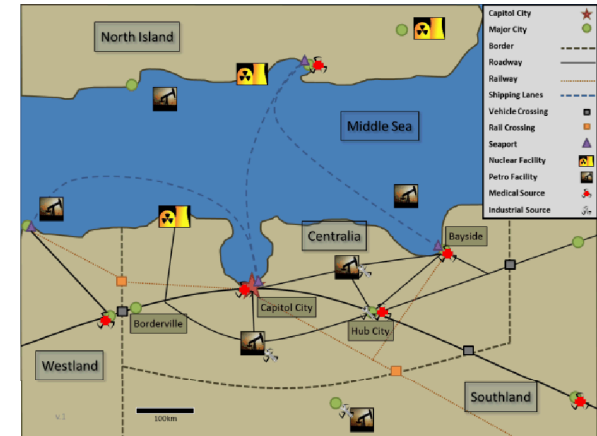


Architecture Design and Development

Nuclear Security Detection Architecture
TTX 3

Design and Development

- You are now tasked with designing enhancements to Centralia's nuclear security detection architecture
- Refer to responses from the previous exercise; architecture design should be informed by threat and risk assessment
- Also refer to Centralia's detection capabilities listed in the participant guidebook



Architecture Design Principles

- Risk-informed
- Defense-in-depth
- Graded and balanced
- Adaptive and evolving over time
- Element of unpredictability
- Not solely reliant on radiation detection technologies
- Emphasizes operational flexibility
- Tailored to specific circumstances and conditions
- Exploits opportunities for integration

INJECT 1

TTX 3: Inject 1

(35 min) As members of Centralia's architecture planning committee, you previously conducted a review of competent authorities and an analysis of nuclear security threats, and are now tasked with applying this information to design and development of the architecture. As a first step, it is important to consider how fundamental architecture design principles (presented in Module E) should be applied to implementation of Centralia's architecture. In thinking through the following problem statements, consider what an "optimum" architecture for Centralia might look like, regardless of resource constraints and existing capabilities.

TIME UP!

INJECT 2

TTX 3: Inject 2

(35 mins) Like all countries, Centralia faces practical constraints on its ability to implement an optimum nuclear security detection architecture. Given national budget priorities, Centralia is not in a position to acquire new physical detection assets (including technology, infrastructure, and personnel) for at least two years. There is funding available for maintenance and operation of existing assets, in addition to education and training for personnel. Looking past two years, the planning committee can expect funding for modest additions to its detection capabilities, assuming these capabilities can be justified through a gap analysis and needs assessment. Refer to the participant guide and its list of existing capabilities as you address the following problem statements.

TIME UP!

MODERATED DEBRIEF

Moderated Debrief

- (5 min) Discuss major themes/talking points from the group discussions
- (5 min) Move back into group seating
- (20 min) Moderated debrief