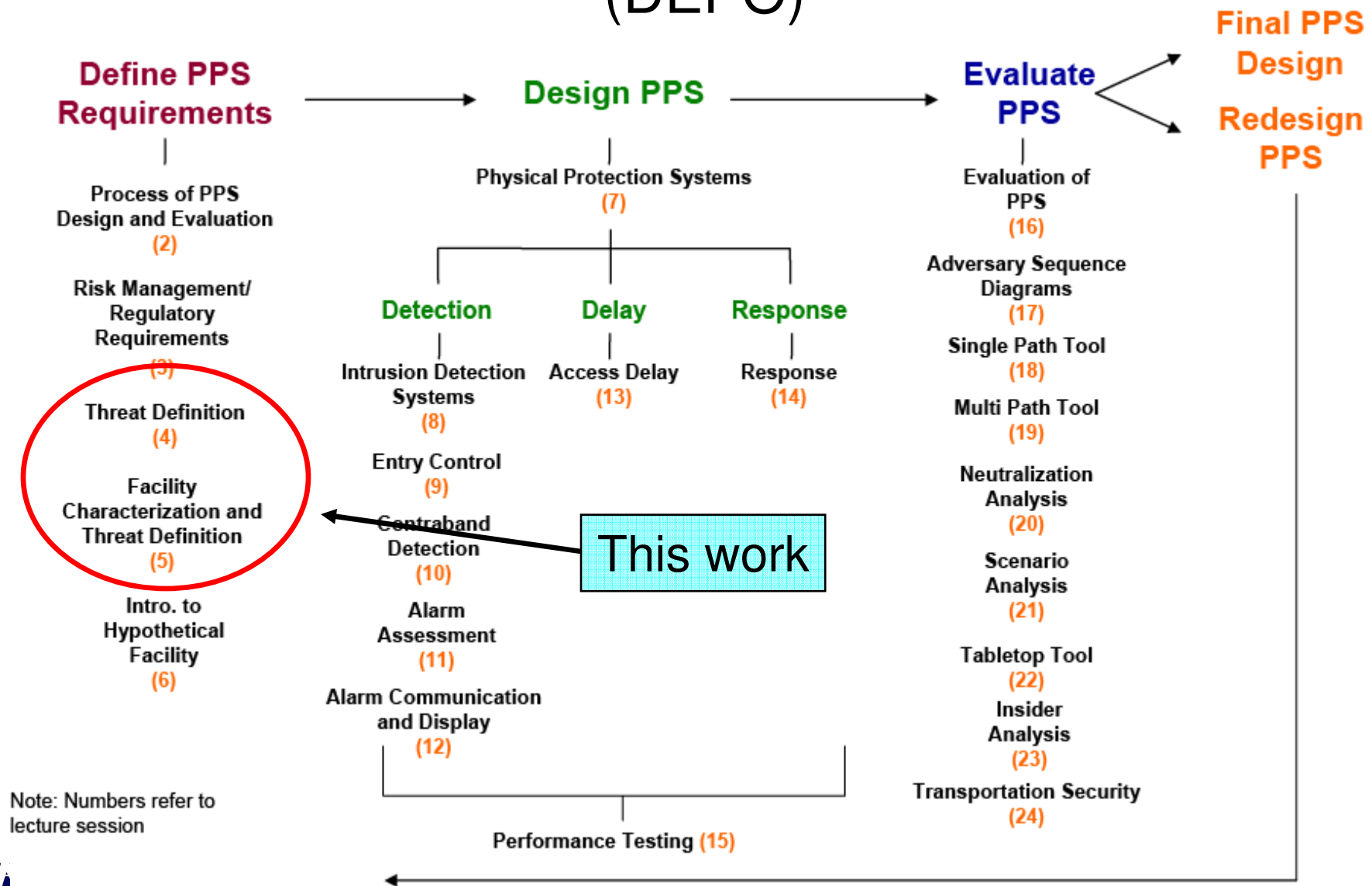
Preliminary Site Characterization Information Needs

