Protective Design-Mandatory Center of Expertise (PD-MCX) DoD vs. ISC Security Criteria

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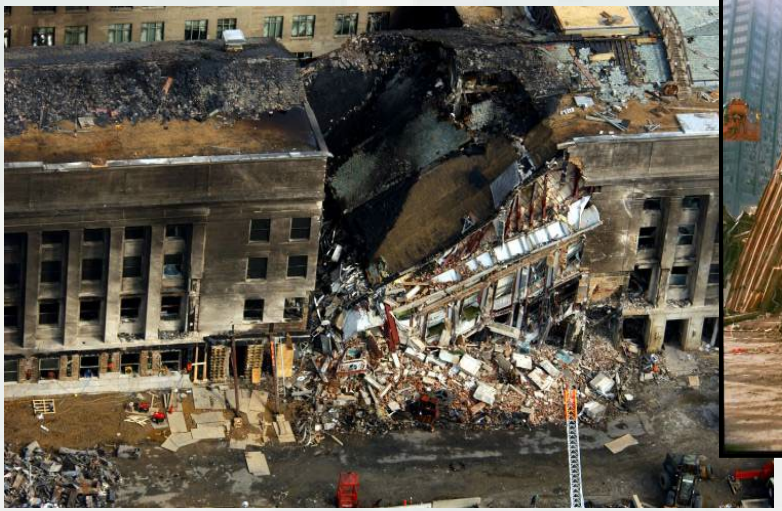
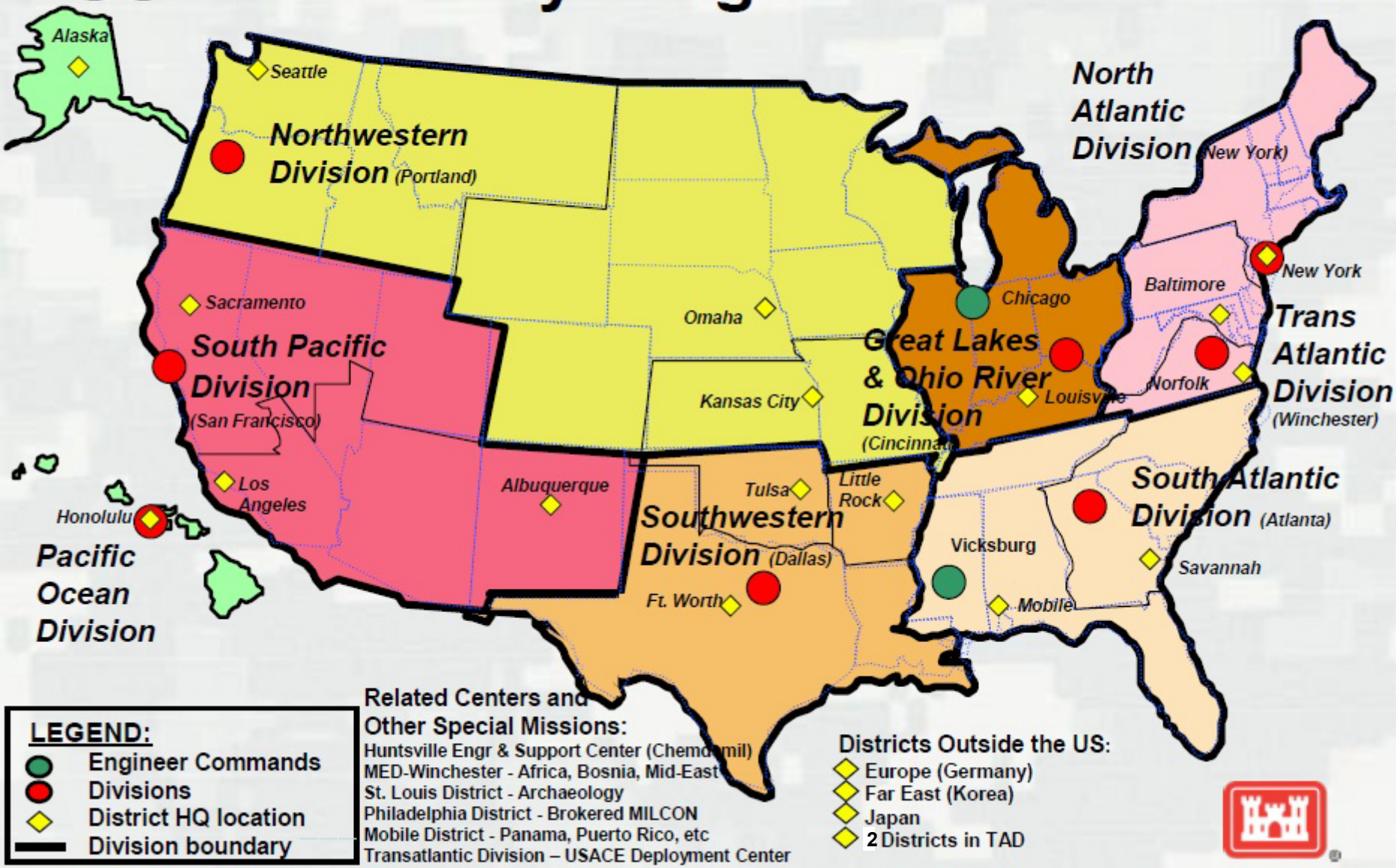
BUILDING STRONG®

