



Joint Expeditionary Collective Protection (JECP) Family of Systems (FoS)

**Joint Committee on Tactical Shelters
3 November 2009**

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JECP Capability

- JECP Family of Systems (FoS) will collectively protect Joint Expeditionary Forces personnel, assets and infrastructure in a Chemical and Biological (CB)/Toxic Industrial Material (TIM) contaminated environment.
- The JECP FoS will be smaller, lighter in weight, easier to transport, erect, strike and operate compared to fielded Collective Protection systems.



FoS Overview

- CP Tent Kits
 - A lightweight, easily maintained, assembled and disassembled CP capability added to selected fielded tents
- CP Structure Kits
 - One or more approaches to render an enclosed space of opportunity collectively protected
 - Improved Host Structure
 - Unimproved Host Structure*
- Standalone Shelter Systems
 - Collectively Protected shelter system which is self contained, lightweight, easily transported, erected, and struck.
 - Must be available in various sizes (man-portable, small, medium and large configurations) to meet differing mission requirements
 - Man-portable (2 personnel)
 - Small (6-8 personnel)
 - Medium* (12-20 personnel)
 - Large (20+ personnel)

*** The Unimproved Structure Kit and Medium Standalone shelter will use the same design**

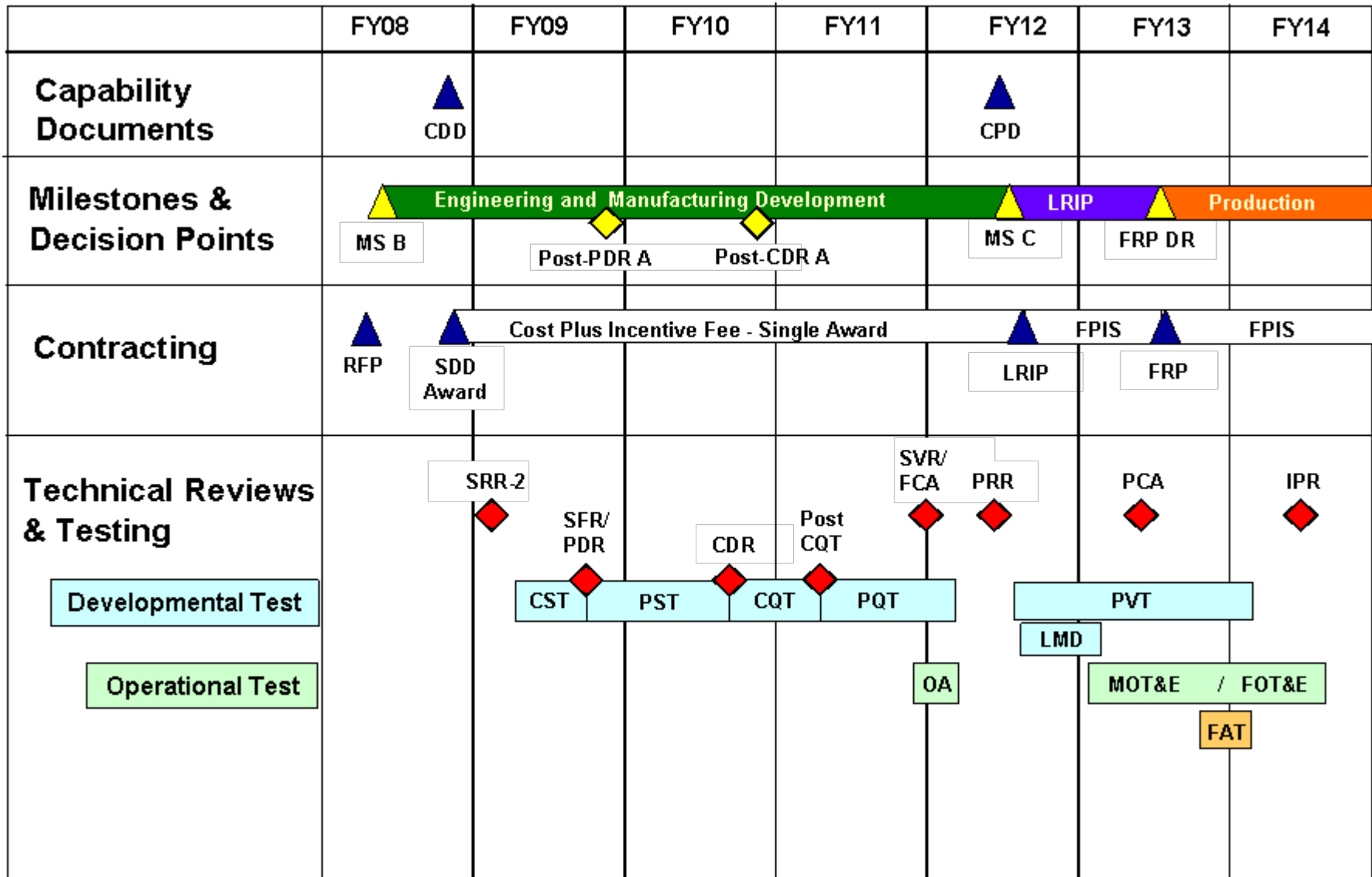


Accomplishments

- Tailored Analysis of Alternatives, FY06-FY07
- Conducted Technology Demonstrations, FY06-FY08
- Conducted Limited Objective Experiment, Apr 07
 - Evaluated & Updated Tactics, Techniques, and Procedures
- Successful MS B Decision Review, Mar 08
- Contract Award to SAIC, partnered with Production Products (PPSTL), Aug 08
- Follow-on System Requirement Review, Oct 08
- System Function Review & Preliminary Design Review, Jun 09
- Post-Preliminary Design Review Assessment, Sep 09

