

Critical Infrastructure Components

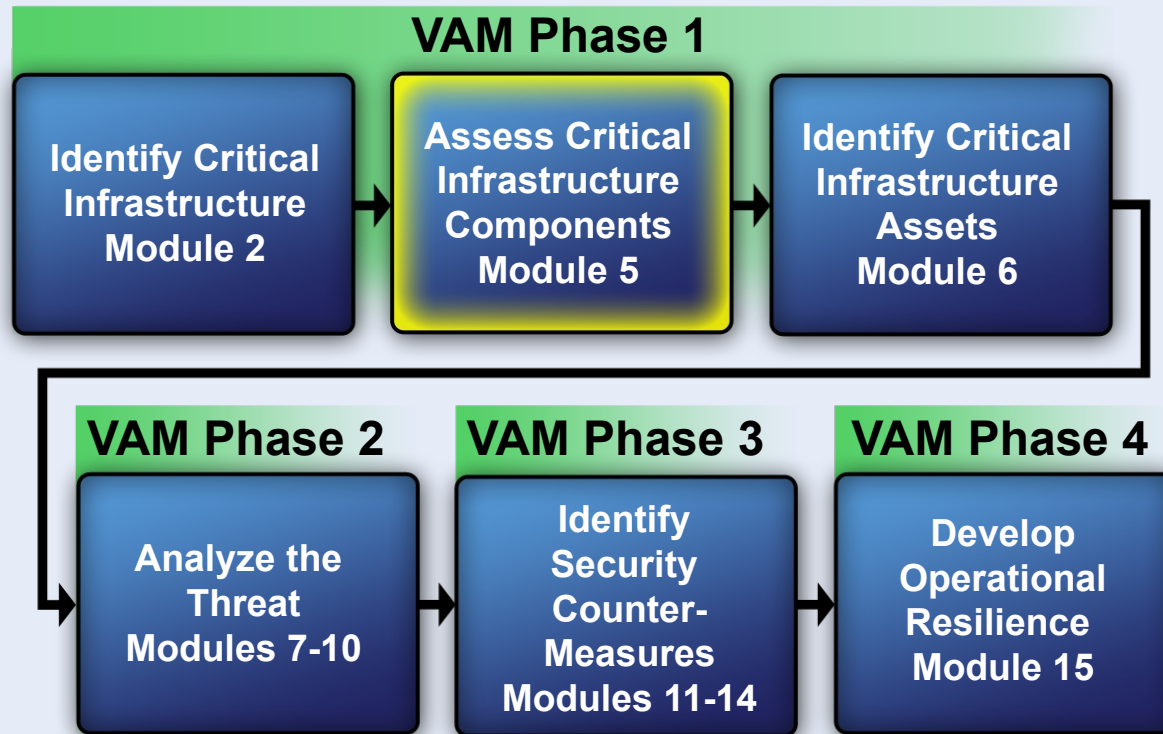


Module Objective

- **By the end of this module, you will be able to determine the functional components of critical infrastructure to establish the basis of a vulnerability analysis**



Course Map with VAM Phases



Critical Infrastructure Components Defined

- **The physical conditions, facility operations, policies, and procedures, regulatory requirements, and the safety and legal considerations of the identified asset**



Critical Infrastructure Assessments Defined

- A comprehensive evaluation of the components of a given critical infrastructure



Purpose of Critical Infrastructure Assessments

- Provide a comprehensive evaluation of a critical infrastructure's components
- Assess and mitigate vulnerabilities
- Identify and establish security countermeasures



Source: Dept. of Homeland Security



Evaluation of Critical Infrastructure Components

- Is part of the process of securing facilities against all threats including terrorist attack and natural disasters
- Requires a methodical approach
- Involves gathering data such as:
 - Physical description of the facility
 - Known vulnerabilities and weaknesses



Accurate Data

- **Gathering accurate information is critical**
- **Accurate data allows for the development of appropriate security countermeasure recommendations**



