Assessing for Mission Assurance

Solving the conundrum

November 2020

Agenda

- Mission Assurance Policy
- Mission Assurance Construct
- Mission Assurance Methodology
- Mission Assurance Conundrum

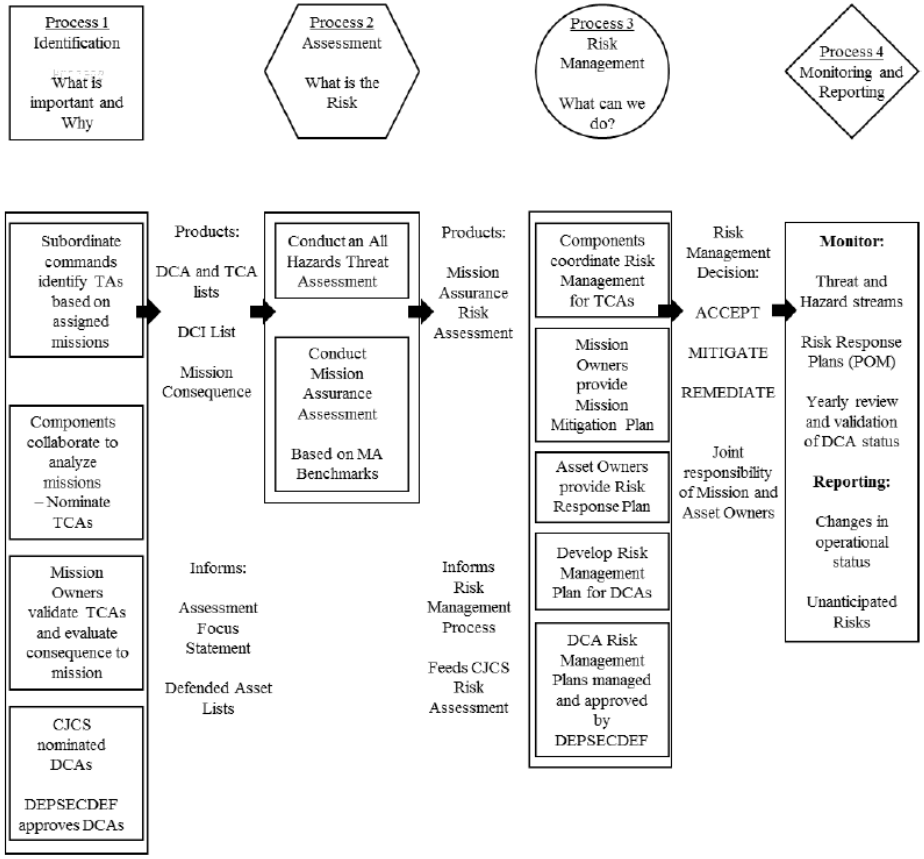
Mission Assurance Directive – DoDD 3020.40

- DoD uses MA as a process to protect or ensure continued function and resilience of capabilities and assets by refining, integrating, and synchronizing aspects of DoD security, protection, and risk-management programs directly relate to mission execution
- MA includes the synchronization of security, protection, and risk-management programs through MA will result in a more comprehensive understanding of risk to mission that will inform the infrastructure support to CCMD plan development

- Antiterrorism / Force Protection
- Defense Security Enterprise
- Emergency Management
- Continuity of Operations
- CBRNE survivability / preparedness
- Force Health Protection
- Cybersecurity
- Critical Infrastructure Protection / Resilience