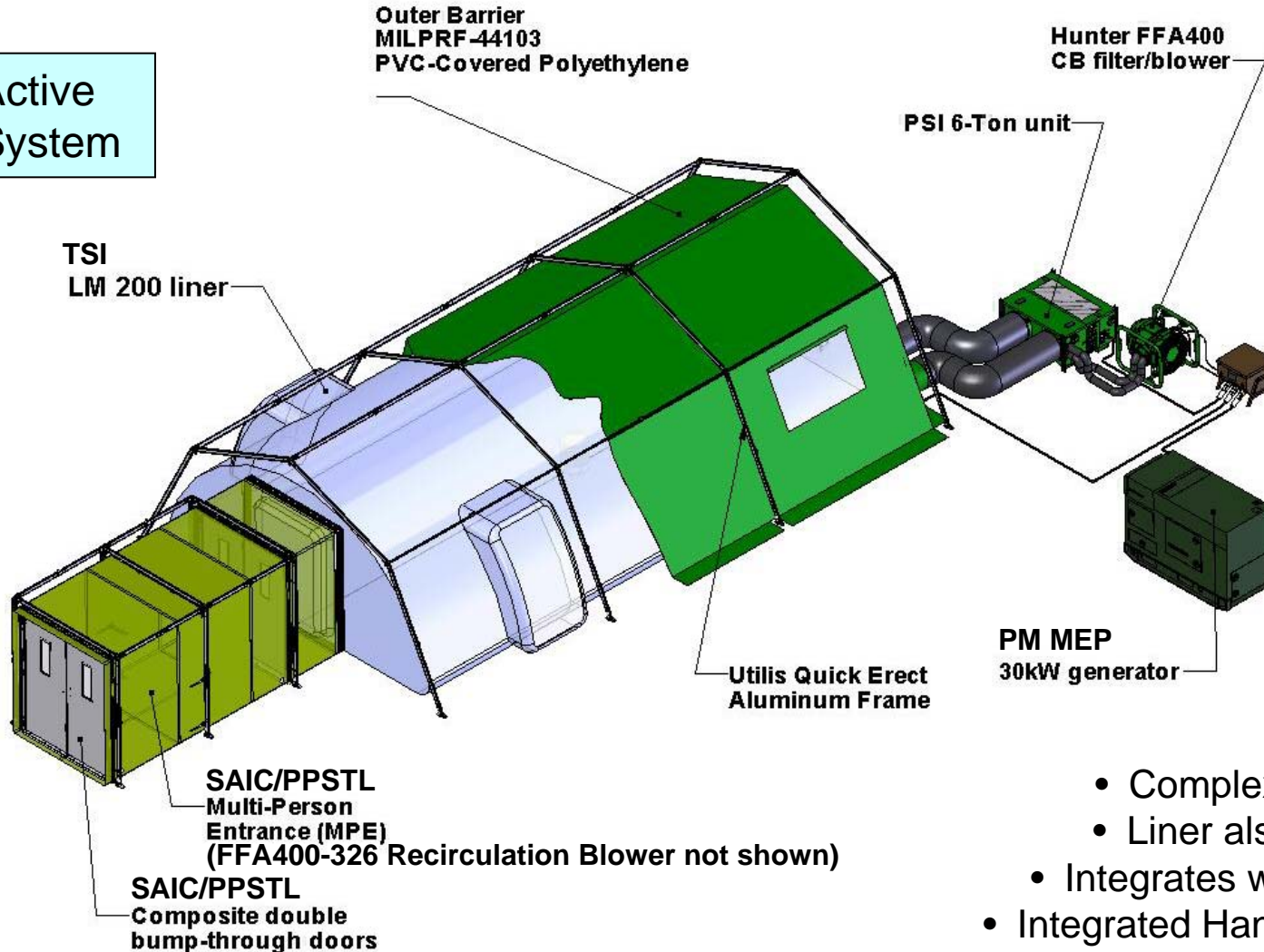


JECP Program Structure



Standalone Large System

Active
System



SAIC
Preliminary
Designs

Key Features:

- Complexes on Four Sides
- Liner also used in Tent Kit
- Integrates with SPE and MPE
- Integrated Hanging Mechanisms

Tent Kits

3 configurations

Active System

SAIC/PPSTL
Single Person
Entrance (SPE)

Deployment
straps

SAIC/PPSTL
Composite double
bump-through doors

Organic ECU

Coaxial ducts

Hunter FFA400
CB filter/blower

Organic Generator

TSI
LM 200 liner

SAIC
Preliminary
Designs

Key Features:
Complex on 4 sides
Integrated Hanging Mechanisms
Integrates with SPE and MPE
TSI LM200 Liner Material
Meets CB barrier requirements

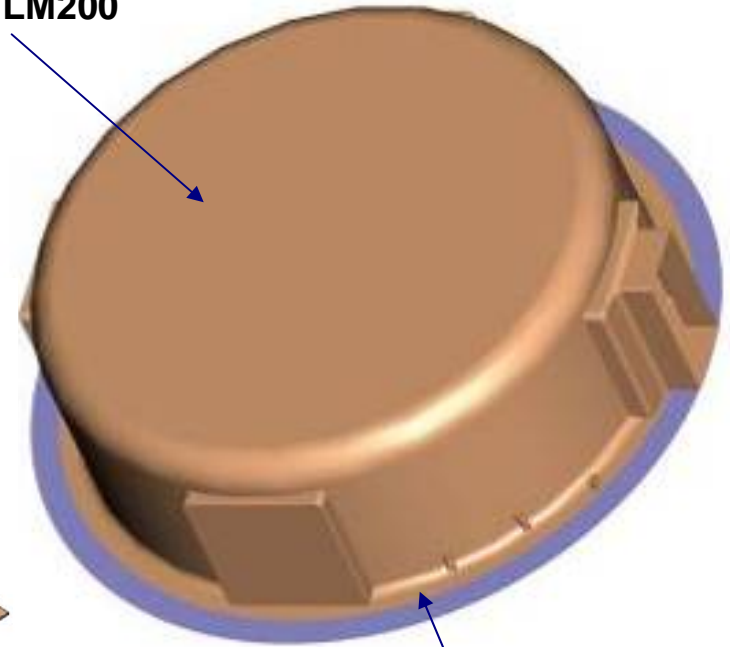
Structure Kit – Improved

Key Features:

