Force Provider Expeditionary (FPE) Capabilities Briefing to the Joint Committee on Tactical Shelters (JOCOTAS)

Quartermaster Capability Developments Team Leader
Materiel Systems Directorate, CASCOM, Fort Lee, VA

Agenda

- Requirements
  - Force Provider Expeditionary Capability Production Document
  - Force Provider Expeditionary (150 Person) Module
  - Force Provider Expeditionary (50/75 Person) Module aka Expeditionary Platoon Base Camp (EPBC)
- Core Capabilities – Comes with every 150 person module
- Add-on Capabilities – Selected depending on population supported, location, and need
- Operator / Maintainer Personnel Required
- Emerging 20’ Expandable Rigid Wall Shelter Configuration
- Questions

Requirements

- FPE CPD approved – 27 Feb 14 w JPD of Joint Information
- Identified two major configurations:
  - 150 person TRICON and TEMPER Air Structure based Module
  - 50/75 person TRICON and TEMPER Air Structure based Module
- Identified RWS as an Objective Capability
  - 30 Oct 14 Quartermaster Board of Directors agreed to incorporate Rigid Wall Shelter Configuration for up to 10 % of total (24).
  - This to occur during replacement of washed out Modules
  - Is not additive to the Army Acquisition Objective (AAO) but changes the mix of Modules.

Requirements

AAO for Force Provider Modules			Conversion from 600 to 150 Person Modules	Revalidated Requirements for 150 Person Modules and 50/75 Person Modules	
APS	**ASCC**	**Original # of 600 Person Modules**	**#150 Person Modules**	**# 150 Person Modules**	**Required # 50/75 Person Modules**
1	ARNORTH	10	40	40	0
1,2,4,5	USASOC	4	16	4	24
2	USARAF	10	40	36	6
4	USARPAC	6	24	24	0
5	ARCENT	29	116	116	0
	TOTAL	**59**	**236**	**220**	**30**

- ❑ Currently have 232 each 150 person modules, and 6 each 50/75 person modules.
- ❑ When AROC approves USASOC requirement for 50/75 person modules will have 220 each 150 person modules and 30 each 50/75 person modules.
- ❑ Rigid Wall Modules will be part of the mix through attrition (replacement of washouts)

Core Capabilities

- Billeting
  - TEMPER Air Supported w Environmental Control
- Hygiene
  - Shower
  - Laundry
    - Shower Water Reuse System (SWRS) testing w laundry water ongoing.
  - Latrine
- Feeding
  - Kitchen
  - Refrigeration
  - Dining
- Admin
  - TEMPER Air Supported w Environmental Control

150 Person Module

Kitchen

- Cook and Hold Oven
- Steam and Hold Counter Top Steamer
- Steam Kettle (6 gallon)
- Under Counter Refrigerator

