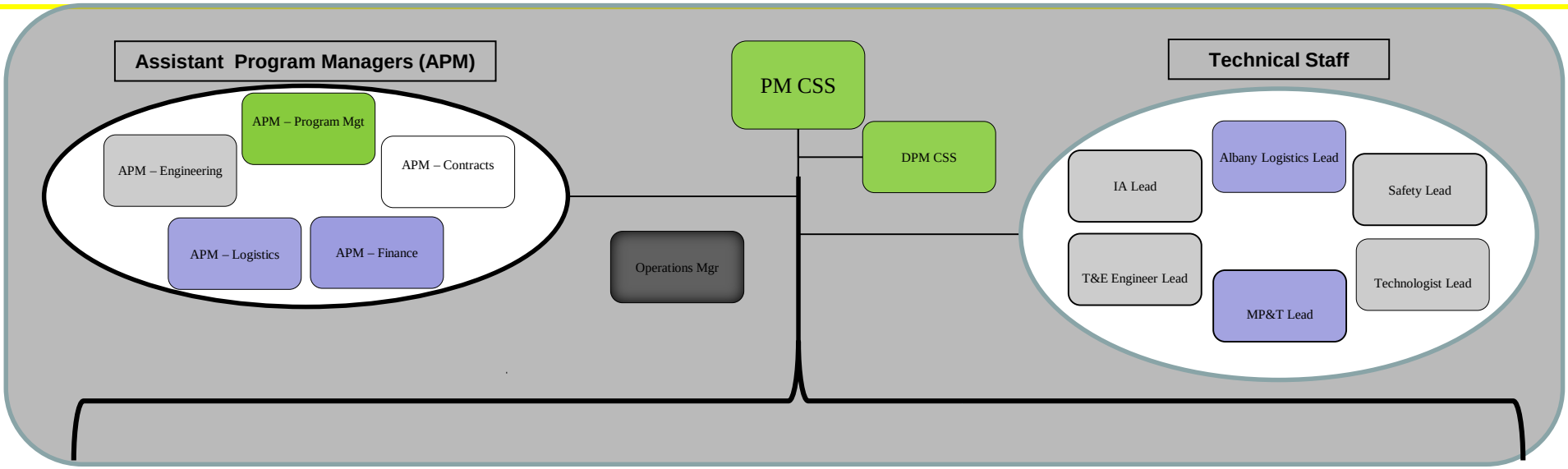
Marine Corps Information Brief
Joint Committee on Tactical Shelters
May 2015

Mr. James Batton
Team Leader
Shelters Team
PdM CSE

Agenda

- Organization
- R&D FYDP
- Concept of Operations
- Marine Air Ground Task Force (MAGTF)
- View on Acquisition
- RDT&E efforts
- Emerging initiatives

Program Management Combat Support Systems (PMM-115)



PMM-115.1
PdM Combat Support Equipment

PdM CSE

PMM-115.2
PdM Engineer Systems

PdM ES

PMM-115.3
PdM Expeditionary Power Systems

PdM EPS

PMM-115.4
PdM Test Measurement & Diagnostic Equipment

PdM TMDE

FSSE R&D Posture across the FYDP

SHELTERS AND SHLTERS EQUIPMENT R&D FYDP POSTURE

FY15	FY16	FY17	FY18	FY19	FY20
Rigid composite development	Rigid composite development	Rigid composite development	Rigid composite development	Rigid composite development	Rigid composite development
Explore new joint concepts with JOCOTAS	Explore new joint concepts with JOCOTAS	Explore new joint concepts with JOCOTAS	Explore new joint concepts with JOCOTAS	Explore new joint concepts with JOCOTAS	Explore new joint concepts with JOCOTAS
R&D to gain 10ft expandable rigid shelter capability	R&D to gain 10ft expandable rigid shelter capability	R&D to gain 10ft expandable rigid shelter capability	R&D to gain 10ft expandable rigid shelter capability		
E2 efficiencies	E2 efficiencies	E2 efficiencies	E2 efficiencies	E2 efficiencies	E2 efficiencies
Seeking Single Source, multi-purpose heater	Seeking Single Source, multi-purpose heater	Seeking Single Source, multi-purpose heater	Seeking Single Source, multi-purpose heater	Seeking Single Source, multi-purpose heater	Seeking Single Source, multi-purpose heater
SWS Study	SWS Study	SWS Study	SWS Study	SWS Study	