Source: Bureau of Labor Statistics



Inaccurate Data

- **Results in:**
 - **Wasted resources**
 - **Damage or destruction of critical assets**
 - **Injury or death**



Critical Infrastructure Components

- **This section will cover:**
 - **Physical conditions**
 - **Facility operations, policies, and procedures**
 - **Regulatory requirements**
 - **Safety considerations**
 - **Legal considerations**



Physical Conditions Component (1 of 2)

- **Site boundaries**
- **Number and location of buildings**
- **Room locations within buildings**
- **Access points**



Physical Conditions Component (2 of 2)

- Existing physical protection system
- Building construction details
- Environmental aspects



Environmental Aspects

- **Topography**
- **Vegetation**
- **Wildlife**
- **Background noise**
- **Climate and weather conditions**



Knowledge of Physical Conditions

- **Helps to identify conditions that may limit site access:**
 - Vegetation
 - Isolation
- **Used to predict terrorist routes into the facility and best routes for security force and first responders**

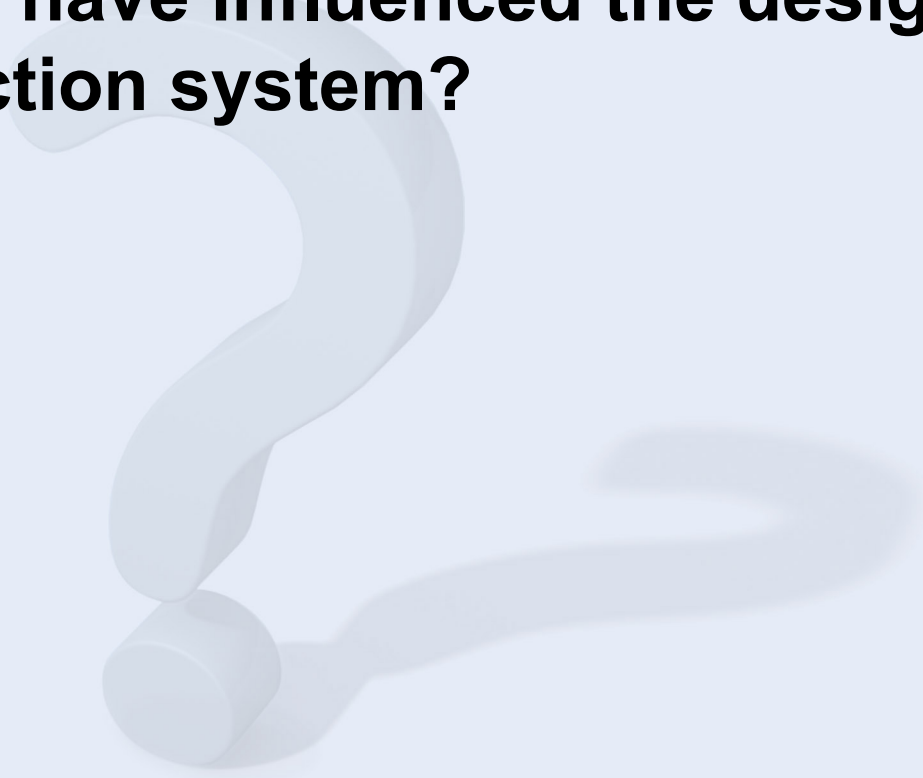


Source: Department of Energy



Discussion Question

- **Can you provide examples of physical conditions that have influenced the design of a physical protection system?**



Facility Operations Component

- **Process and products — facility assets**
- **Operating conditions:**
 - Hours of operation
 - Number of employees
 - Staff and visitors' movement
 - Traffic patterns and specialized equipment



Source: NRC



Facility Polices and Procedures Component

- Documented policies and procedures
- Employee training
- Disciplinary action procedures for policy violations
- Proper supervision and management