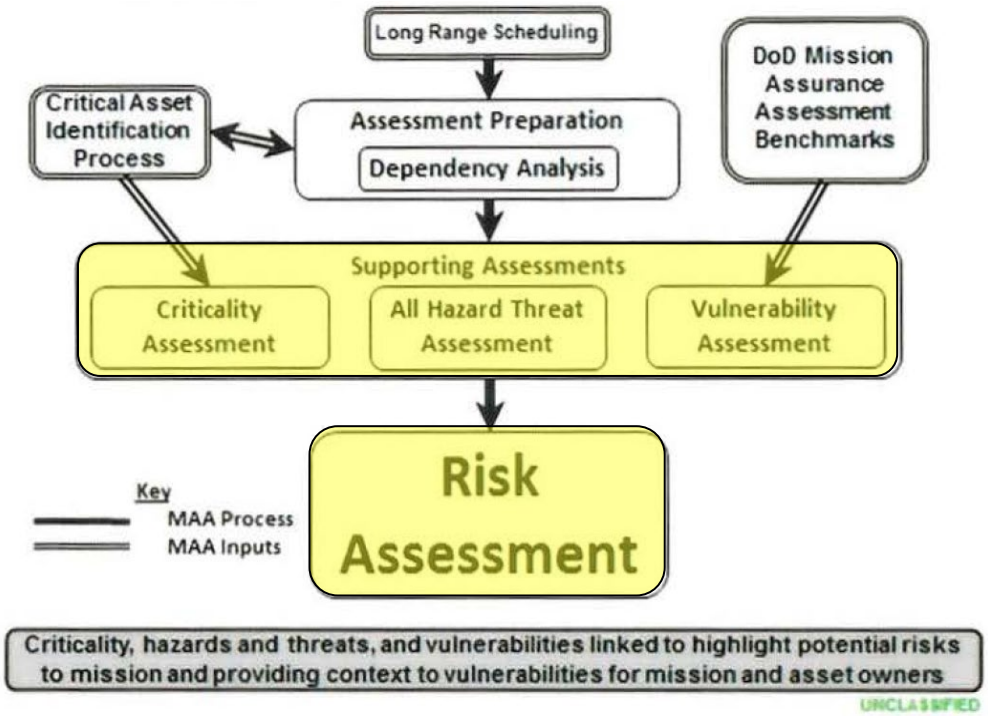
Mission Assurance Construct – DoDI 3020.45

- Establishes policy, assigns responsibilities, and provides procedures for the establishment and execution of the Mission Assurance Construct.



The Assessment Process

- Begins with the Identification Process which serves as the asset criticality assessment.
- Through the lens of the All Hazards/Threat Assessment (AHTA), which includes all hazards and threats, capable of causing damage to an asset or supporting infrastructure.
- Resulting in a vulnerability assessment which provides insights into risk to mission.