- Examine the current integrated security and safety architecture at Chinshan NPP station
- Desire to accomplish these goals on the visit
  - Informal interviews with site personnel
  - Site familiarization walking tour of the facility area
- This preliminary site characterization will contribute to the analysis task for the dry storage facility information management system

Design and Evaluation Process Outline (DEPO)

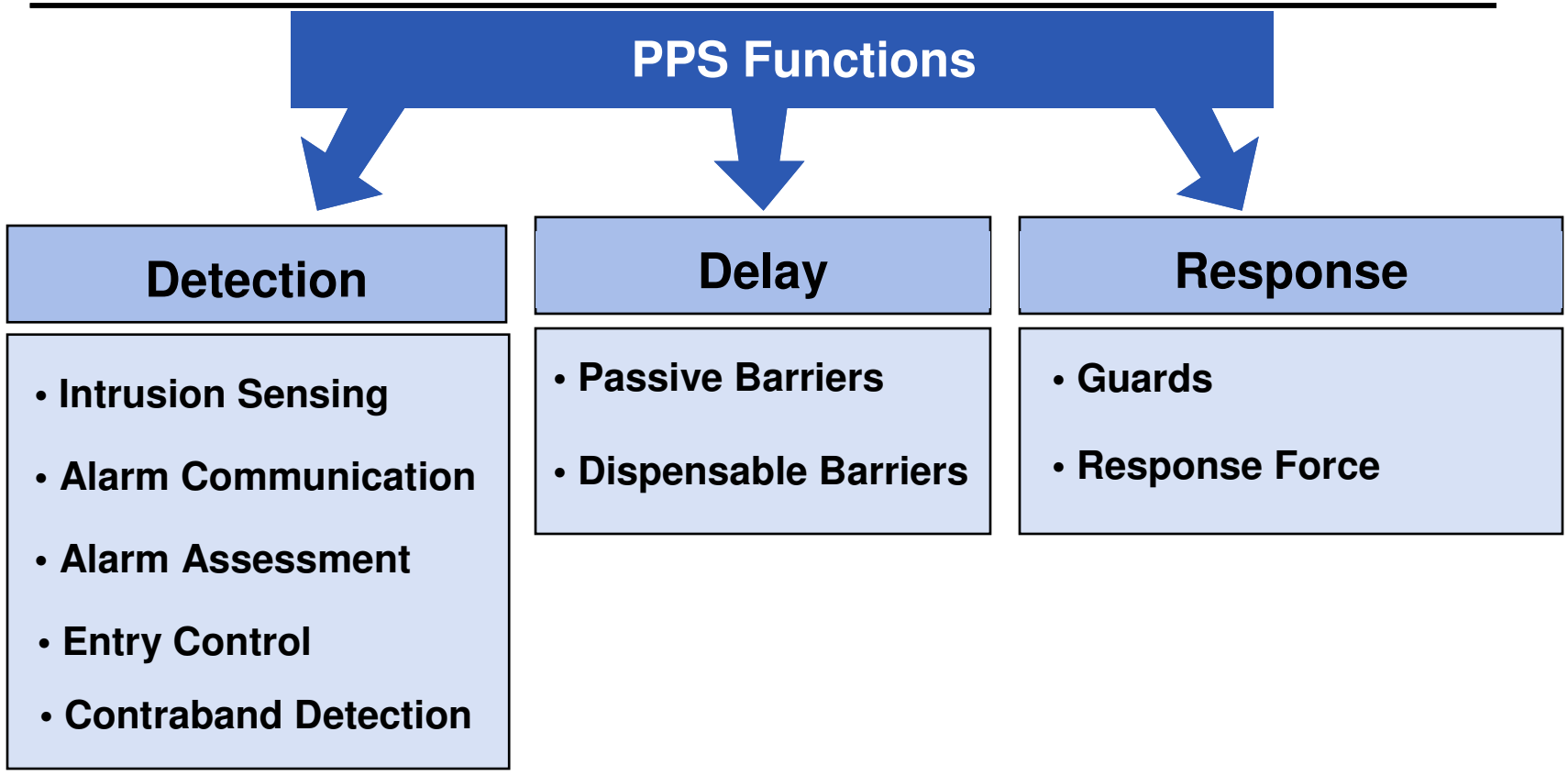


Note: Numbers refer to lecture session

National Nuclear Security Administration

Laboratories

Basic PPS Functions



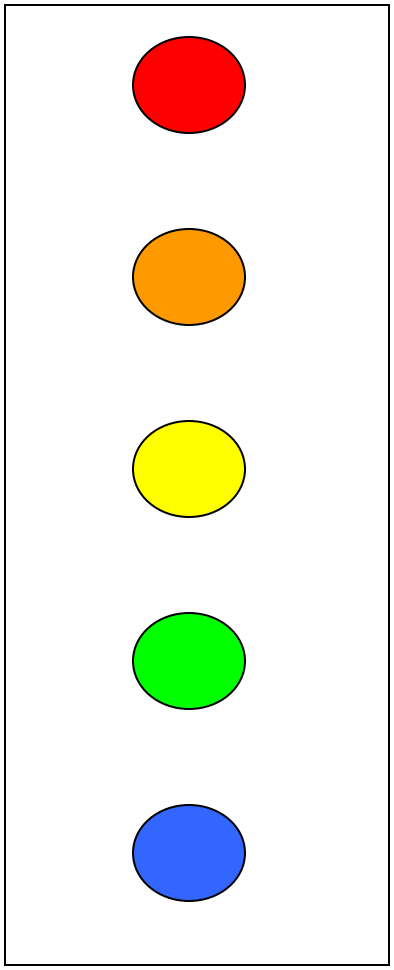
Technology or Guards

Plausible Threat Envelope Capability Matrix Approach

- Operations Capability
  - The ability to conceive, plan, organize and execute a given attack plan, independent of the technical means required.
- Technical Capability
  - The ability to plan, acquire, and employ the appropriate technology for attack mission weapons, communications, surveillance/recon, transport, logistics, tools, and supplies.

Qualitative Scenario Ranking Method

- Extreme**:** there are no or minimal adversary impediments and many obvious target weaknesses
  - *Attack success is very likely*
- High**:** a few questionable adversary impediments and some obvious target weaknesses
  - *Attack success is likely*
- Moderate**:** some significant adversary impediments and few obvious target weakness
  - *Attack success is possible but not likely*
- Low**:** some significant adversary impediments and few questionable target weaknesses
  - *Attack success is unlikely*
- Minimal**:** many significant adversary impediments, no or minimal target weaknesses
  - *Attack success is very unlikely*



PTE Capability Matrix

Create and analyze three realistic and detailed scenarios		Technical Capability		