Concept of Operations

- **OPERATIONAL REQUIREMENTS DOCUMENT FOR FAMILY OF TACTICAL SOFT SHELTERS (NO.LOG 216.3.1)**

- Operational Concept. The Family of Tactical Soft Shelters (FTSS) will provide protection from natural environments to the Fleet Marine Force for use in varied mission roles (i.e., Command and Control, Administration, Billeting, Supply, Medical, Dental and Messing); and will be compatible with existing Mobile Electric Power, Heating, Vitalization, and Air Conditioning, and camouflage systems.

- Employment. The projected percentage of employment in the carious climates (as defined by Army Regulation (AR) 70-38) is: hot 15%; basic, 80%; cold, 4%; severe cold, 1%.

- Environmental Support. The FTSS shall incorporate energy efficiency advancements to the maximum extent possible. The CP and GP replacement systems shall have an R value of two (threshold).

The Marine Air-Ground Task Force (MAGTF)

- America's Expeditionary Force in Readiness: sea-based and mobile to meet the desires of Expeditionary Force-21 (EF-21) .

- Task organized. Shelters must be…
  - Expeditionary: The expeditionary ethos drives the way we organize, train, develop and equip our forces.
  - Modular: Able to increase or decrease the amount of square footage (modular)
  - Scalable: Multi-use capability

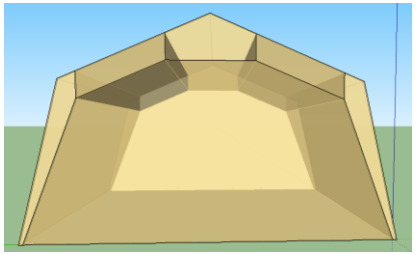
- Lighten the MAGTF (cube and weight) through initiatives in developing, fielding, and integrating equipment, combat gear and systems. The Marine Corps is exploring the concept of a Shelter System

- Reducing energy consumption (fuel and power) reduces risk to Marines!

View On Acquisition

- Always interested in sister-service products…
- COTS approach
- Short acquisition time from contract award to FOC
- Form, Fit and Function are the bottom line
- We’re operating in a constrained fiscal environment
- Leveraging our Exchange Program

Next Generation Heater (NGH) & Modeling



Technical Description

Modify Existing SHC-60K Heater System

- Multi-fuel
- Provide 50°F heated air at -25°F ambient air temperature
- Operates without the use of external power source
- Set-up by two persons in less than 20 min
- Adjustable temperature output with range from 15K BTU to 40K BTU
- Automatic shut-off capability to stop the flow of fuel
- Able to operate up to 10 continuous hours
- Develop & Validate Software models of softwall shelters

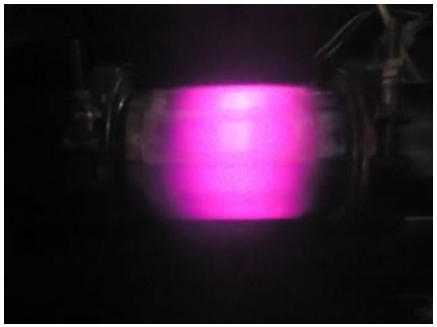
Resources and Performance

- Product Manager: Mr. Tim McLaughlin (PdM CSE)
- MSCS Project Officer: Mrs. Jean Klinger
- Warfare Center: Natick; Panama City Division
- Other Service Interest: Army
- Contractor: HDT Inc. (Natick)
- Deliverable: Report/Prototype
- Project Start: 15 Oct 2013
- Project Complete: TBD
- Funded: $1.21M (FY14)
- USMC E2W2 ICD of 2 SEP 2011
- EF21