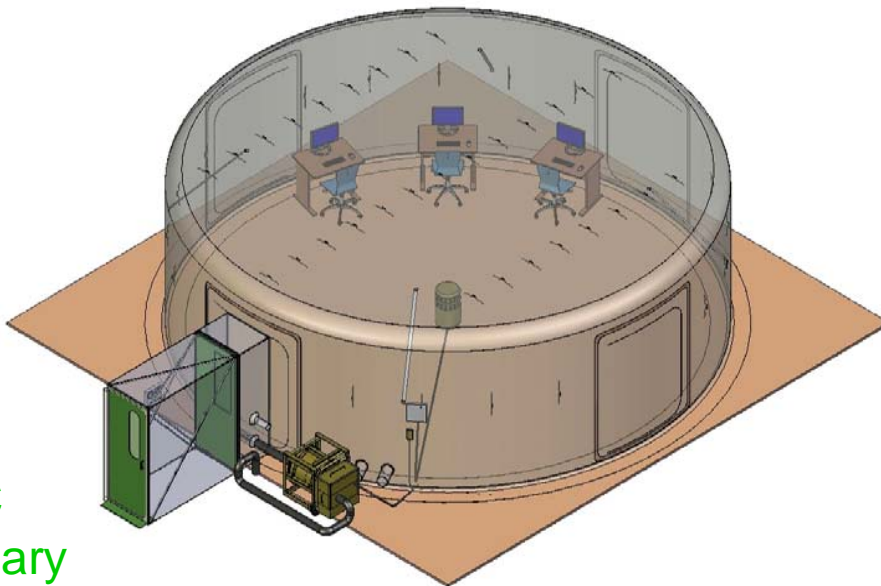
- Floorless Design with Non-Destructive Anchor
 - Preserves Infrastructure, Including Furnishings and Stationary Equipment
- Frameless Design
- Complexes on Four Sides
- Integrates with SPE and MPE
- Integrated Hanging Mechanisms

Active System

TSI LM200



PPSTL Non-Destructive Anchoring System (Vacuum Seal)