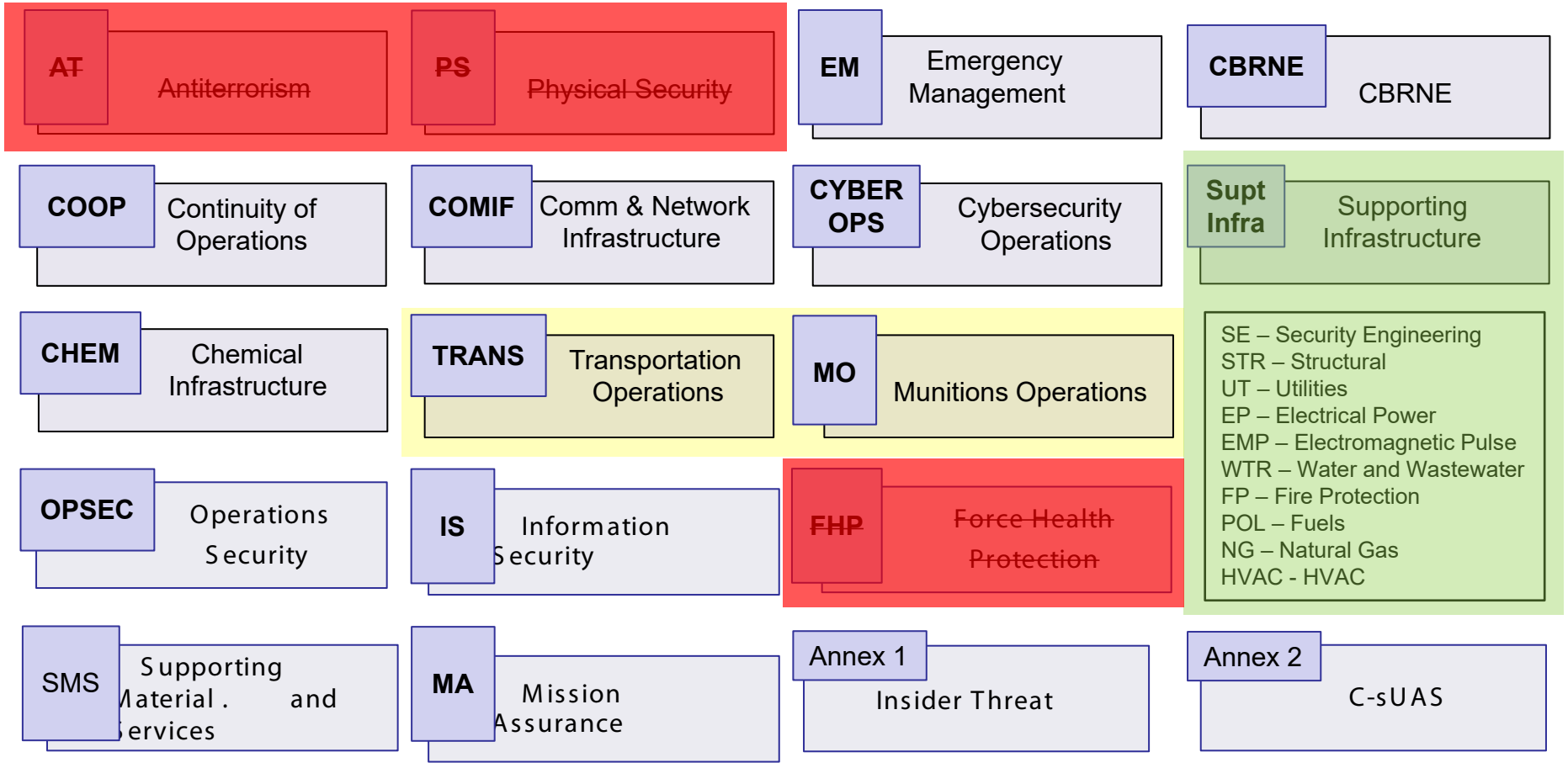


* Dep Sec Def memo Apr 2015

The Assessment Methodology

- An on the ground assessment that evaluates vulnerabilities given the ***current posture*** through the lens of the hazards / threats that are known or have been predicted to occur
- The vulnerability assessment includes an assessment of ***critical infrastructure*** that could result on mission failure if compromised
- Observations based on regulatory guidance from DoD, Services, Interagency Security Committee (ISC), and professional expertise
- Risk mitigation based on regulatory guidance and best practices found throughout DoD and industry

2020 DoD Mission Assurance Benchmarks



Engineering Specific Benchmarks

Security Engineering:

- Mail Handling Facility
- Perimeter Standoff
- ACP/ECP Design
- Facility Standoff
- Barrier Plan
- Facility Protection
- Security Engineering Training

Structural:

- UFC/ISC Compliance
- Facility Drawings/Documentation
- Building Design and Condition
- Structural Loading
- Expeditionary Structures

Engineering Specific Benchmarks

Utilities:

- Collocated Utilities
- Document Maintenance
- Contingency Response Plans
- Industrial Control Systems
- Supporting Infrastructure Dependencies

Electrical Power:

- Installation EP Supply
- EP Maintenance
- EP Systems for Critical Assets
- Backup Power
- Uninterruptible Power Supply
- Expeditionary Power
- Electrical Grounding

Engineering Specific Benchmarks

Electromagnetic Pulse:

- Electromagnetic Environment
- EMP Protection Maintenance
- EME Training
- Electrical Grounding
- Electromagnetic Hardening