Worldwide Terror Events



USACE Military Programs Boundaries



LEGEND:

- Engineer Commands
- Divisions
- District HQ location
- Division boundary

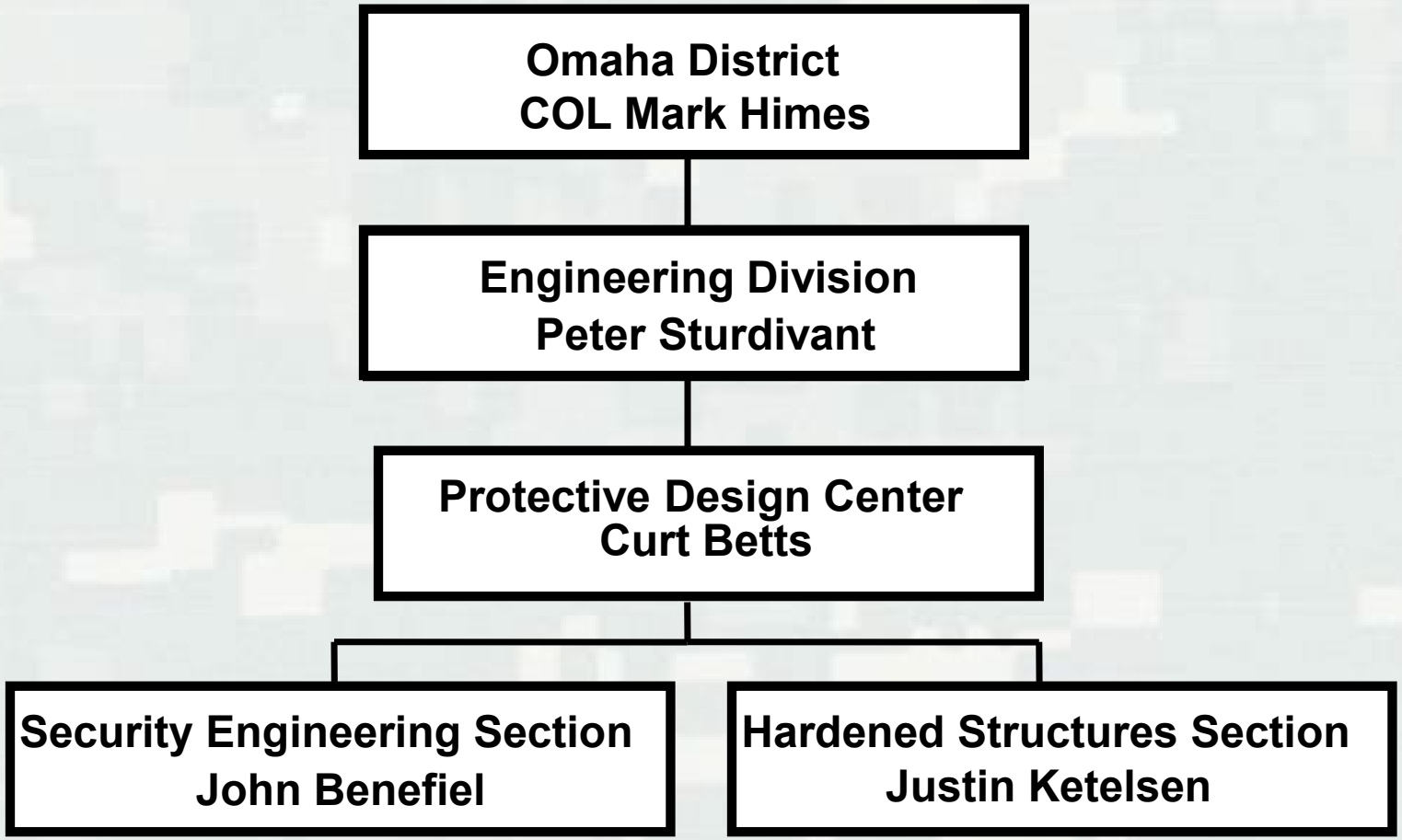
Related Centers and Other Special Missions:

Huntsville Engr & Support Center (Chem/Demil)
MED-Winchester - Africa, Bosnia, Mid-East
St. Louis District - Archaeology
Philadelphia District - Brokered MILCON
Mobile District - Panama, Puerto Rico, etc
Transatlantic Division – USACE Deployment Center

Districts Outside the US:

- Europe (Germany)
- Far East (Korea)
- Japan
- 2 Districts in TAD

Protective Design Center



24 Full Time Permanent
(Augmentation from Omaha District as needed)

PDC Mission

- Army's Center of Expertise for security engineering and hardened structures design
- Responsible for:
  - Criteria development
  - Technology transfer
  - Technical support
- Support to DoD, Dept. of Army, federal, state and local government agencies, foreign governments

PDMCX Mission Areas

- Security Engineering
  - Physical security design
  - Antiterrorism design
  - Sensitive Compartmented Information Facilities
  - Installation access control points
- Hardened Structures
  - Conventional weapons effects resistant design
  - Chemical/biological/radiological agent resistant design
  - Nuclear weapons effects design
  - Explosives safety design

Mission Programs

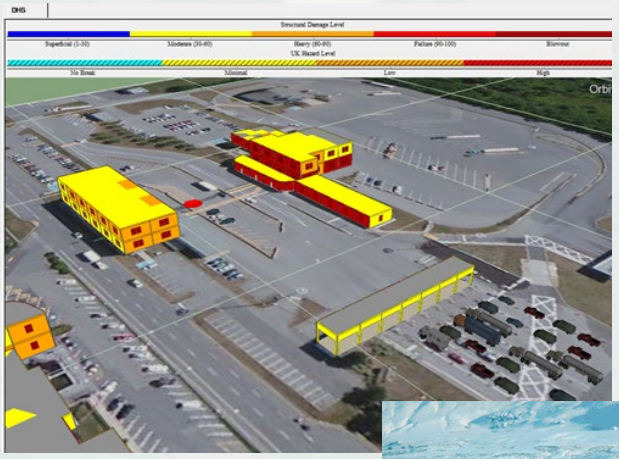
Civil Works

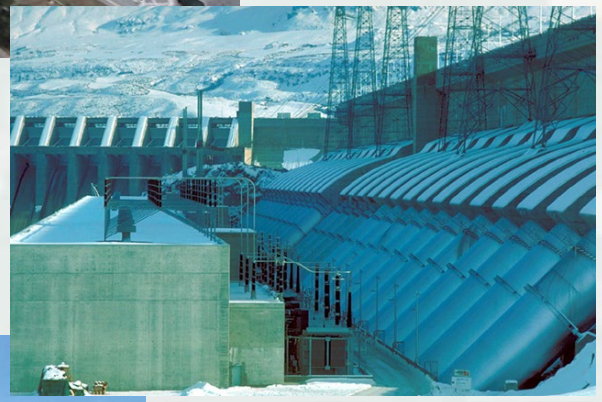
Military

Interagency & International Services (IIS)

PDC Activities

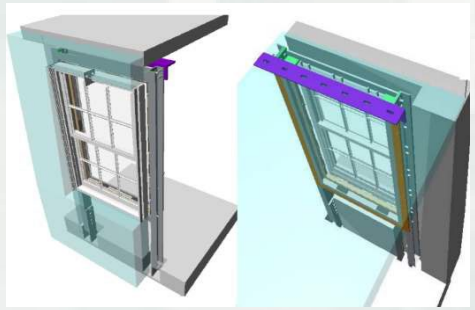
- Vulnerability Assessments
- Active Shooter Assessments
- Critical Infrastructure
- Access Control Points
- SCIFs
- CBRN Protection