Dining Facility With Kitchen

Laundry

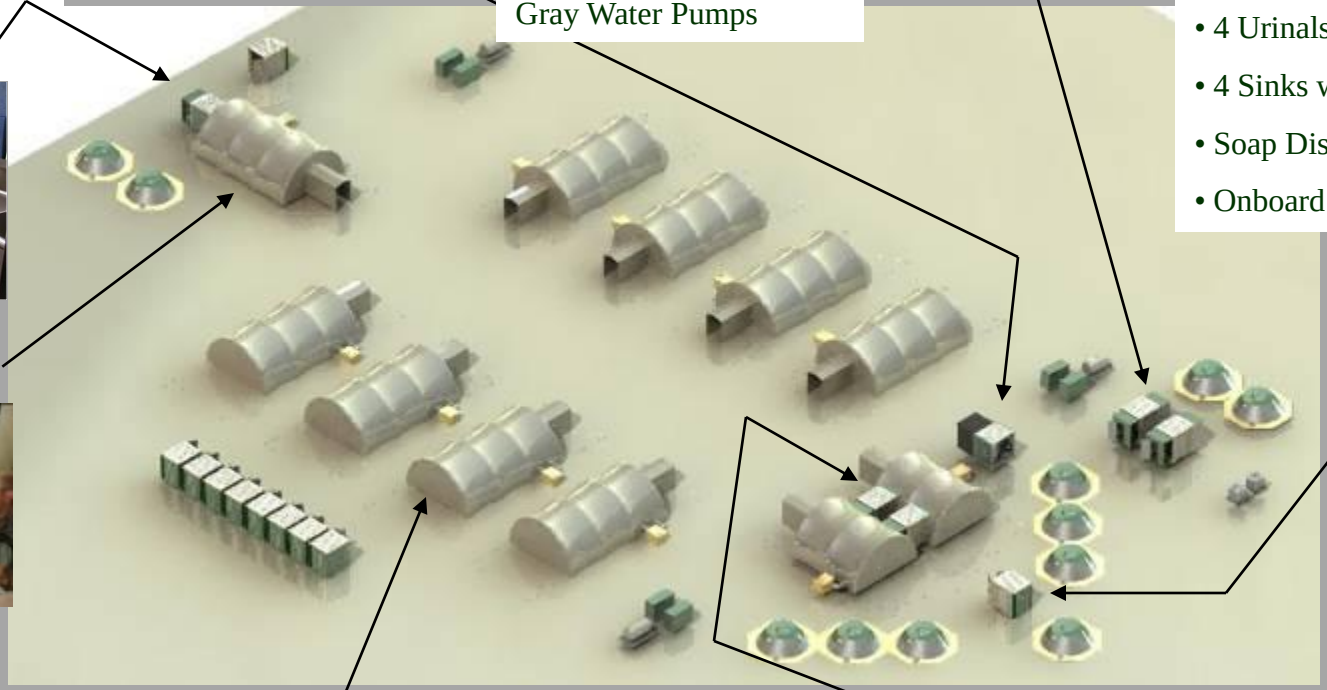
Laundry

- 1 Commercial Uni-Mac 50lb Washer and Unimac 75lb Dryer
- Onboard Hot Water Heater
- Onboard Supply and Gray Water Pumps

Latrine

2 Latrine units

- 8 Commercial Toilets
- 4 Urinals
- 4 Sinks w/Mirrors
- Soap Dispenser
- Onboard Hot Water Heater