Water / Waste Water Systems:

- Water and Wastewater Systems
- Water and Wastewater Maintenance
- Expeditionary Water Protection

Engineering Specific Benchmarks

Fire Protection:

- Fire Communication Center
- Fire Protection Infrastructure
- ~~Fire Protection~~
- Fire Detection
- Fire Protection Inspection
- Fire Risk Management
- Fire Suppression
- Fire Alarming

Bulk Fuels / POLs

- POL Supply
- POL System Maintenance
- POL for Critical Assets
- Fuel Storage & Distro Protection
- Fuel Storage & Distro
- Expeditionary Fuels

Engineering Specific Benchmarks

Natural Gas:

- NG Supply
- NG Maintenance

HVAC

- Installation HVAC Supply
- HVAC Maintenance
- HVAC for Critical Assets

Engineering Specific Benchmarks

Transportation Ops:

- Documentation of Transportation
- Network Capacity
- Transportation Asset ID
- Protection Planning
  - Aviation/Maritime
- Mitigation Planning
- Mission Reliability

Munitions Ops

- A&E Risk Management
- A&E Msn & Safety Management Plan
- A&E Infrastructure Adequacy
- A&E Storage and Handling
- Future Infrastructure Requirements
- Special Confirmation for Expeditionary

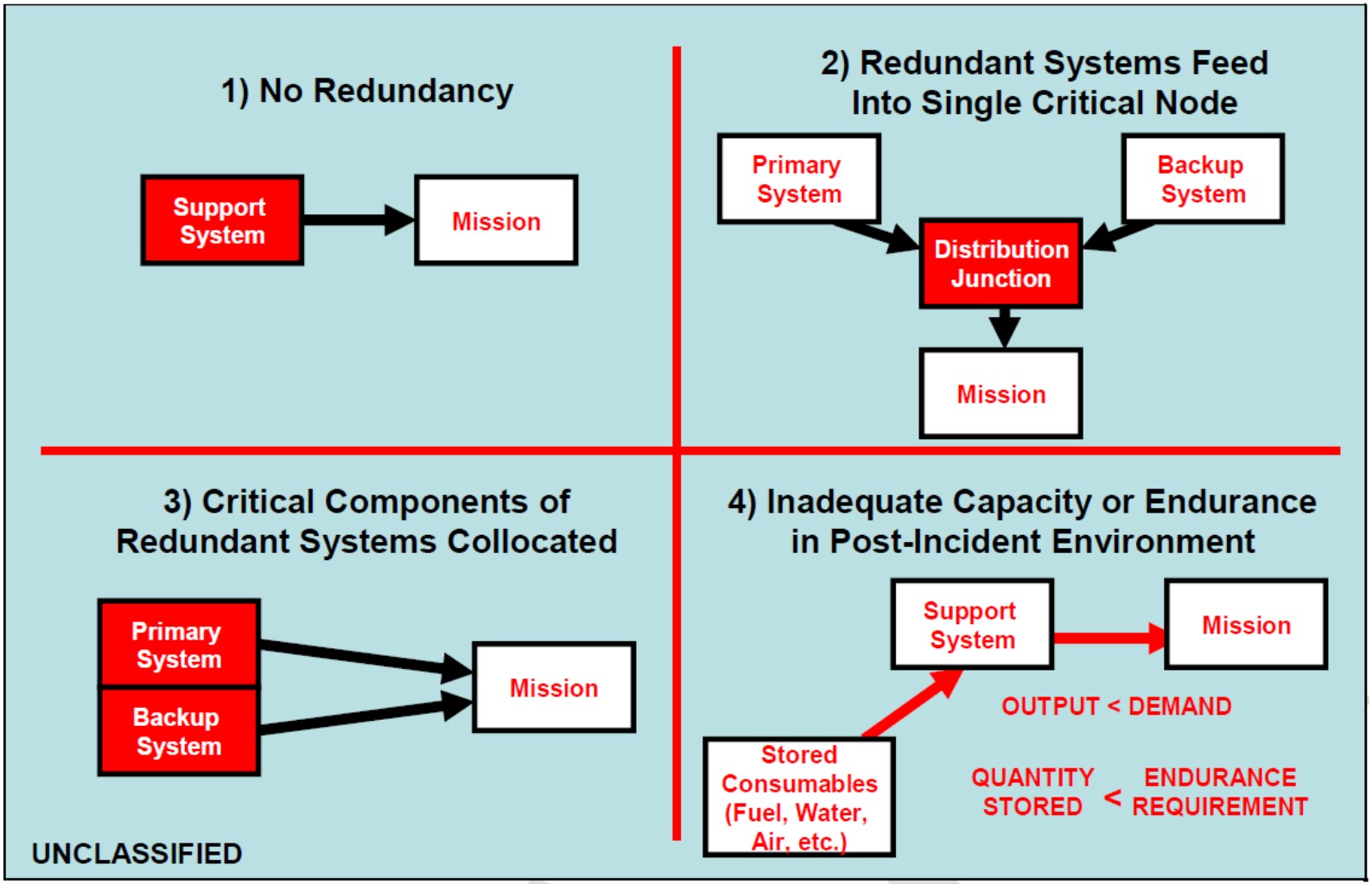
The Assessment Conundrum

- DTRA Mission Assurance Assessment teams typically assess mission critical facilities that are already in existence.
- These mission critical facilities are very rarely purpose built.
- The majority of facilities assessed have been assigned by installation master planner without consideration given to ***mission criticality, level of protection (LOP)***, or additional ***infrastructure resiliency*** requirement.
- Rarely is thought given to the installation infrastructure on which the facility depends (i.e. inheritance of ***criticality, LOP,*** and ***resiliency***).

Common Infrastructure Interdependencies

Critical Infrastructure Interdependencies					