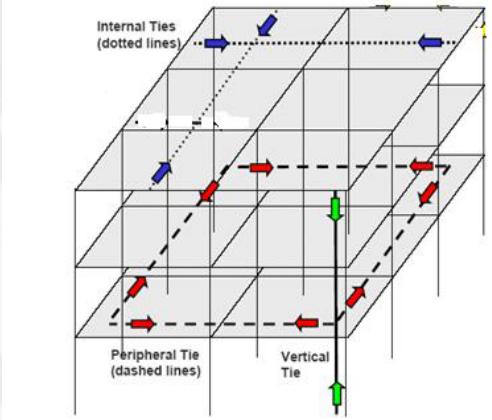


Technical & Design Assistance

- Design to resist weapons effects:
  - Blast pressure
  - Fragmentation

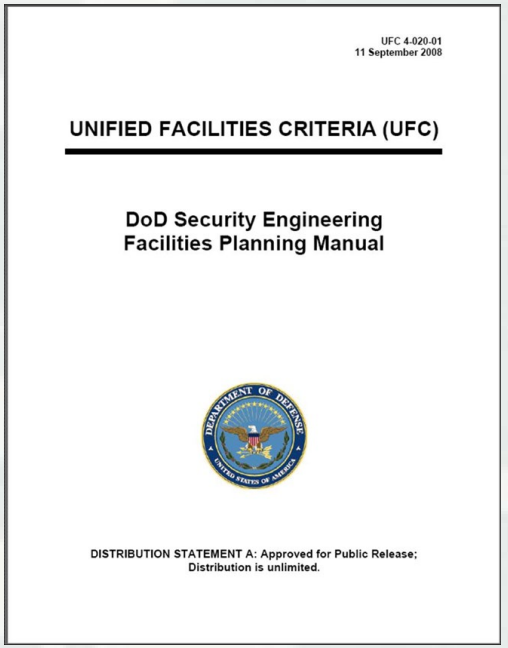


- Progressive collapse analyses for structures three stories and higher
- Collective protection against chemical/biological/radiological agents



Technology Transfer - Criteria

- Unified Facilities Criteria (UFC)
- Unified Facilities Guide Specifications (UFGS)
- PDC Technical Reports
- National Standards
  - ASCE
  - ASTM
  - UL
  - PCI
- Custom documents for specific customers
- Much of criteria developed from R&D and testing


UFC 4-020-01
11 September 2008

UNIFIED FACILITIES CRITERIA (UFC)

DoD Security Engineering
Facilities Planning Manual

DISTRIBUTION STATEMENT A: Approved for Public Release;
Distribution is unlimited.

Technology Transfer – Computer Program Development

- Blast resistant structural design
- Blast resistant window design
- Blast effects modeling
- Blast damage assessment
- Penetration mechanics
- Vulnerability assessment

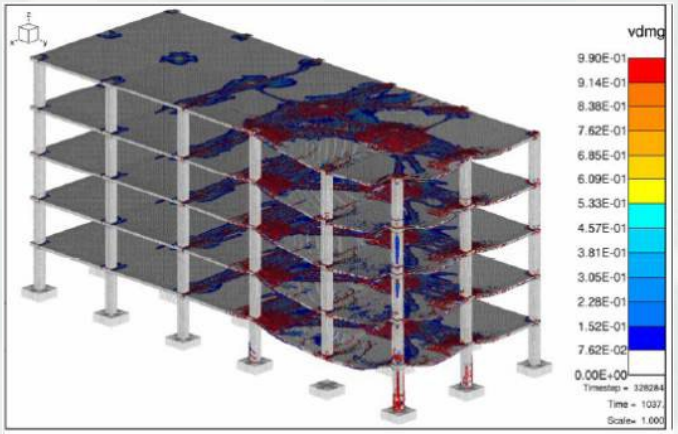
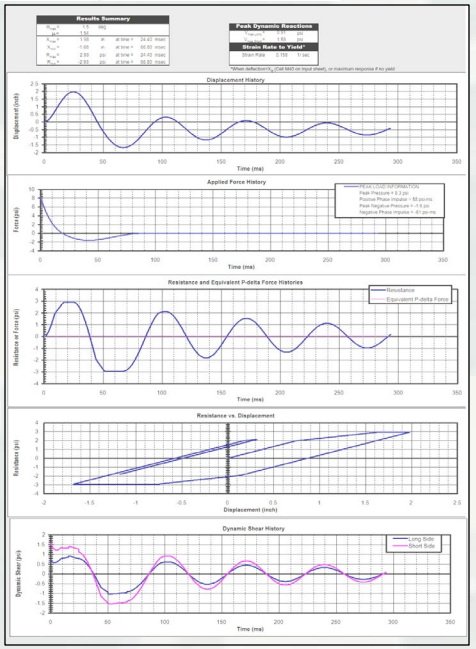
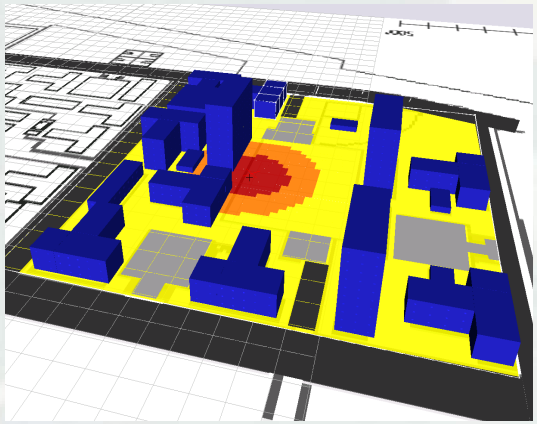