(SWRS) Shower Water Reuse System

Billeting

Shower

Administration

- 1 Air Beam Tent
- Climate Controlled for the Environment

Billeting

- 7 Air Beam Tents, House 150 Personnel
- Climate Controlled for the Environment

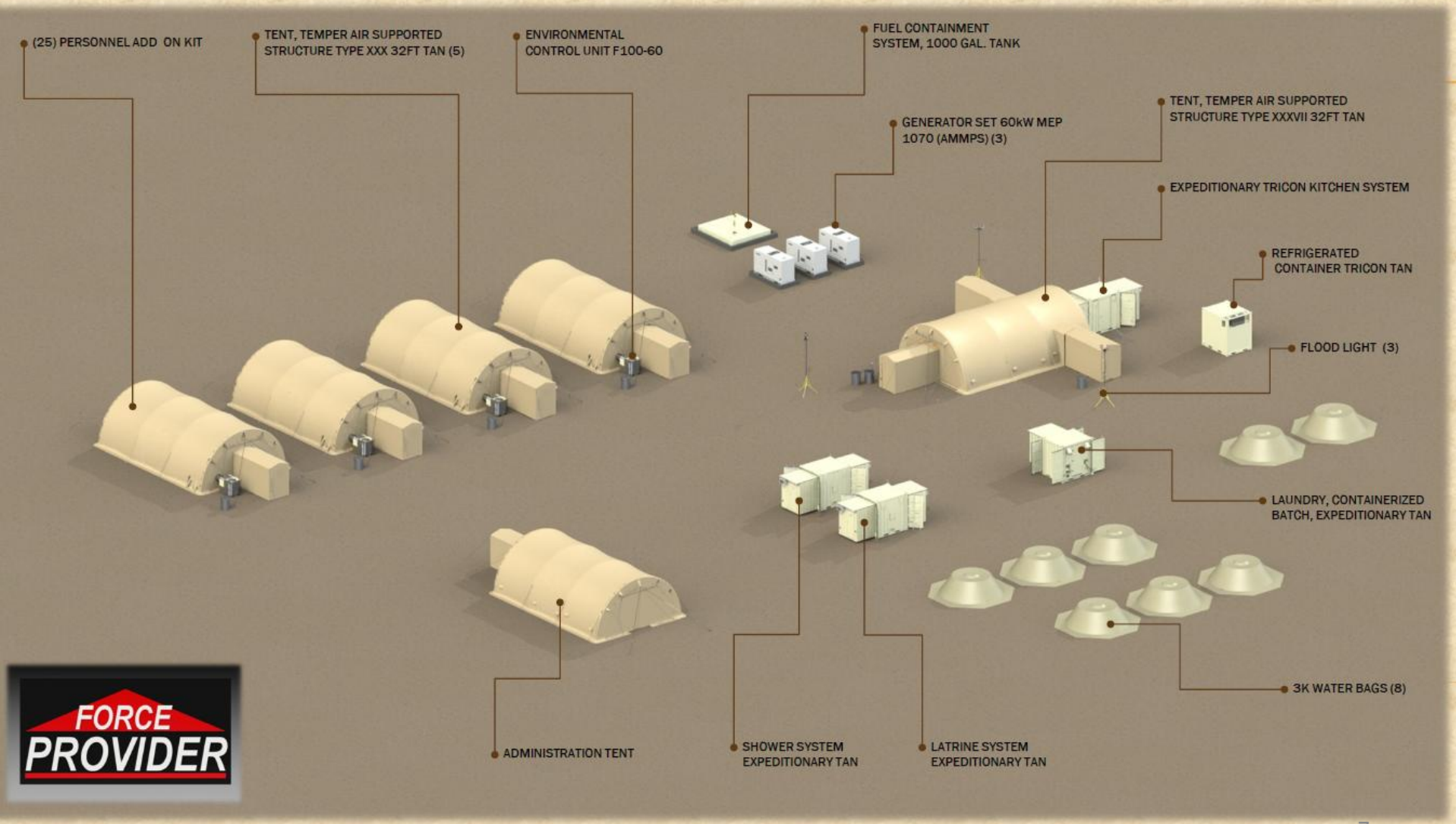
2 Shower units

- 8 Shower Stalls
- 4 Sinks w/Mirrors
- Soap Dispensers
- AWH 400 Hot Water Heater

SWRS

- Treats 12,000 Gallons per Day with a 75% recovery rate of shower/laundry wastewater
- Unattended automatic operation (3 Days without operator interface)

FPE 50/75 Person Module



FORCE PROVIDER EXPEDITIONARY 75 PERSONNEL BASE CAMP

FPE Major Items Currently Available

- **FPE is made up of the following <u>major subsystems</u>:**
  - Billeting w/ Environmental Control
  - Showers (2 Tricons - 4 showers each)
  - Latrine (2 Tricons- 4 Commodes, 2 Urinals, 2 sinks each)
  - Batch Laundry (1 TRICON) 50lb wash / 75lb Dry
  - Kitchen and Dining Tent (1 TRICON Based Kitchen, Dining Tent and Tricon Refrigerated Container)
  - Power Generation and Distribution (6 each 60kW generators w Micro-grid to be incorporated soon. Micro-grid at night means 1-2 generators operating; and 4-5 during peak usage)
  - Shower Water Reuse (w Laundry water Reuse soon) (Requires 92W to be trained on this capability) 75% reuse process up to 12,000 gallons per day
  - Shelter Energy Efficiency Kits (liners, solar shades, lighting)

- **Add-on Kits that can be requested:**
  - Prime Power Connection Kit
  - Cold / Hot Weather Kits
  - All Electric Kitchen (AEK) 20’ (supports 600+)
  - Site Preparation Equipment (Skid Steer Loader w attachments)
  - MWR / Administrative Shelters (sized for 3-4 collocated modules)
  - Containerized Chapel

Future Add-On Capabilities

- **Future Add-on Kits**
  - **Water Bottling -** For Collocated Modules. (900 1L bottles / Hour (T) 1,200 or more 1L bottles/ Hour) Funded in POM under PM PAWS.
  - **Ice Making** (3,600 lbs per day automatically bagged in 10lb bags) (For Collocated Modules supports 900 at 4lbs per person per day) 3-5 systems Currently being evaluated.
  - **Solid Waste Management** –
    - **150 Module** (**Incinerator**) moving forward but engineering required to be able to easily install smoke stack. Process 1,000 lbs or more per day on site and reduce volume by 80% or more.
    - **Collocated Modules –** 600+ personnel 2 Tons or more per day with objective of (**Waste to Energy**). Lots of demonstrations / evaluations ongoing but community including Engineers who are responsible for waste processing need to make decision on final solution. Want commonality.