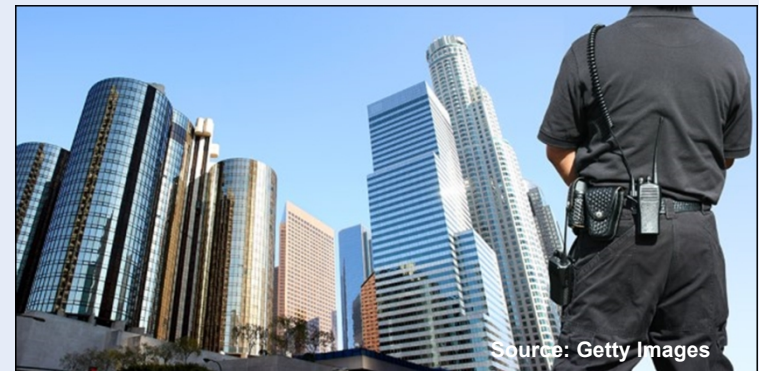


Source: DS/T/ATA



Regulatory Requirements Component

- **Collect data on regulatory requirements and standards that apply to the facility**
- **Ensure that the physical protection system design does not conflict with regulations**



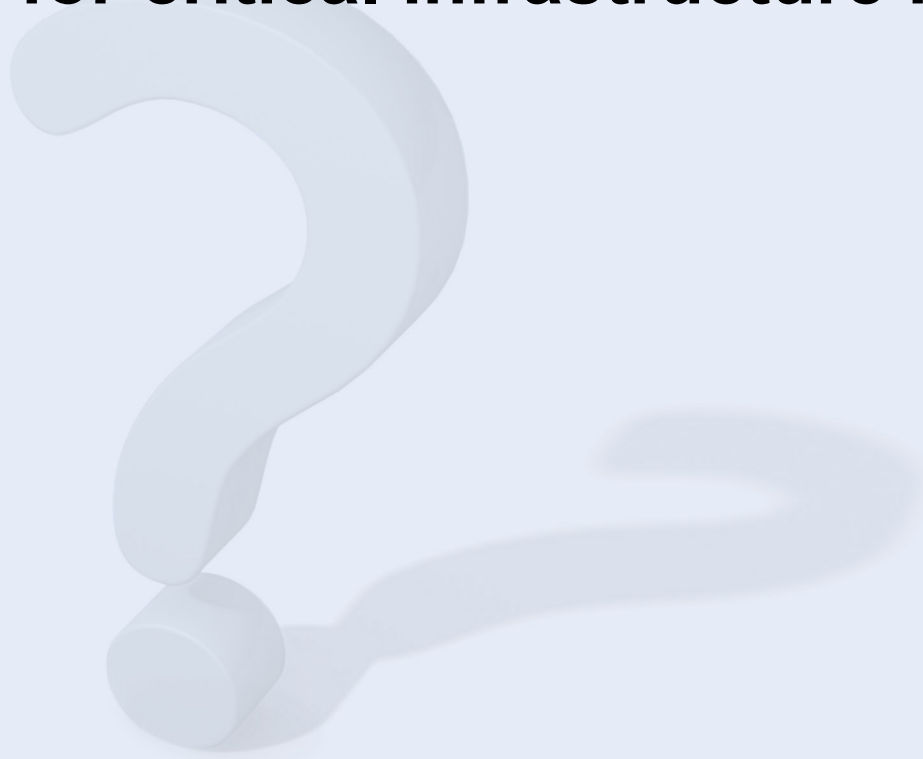
Safety Considerations Component

- **Before implementing security measures:**
 - Consult the safety authority at the critical infrastructure
 - Ensure compliance with safety regulations and policies
- **The vulnerability analysis team may not include a safety expert**



Discussion Question

- **What are some examples of other safety considerations for critical infrastructure in your country?**



Legal Considerations Component (1 of 3)

- **Collect data on legal information to ensure the physical protection system does not create legal problems for the facility**



Legal Considerations Component (2 of 3)