Type of Inter-dependency	**Energy – Electric**	**Energy - Gas/Oil**	**Water**	**Communication**	**Transportation**
Energy - Electric	Highly connected and interdependent infrastructure for business and economic security	Power for control systems, pumping stations, storage, compressors, and facilities	Power for control systems, pumps, lift stations, and facilities	Power for switches and communication facilities	Power for signaling, switches, and public transportation
Energy - Gas/Oil	Fuel for heat, generators and lubricants for electric facilities	Highly connected and interdependent infrastructure for business and economic security	Fuel for treatment, heat, pumps and lift stations, and facilities	Fuel for heat, generators, and facilities	Fuel and lubricants for vehicles and facilities
Water (Potable and Wastewater)	Water for cooling and emissions control	Water for production, cooling and emissions control	Essential and highly dependent infrastructure for health and safety	Water for cooling facilities	Water transport for emergency response and construction
Communication (Landline, Cellular, Cable)	Distribution automation, EMS, and SCADA communication, and customer service and crew repair communication	SCADA communication, and customer service and crew repair communication	Control system and SCADA communication, and customer service and crew repair communication	Highly connected and interdependent infrastructure for business and economic security	Signal and control system communication, and crew repair communication
Transportation (Roads, Rail, Ports/Airports)	Transport of fuel and shipping of goods and materials, and inspection	Transport of fuel and shipping of goods and materials, and inspection	Transport of water and inspection	Transport of goods and materials, and inspection	Highly connected and interdependent infrastructure for business and economic security