Future Add-On Capabilities

- **Expeditionary Shelter Protection System (ESPS)** Transitioned from S&T to PM and moving forward to provide initial protection while setting up 150 person and smaller sites. Eventually replaced by something else (Hesko's and T-Walls today). Take down and move to another site.
  - … protect against small arms and small fragmenting munitions that is rapidly emplaced, blast resistant, ultra-violet resistant, flame resistant, moisture resistant, and non-degradable in extreme temperatures (T), and shall protect against high-powered rifles and medium fragmenting munitions (O).
  - . Add-on kits shall provide a higher LOP for blast/fragmentation against all theater-relevant direct fire threats; indirect fire rocket, artillery, and mortar (RAM) threats, as well as blast effects from IEDs when field tested in accordance with NATO STANAG 2280 (90% T, 95% O). The add-on kits shall not be soil based, shall be rapidly emplaced, shall be re-useable, and shall be adaptable to multiple asset configurations, as well as ultra-violet resistant, flame resistant, moisture resistant, and non-degradable in extreme temperatures (T=O). Overhead protection shall provide a high LOP against direct hits from the RAM threats (90% T, 95% O). Overhead cover shall provide 20-ft (T), 50-ft (O) of clear span over protected assets.
- **Black Water Waste Management** -
  - 150 Module and Collocated modules – Not yet ready for prime time looking to eliminate black waste immediately vs. having to back haul. At larger camps may have other options to include more technologically advanced due to contractor support.
  - 150 Module - process 1,300 to 2,500 gallons per day
  - Collocated Modules – process 5,000 to 10,000 gallons per day

Personnel Requirements to Operate and Maintain a 150 Person Module

- Recommend a 7-10 Person Team from the 542nd Qm Company Force Provider (RC); with LOGCAP only if there are Strict Caps on # of Soldiers.
- Operators
  - 92F – Petroleum Supply Specialist (1)
  - 92G – Food Service Specialist (3)*
  - 92S – Shower and Laundry Specialist (2)
  - 92W – Water Treatment Specialist (1)**
- Maintainers
  - 91C Utilities Equipment Repairer (1)
  - 91D Power Generation Equipment Repairer (1)
  - 91J Quartermaster and Chemical Equipment Repairer (1)