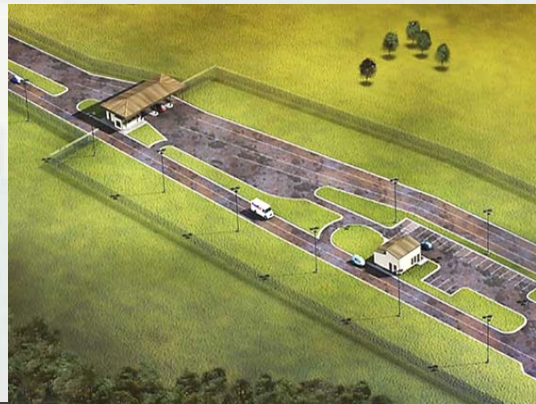
Figure 0-18: Microcracking – Low Level Case, Column H2 Removal



Technology Transfer - Training

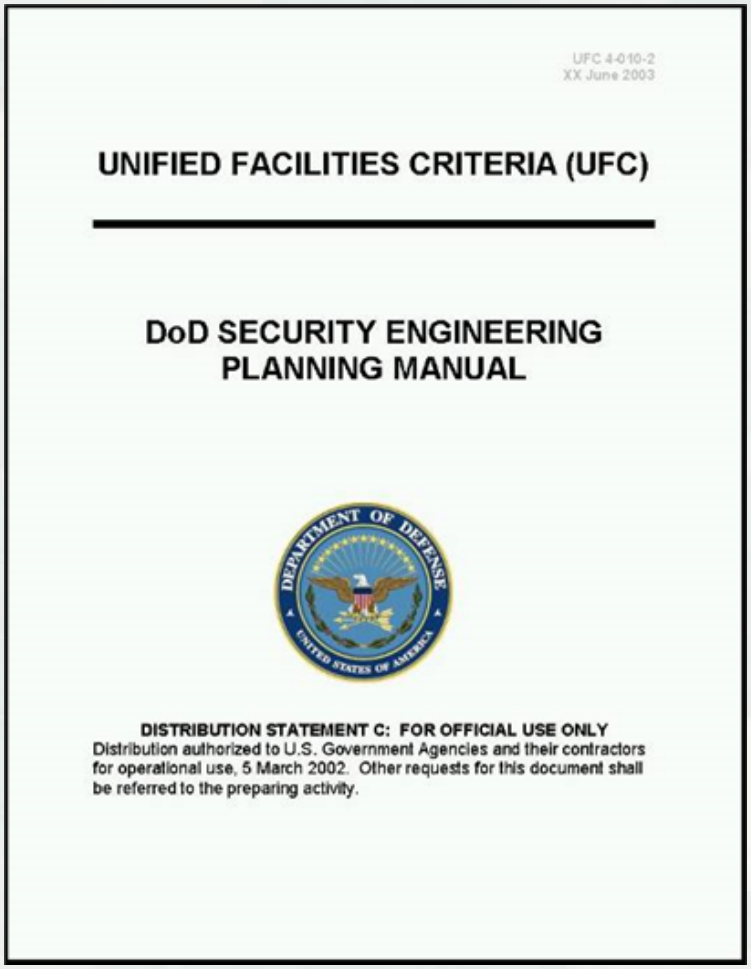
- Security Engineering
- Minimum DoD Antiterrorism Construction Standards for Buildings
- Blast Design
- Vulnerability Assessment Protection Option (VAPO)
- Access Control Points (ACPs)
- Blast Resistant Windows
- Specialty classes upon request