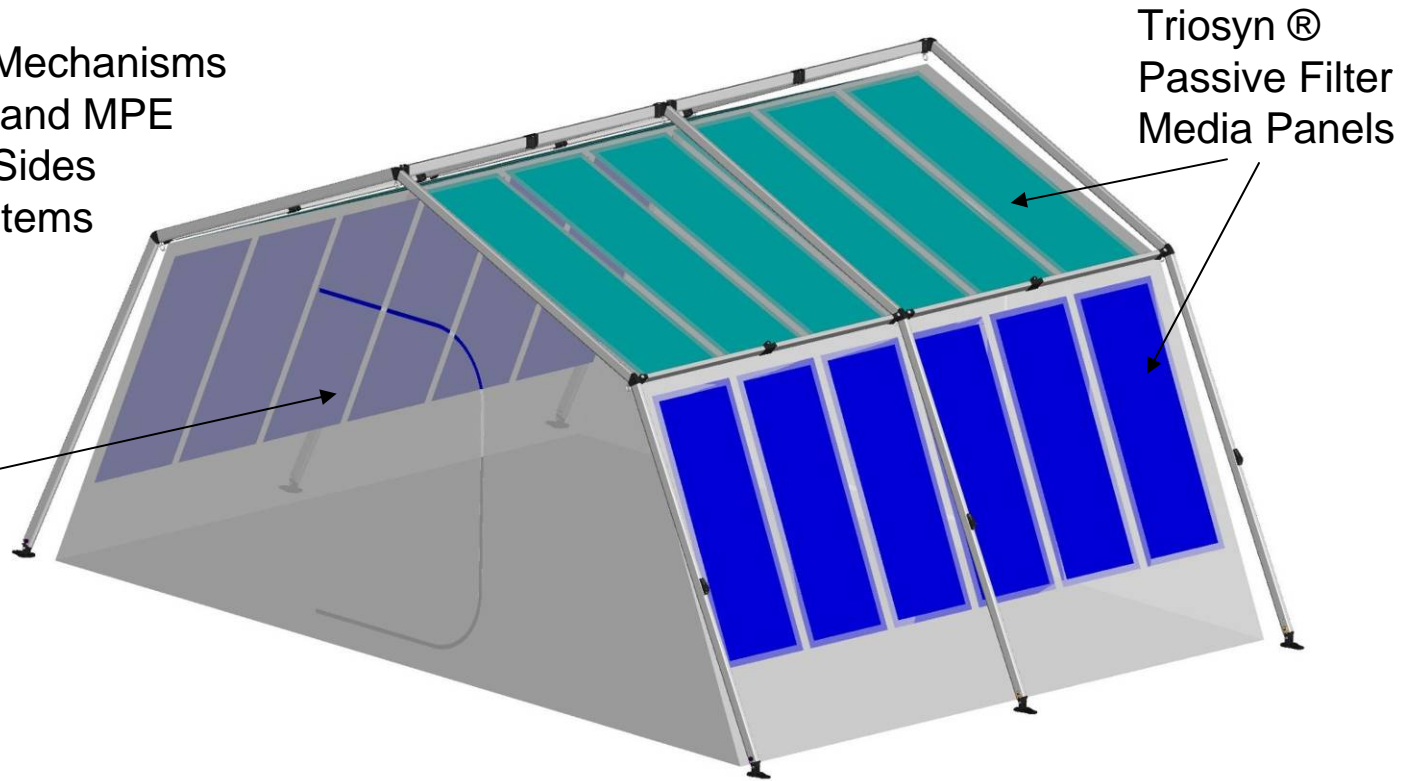
SAIC Preliminary Designs

Standalone Medium and Structure Kit – Unimproved

Key Features:

- Single Skin CB Barrier Fabric with Integrated Blackout Capability
- Integrated Hanging Mechanisms
- Integrates with SPE and MPE
- Complexes on Two Sides
- Single solution 2 systems

Uses a Modified Utilis TM-24 or wall anchor in a cave



Triosyn®
Passive Filter
Media Panels

C-Zipper Door

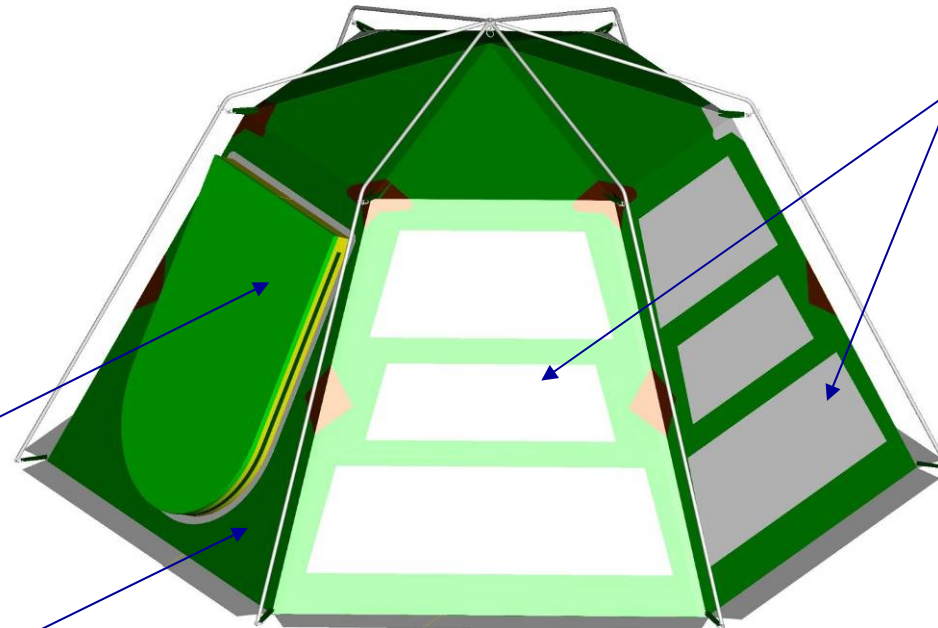
SAIC
Preliminary
Designs

Passive
System

Standalone Small

Key Features:

- Single Skin CB Barrier Fabric with Integrated Blackout Capability
- Integrated Hanging Mechanisms



Triosyn®
Passive Filter
Media Panels

SAIC
Preliminary
Designs

U-Zipper Door

Port for external power
and communication lines

Passive
System

Note: Roof filter panels removed for weight considerations. Effective CO2 removal of new design has been successfully modeled.