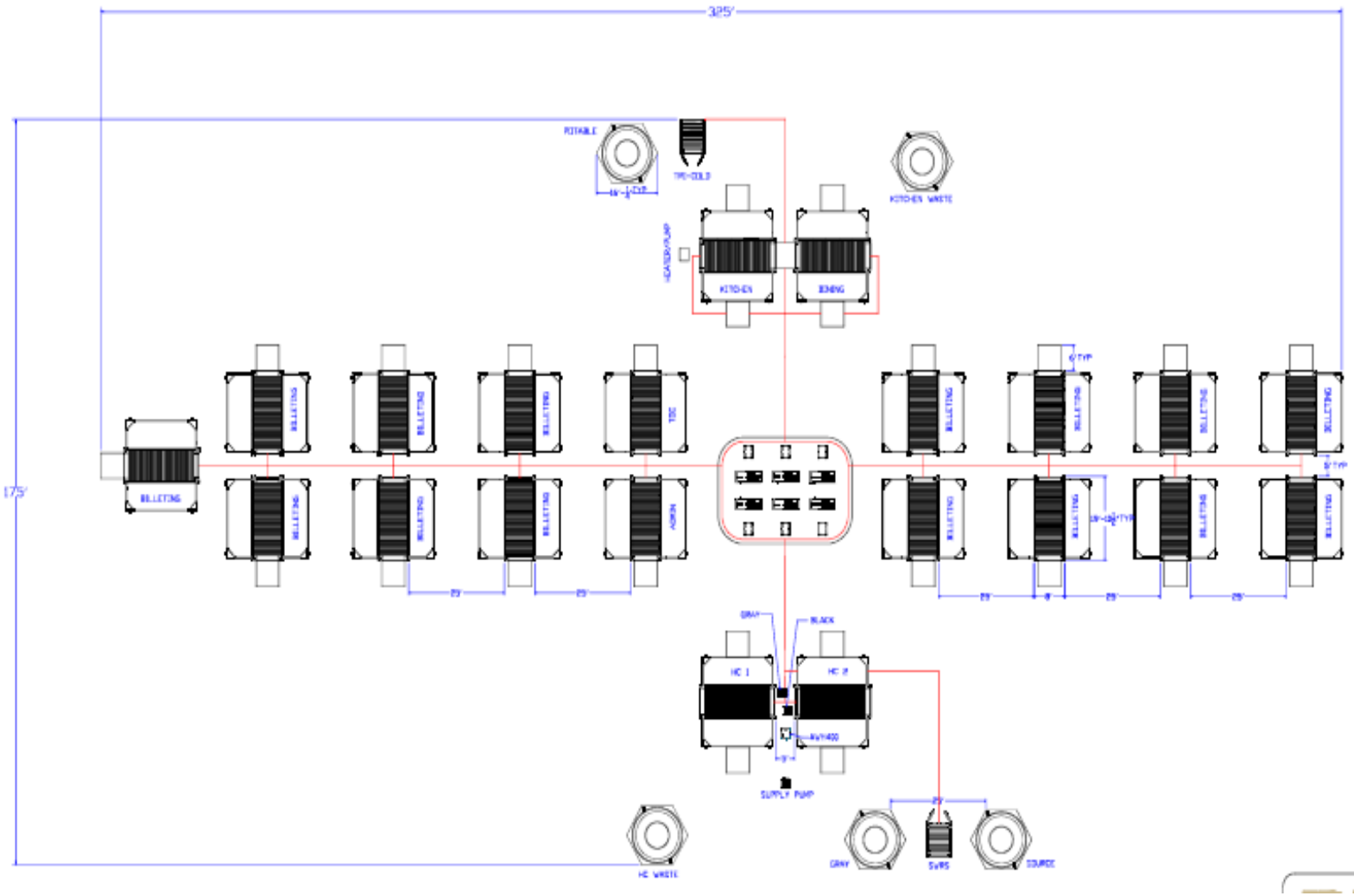
* Note if the unit has 92G's can get by with 1 from 542nd + 2 from the unit.

** Note – if the 92W is not from the 542nd QM Company will require training on the system itself. PM FSS TAT can provide that in theater. QMS will have standalone class that can be requested to support Surge requirements at some point in FY16.

FPE 150 Person RWS Module

- All rigid wall 150-man Base Camp with Energy Efficiency (EE) solutions
- Expeditionary with very low water and fuel requirements
- Main Systems – (see diagram next slide)
  - Billeting – 15ea expandable 20’ ISO shelters
  - Hygiene Complex – 2ea expandable 20’ ISO shelters
  - Kitchen Facility – 2ea expandable 20’ ISO shelters
  - Command Post shelter – 1ea expandable 20’ ISO shelter
  - Administrative shelter – 1ea expandable 20’ ISO shelter
  - Power and distribution/ Micro-grid – 6ea 30KW MEP 805B, LDSS, GPPD, DM’s and cables – 1ea 20’ container
  - SWRS – 1ea – 8’ x 8’ x 6.5’
  - Tricold – 1ea – 8’ x 8’ x 6.5
  - Support Tricon – 1ea – 8’ x 8’ x 6.5’

150 Person FPE Rigid Wall Conceptual Camp Layout



Questions?

Point of Contact Information

Team Leader, Quartermaster Capability Developments
(Aerial Delivery, Field Feeding & Field Services, Mortuary Affairs,
Force Provider, Shelters (rigid and soft wall), Heaters & ECUs)
* NEW Sustainment Soldier (MOS Unique) Clothing & Personal Protective Equipment

USA Combined Arms Support Command (USA CASCOM)
& Sustainment Center of Excellence (SCoE)
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