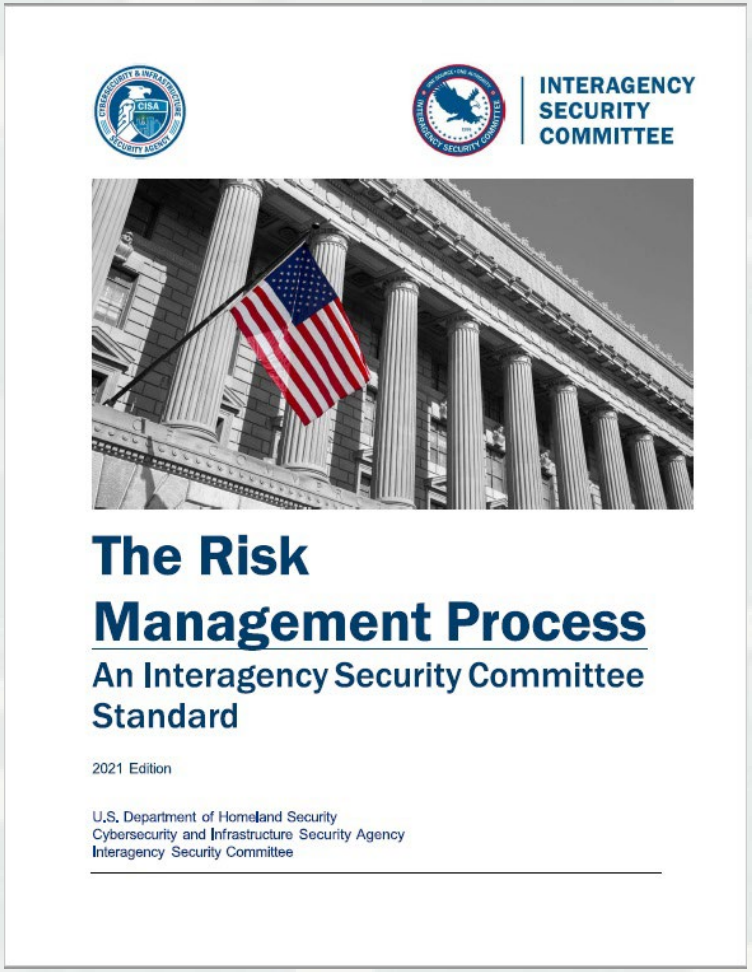




High Tech & Mobile Group

DoD vs. ISC Criteria





DoD vs. ISC

- Designed for DoD buildings
- 14 Tactics
- Planning Team
- Guides Planning Team toward repeatable criteria (mostly)

- Designed for Federal Facilities
- 33 Undesirable Events
- Facility Security Committee
- Facility Security Committee makes decisions based on their judgement

Design Criteria

- Focused on ***assets*** to be protected
- Threat to assets
- Levels of Protection

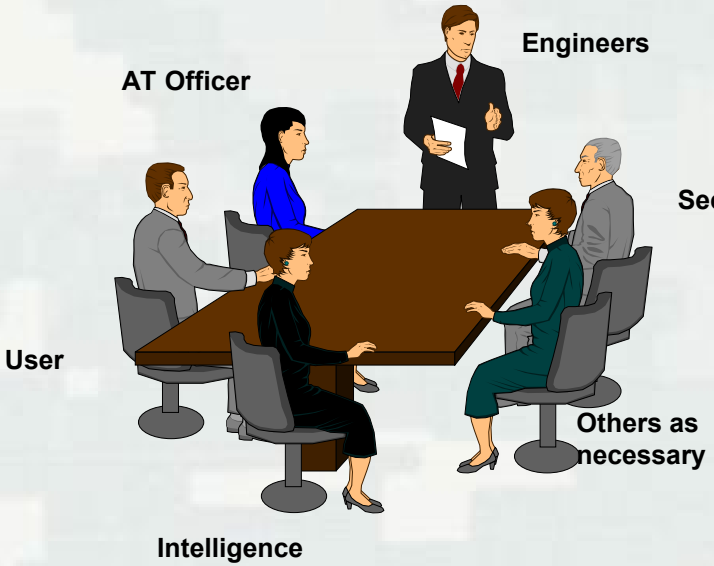
- Focuses on facility (Facility Security Level)
- Undesirable Events
- Levels of Protection