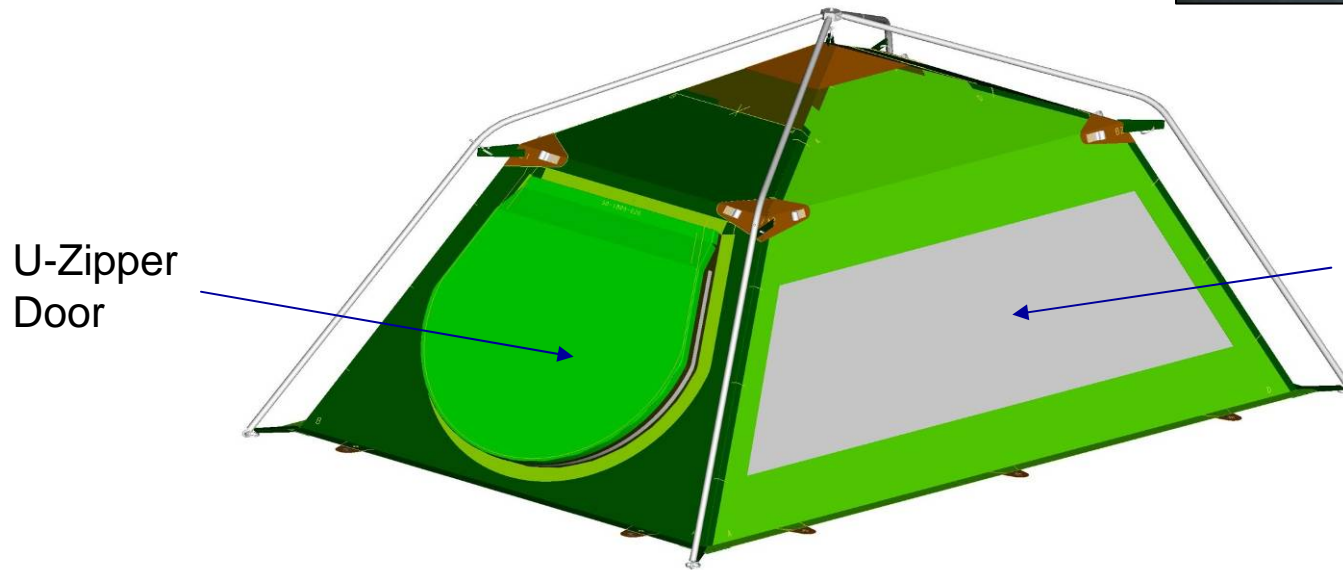
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Standalone Man-Portable

Key Features:

- 3/4-inch Aluminum Frame
- Single Skin CB Barrier Fabric with Integrated Blackout Capability



U-Zipper Door

Triosyn[®]
Passive Filter
Media Panels

SAIC
Preliminary
Designs

Passive
System



Trade Studies & Technical Challenges

- Standalone Large liner vice single skin solution
 - Future Increment
- USMC CAPSET III Tent Kit integration
 - Single piece liner vice multiple piece liner
 - Current Generator and ECU Trailer (GET) not compatible with collective protection
 - Future Integrated ECU and generator (ITEG) II: coordination to ensure compatibility



Trade Studies & Technical Challenges (continued)

- Tent Kit liner attachments (simulate 30 strike/erect cycles with 100 lb weight) and hanging mechanisms (24-hour duration with 100 lb weight)
 - Web buckle meets requirements but not User friendly
 - Arrowhead does not meet requirements
- Closure mechanism options for entry/exit and complexing
 - Must be Berry amendment compliant (domestic source)
 - Evaluated impermeable/gas tight zippers; problems with teeth breaking on radius turn and straight sections
 - Heavy gauge zippers with liquid cover flaps like on CBPS; raised lip (liquid intrusion prevention) creates tripping hazard
 - Magnetic seals future possibility if ruggedized
 - Next generation of hook and pile fasteners future possibility if issues with durability/leakage are resolved
 - Others?