- **May include:**
 - **Use-of-force policy**
 - **Employee rights and privacy concerns when conducting searches of employees and visitors**
 - **Training requirements for security forces**



Legal Considerations Component (3 of 3)

- **Failure to comply with legal requirements could result in:**
 - Financial penalties for the facility
 - Prison time for senior executives
 - Litigation (civil lawsuits)



TeachBack Moment



- **What are some examples of the components used to assess critical infrastructure?**



Critical Infrastructure Components

- **This section will cover:**
 - **Critical infrastructure component evaluation**
 - **Methodology for gathering information on facilities**



Critical Infrastructure Component Evaluation

- **Allows security managers to:**
 - **Protect critical assets**
 - **Prioritize efforts**
 - **Use limited resources more efficiently**



Prioritize Vulnerability Analysis Efforts

- **Identify:**
 - **Critical assets**
 - **Common vulnerabilities and protection solutions**
 - **Interdependencies between infrastructures**



Identify Critical Assets

- Focus on identifying the truly critical assets
- Harden critical assets against attack
- If possible, reduce the effect of asset loss through:
 - Redundancy
 - Relocation
 - Redesign



Identify Common Vulnerabilities and Protection Solutions

- **Establish and implement best practices:**
 - **Methods that show consistent superior results**
 - **Benchmarks**
 - **Variable to each asset**



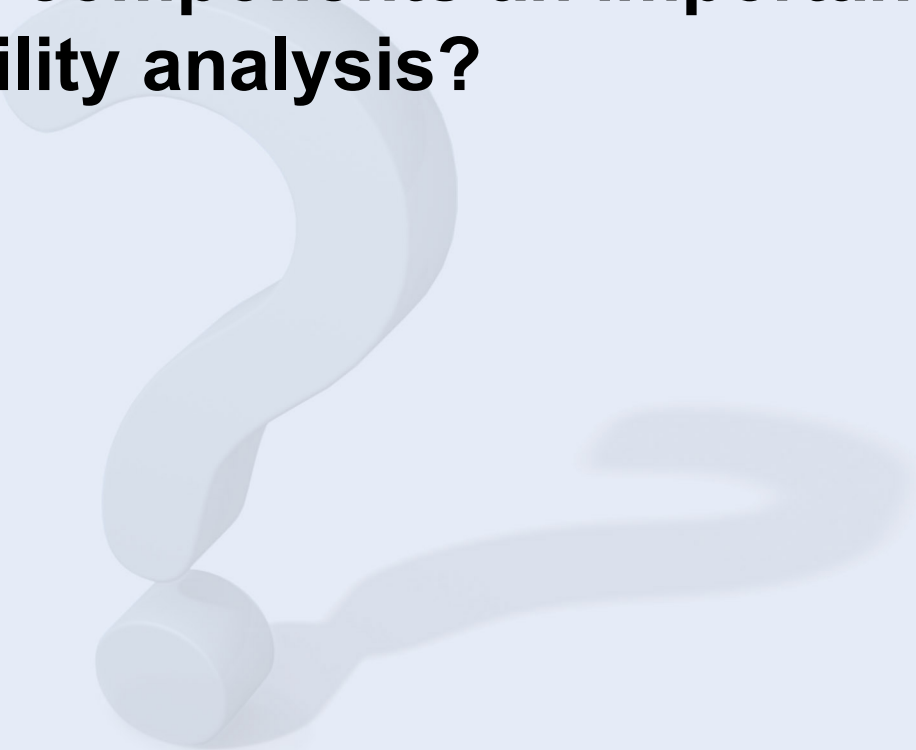
Identify Interdependencies between Infrastructures

- Relationship between infrastructures
- Geographic proximity
- Feasibility



Discussion Question

- **Why is the evaluation of a critical infrastructure's components an important part of the vulnerability analysis?**



Methodology for Gathering Information for Facilities

- **This section will cover:**
 - **Stage 1: Planning**
 - **Stage 2: Data review**
 - **Stage 3: Site visit**
 - **Stage 4: Information evaluation**