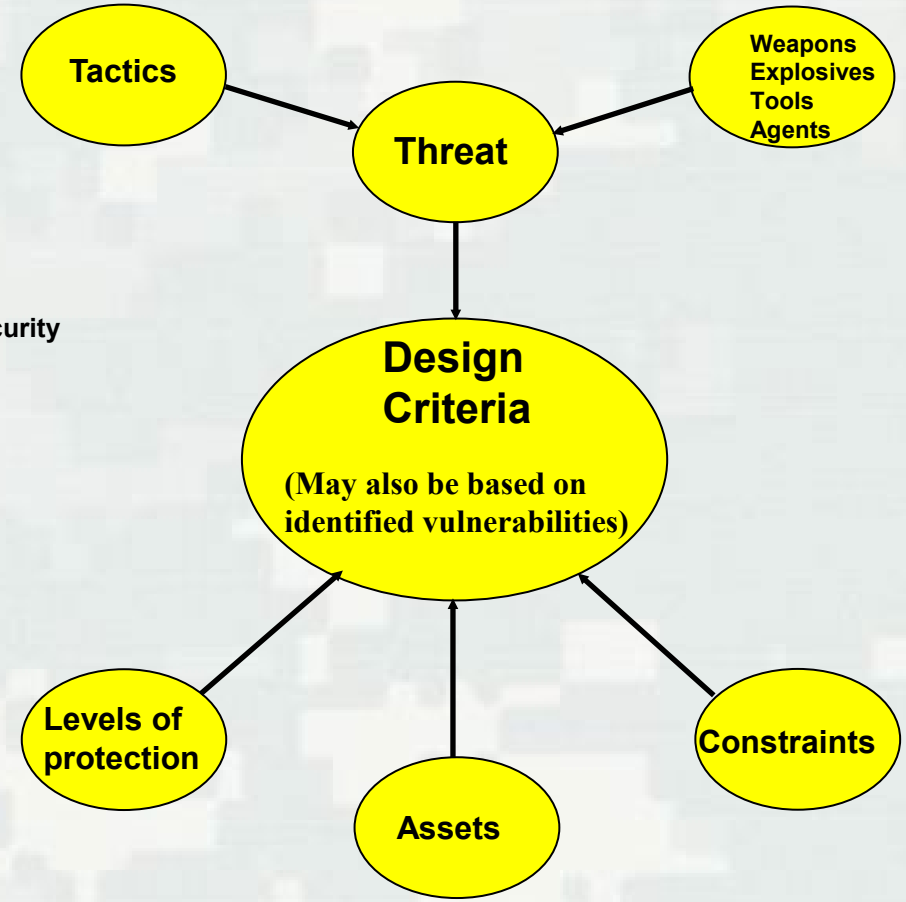
DoD vs. ISC

- Identify assets
- Determine asset value
- Determine aggressor likelihood
- Likelihood drives threat
- Asset value drives Level of Protection

- Five factors drive Facility Security Level
  - Mission criticality
  - Symbolism
  - Facility population
  - Facility size
  - Threat to tenant agencies
- Design Basis Threat Report used for threat
- FSC determines LOP