Common Infrastructure Observations



Common Protection Observations

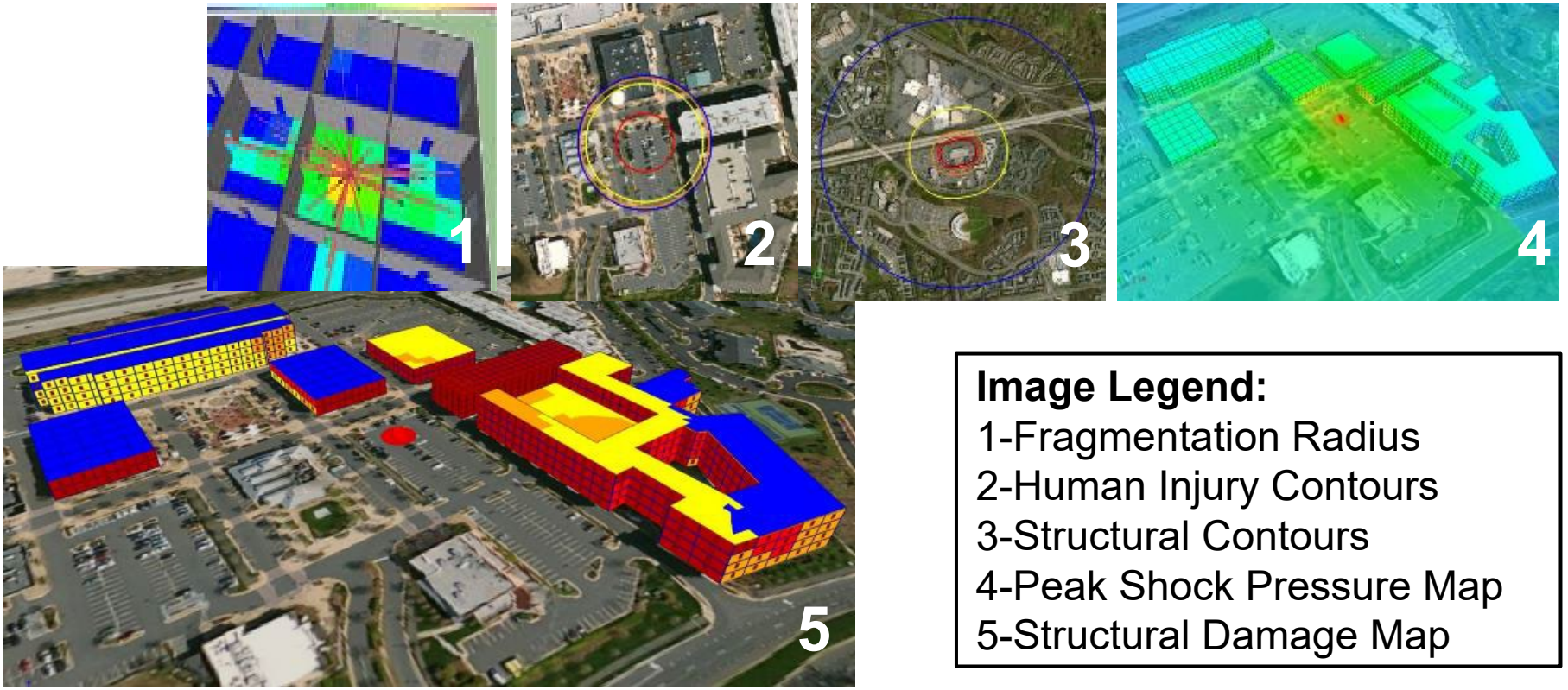


Image Legend:
1-Fragmentation Radius
2-Human Injury Contours
3-Structural Contours
4-Peak Shock Pressure Map
5-Structural Damage Map

DoD Implications

1. Use of the Security Engineering Planning Process (UFC 4-020-01) when considering facility construction or assignment.
2. Use of the AHTA and 2020 DoD MA Benchmarks to assess vulnerabilities and develop risk mitigation measures.
3. Consider utilizing Designing for Mission Survivability when determining infrastructure reliability and resiliency requirements for critical facilities.

Industry Implications

1. Partner with USACE, AFCEC, and NAVFAC to establish mission focused installation planning and expansion initiatives
2. Partner with DoD installations and agency sites to conduct studies based on their current mission and growth potential
3. Partner with major commands that are experiencing consolidation and / or growth requirements
4. Develop and publish redundancy and resiliency best practices to promote mission survivability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