Gathering Component Data —Stage 1: Planning

Refer To:

Workbook 5.1

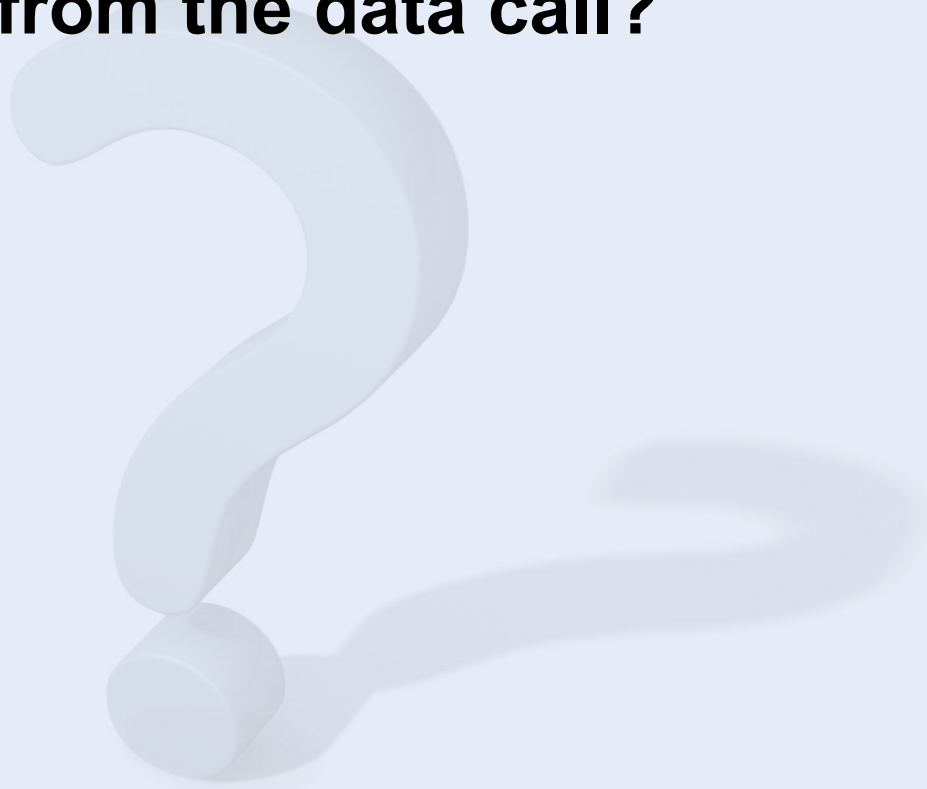


- **Form a vulnerability analysis team:**
 - Project manager
 - Security system technologist
 - Subject matter experts
- **Make a data call:**
 - Before site visit
 - Request information about site
- **Schedule site visit — time and permission**



Discussion Question

- **What other kinds of information would you want to obtain from the data call?**



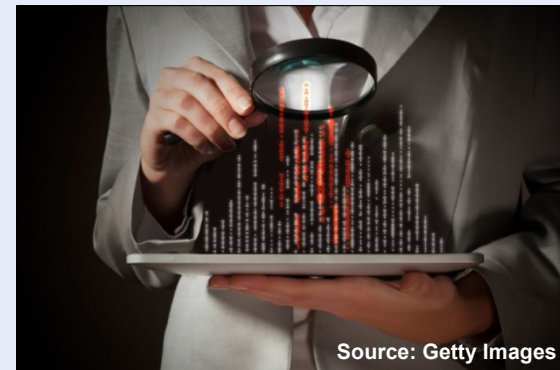
Gathering Component Data — Stage 2: Data Review

Refer To:

Workbook 5.1



- Review data call information
- Prepare questions for site visit
- Plan site visit



Source: Getty Images



Discussion Question

- Are there any other sample questions you would include in the list?