		Crude	*Skilled*	*Military*
Operations Capability 	*Novice*	1		
	Experienced		2	
	Professional			3

Information Needs (Slide 1 of 3)

1. Site Characteristics Information

- Recent aerial photographs
- Topographic maps of area
- Historical weather condition records available, including visibility
- Seismic history and seismic hazard condition for site
- Surrounding area maps for population, critical infrastructures (power, pipelines, communications, roads, mass transit, airports)
- Is radar coverage of local airspace available?

Information Needs (Slide 2 of 3)

2. Facility Design Information

- Are blueprints of building footprints, interior space available?
- What is the cask storage area design?
- Number of total SNF casks will be on site by design
- the inventory of each cask (mass and radioactivity)
- What are the safety (e.g., radiation detection, storage cask temperature, etc.) and security monitoring data?
- What are the video camera surveillance data?

Information Needs (Slide 3 of 3)

3. Facility Operations

- What are the site operating schedules? Daily, weekly, monthly, annual, non-scheduled maintenance activities are of interest.

- How many workers are on the site each day?
- How many vehicles are typically parked on the site?
- What are the vehicle regulations for site access (size limit, tags, etc.)
- How many supply and maintenance vehicles arrive/depart each day?
- What other vehicles routinely arrive at site (delivering mail, food, etc.)
- What is the rail access route (if any) and the freight traffic schedule?
- What are the shift schedules and planned maintenance periods?

- What is the security system design (site security and SNF interim storage facility security)?

Thank You

- I am happy to answer questions.