Key Events	Date
Natick • Sent $375K for Phase 1 Heater Prototype	• Go/No-Go by APR 2015
Panama City • Validated Models at Eglin AFB, FL in the Environmental Chamber	• MAR 2014
• Sent $835K to Develop Software Models of Soft Shelters and Heating Systems	• Reports due by APR 2015
• Validate Models at MWTC Bridgeport, CA	• JAN-FEB 2015

Next Generation Heater SBIR

(Office of Naval Research, Small Business Innovative Research Fund)



Technical Description

- Development of Self-Starting, Multi-Fuel Burning Heating System:
  - Reduction of Liquid Fossil Fuel Consumption by 50%
  - Reduce Liquid Fuel Transport
  - Reduction of Packed Cube/Size by 50%
  - Reduction of Weight to 60 (O) – 120 lbs (T)
  - Uses Existing Fuel, Organic Plant-Based Fuels, Solid Fossil Fuels, Natural Gas, etc.
  - Setup by two Personnel in Under 20 Minutes
- Three Phase I Vendors: TBD

Resources & Performance

- Product Manager: PdM CSE
- MCSC TPOC: Dave Keeler
- Other Service Interest: Navy
- Deliverable: Initial Design & Early Prototype (Option)
- Project Start: 3QFY15
- Project Complete: Phase I Base + Option Ends 3QFY16
- Funded: $750k Base + $250k Option (ONR SBIR $)
- USMC E2W2 ICD of 2 SEP 2011
- EF21

Key Events

3QFY15-1QFY16: Phase I Base Contract
2QFY16-3QFY16: Phase I Option
~4QFY16-4QFY17: Potential Phase II SBIR* (T&E)
~4QFY17-??: Potential Phase III Transition* (LRIP, T&E)
• If Phase I is Successful, ONR SBIR Office & Program Manager, Combat Support Systems may Follow Through With SBIR Phase II for one or More Vendors and Phase III Transition for one Vendor Depending on Design Viability, Funding, and Requirements.

Electronics Maintenance Complex- Expandable (EMC-E)

Technical Description

- Must be Able to be Transported Utilizing Existing and Future Motor Transport Assets
- Must be Able to be Expanded While Mounted/Dismounted on a MTVR (or USMC Organic Prime Movers)
- Be Able to be Setup/Tear Down by 4 Marines Within 30 Mins
- Shall Provide a Power Input of 100 amp Service, With Built in Surge and Spike Protection
- Able to Accept Standard USMC Power Generators and ECUs.
- Composite Construction:
  - Reduce Weight / Energy Efficient / Reduce Corrosion

Resources and Performance

- Product Manager: Mr. Tim McLaughlin (PdM CSE)
- MSCS Project Officer: Mrs. Jean Klinger
- Warfare Center: Natick
- Other Service Interest: Joint
- Contractor: Core Composites
- Deliverable: Report/Prototype
- Project Start: 1 OCT 2013
- Project Complete: Sep 2016
- Funding: $947K (FY14/15/16)
- USMC E2W2 ICD of 2 SEP 2011
- EF21

Key Events	Date
• Sent $500K for R&D MIPR for Development of Composite Prototype	• OCT 2013
• Delivery of Prototype	• JUL 2016
• IAMs Integration (Albany, GA)	• AUG 2016
• Industry Day/FUE	• SEP 2016
• Transportability Testing	• OCT 2016

Emerging Initiatives

- New initiatives
  - Composite rigid shelters to include a 10 Ft Single-side expandable
  - Shelter heater that burns BIO-mass (SBIR)
  - Single Source Heater for our larger tents
    - Arctic
    - Base-x 203 and 305
    - MGPTS
  - Soft-wall Shelter Study underway at Panama City, FL in order to characterize a Shelter System

- Initiative partners include…
  - Small Business Initiatives Research (SBIR)
  - Office of Naval Research (ONR)
  - Marine Corps War-fighting Lab (MCWL)
  - Rapid Innovation Fund (RIF)
  - Panama City
  - Natick

QUESTIONS?