Gathering Component Data — Stage 3: Site Visit

- Briefing to facility point of contact
- Tour, including:
 - All critical assets
 - Secondary critical assets
 - Security control center
 - Other specified areas
- Interviews to answer remaining questions



Gathering Component Data — Stage 4: Information Evaluation

- Determine data relevance
- Record in report



TeachBack Moment



- **How are critical infrastructure components used in a critical infrastructure assessment?**



Threaded Exercise

Introduction and Part 1

Refer To:

Workbook Introduction
and Part 1



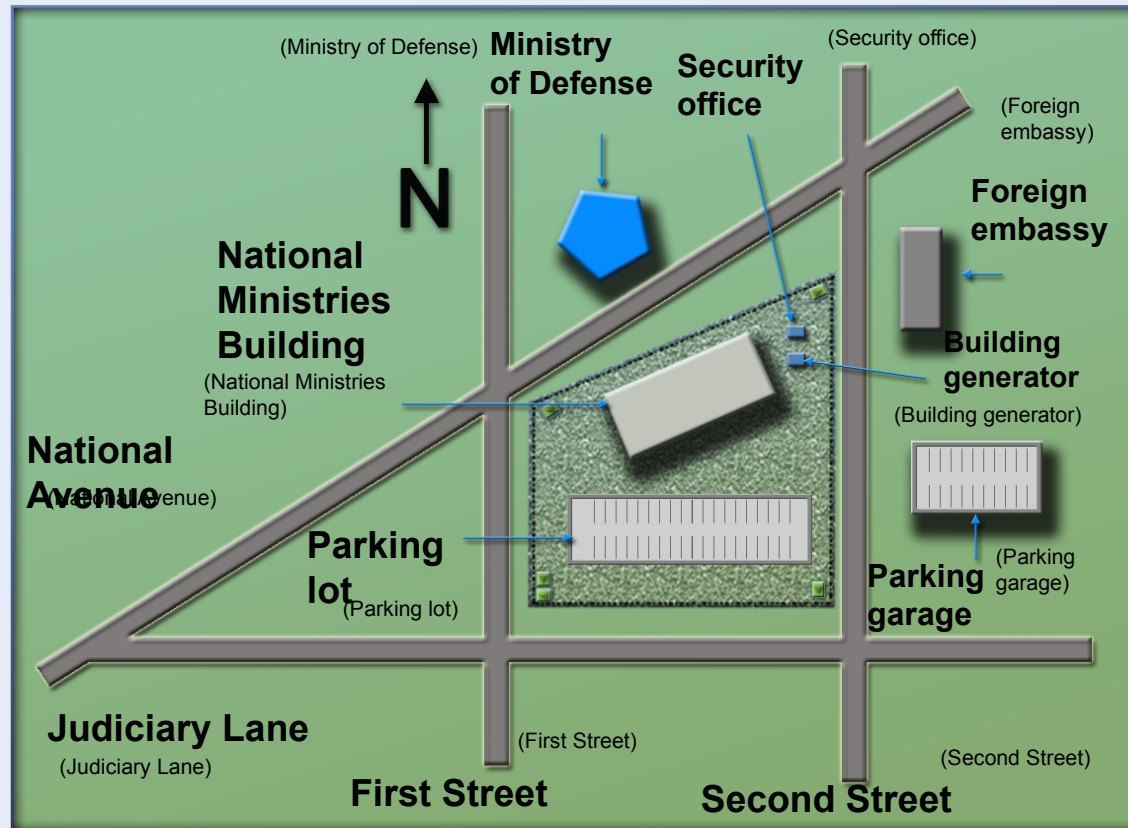
- **Purpose: to evaluate the critical infrastructure components of the National Ministries Building**
 - **Duration: 90 minutes (70-exercise; 20-debrief)**
 - **Group composition: table groups**
 - **Debrief: presentations and discussion**



National Ministries Building Complex Map

Refer To:

National Ministries Building Complex Map



Module Summary

- **Critical infrastructure assessments**
- **Critical infrastructure components**