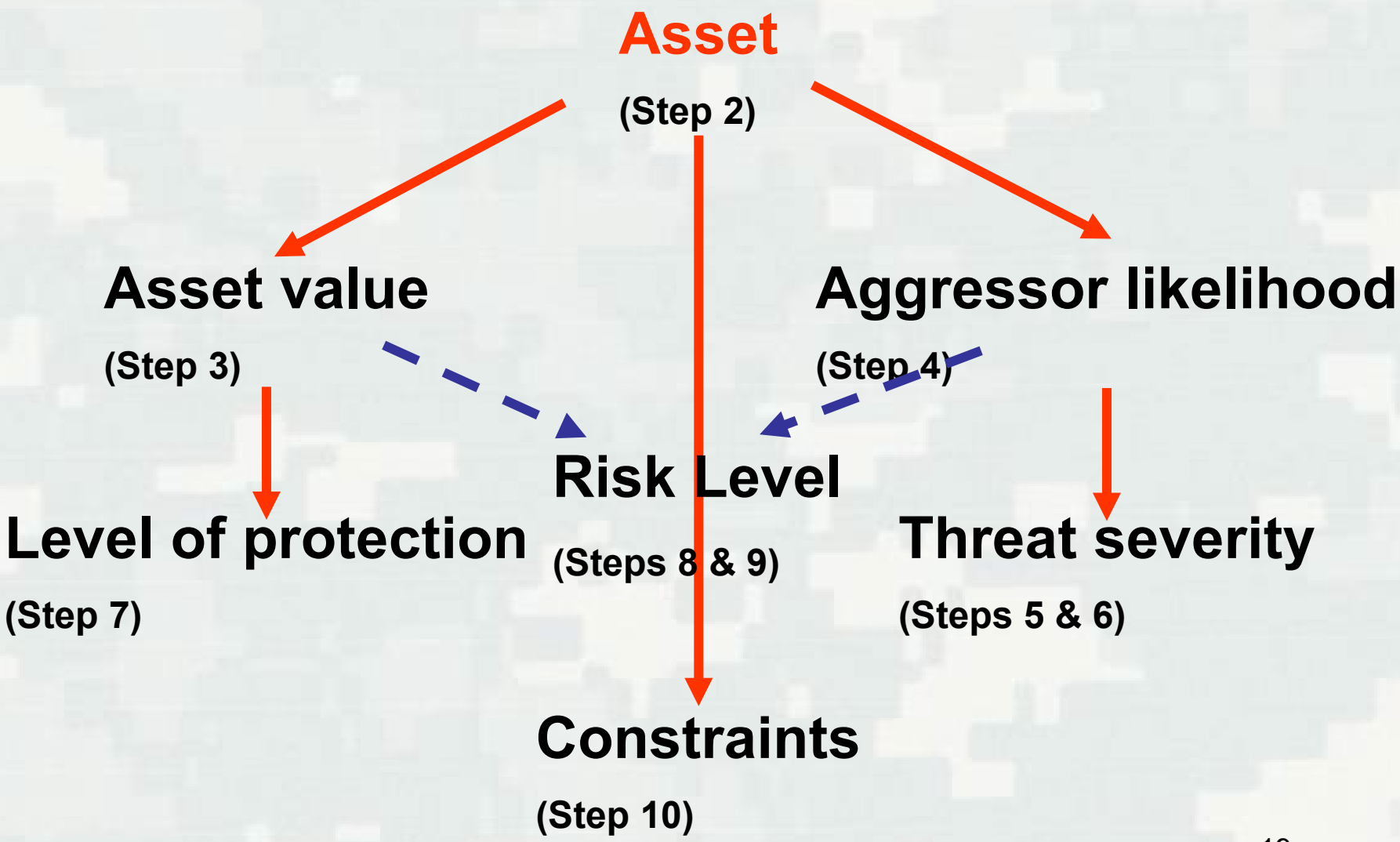
Design Criteria (DoD)





$$R = A_V * T_L * (1-P_E)$$

Summary


Asset
(Step 2)
Asset value
(Step 3)
Aggressor likelihood
(Step 4)
Risk Level
(Steps 8 & 9)
Level of protection
(Step 7)
Threat severity
(Steps 5 & 6)
Constraints
(Step 10)

DoD Value and Likelihood Factors

Asset Value

- Criticality to the user / Population type
- Impact on national defense
- Replaceability
- Political sensitivity
- Relative value to user

Likelihood

- Asset location
- Publicity profile
- Asset accessibility
- Asset dynamics
- Recognizability
- Relative value
- Law enforcement visibility
- Perception of success
- Threat level
- History

DoD vs. ISC

- Protect assets against threats
- To applicable level of protection
- Protective measures selected to protect assets against threat to LOP based on design strategies to mitigate vulnerabilities

- Facility Security Level drives LOP
- Level of Protection drives selection of Countermeaures
- For applicable Undesirable Events

DoD vs. ISC

- DoD approach is engineering approach
- Leads to potential for optimized design solution
- Limited range of tactics

- ISC approach is a security approach
- Leads to Countermeasures selection
- More comprehensive Undesirable Events and countermeasures
- Supports compliance evaluation

PDC has found combination of both approaches leads to superior solutions