



**MARINE CORPS SYSTEMS COMMAND**

*Equipping our MARINES*

# Program Manager Infantry Combat Equipment

JAPBI

6 Nov 19



# MARINE CORPS SYSTEMS COMMAND

Equipping our MARINES

# PM ICE Organization

**Program Manager (PM)**  
LtCol Andrew Konicki

**Deputy Program Manager (DPM)**  
Mr. John Knapp

**Assistant Program Managers (APM)**  
Logistics – Mr. Wayne Bell  
Engineering – Mr. Karl Solomon  
Finance – Ms. Diana Wyatt  
Contracting – Ms. Peggy Smith

**TL Clothing and Equipment**  
Mr. Joseph Augustine

- Uniform Certification
- Marine Corps Combat Utility Uniform (MCCUU)
- Marine Corps Combat Boots
- Female Dress Blue Coat
- USMC Frame and Cap
- Tropical Uniform & Boot
- Enhanced Flame Resistant Combat Equipment (EFRCE)
- Fire Resistant Organizational Gear (FROG)
- Knee & Elbow pads
- Cold Weather Hydration Set (CWHS)
- Collapsible Water Bag (CWB)
- E-Tool w/Carrier
- Marine Assault Climbers Kit (MACK)
- Marine Corps Cold Weather Infantry Kit (MCCWIK)
- Marine Corps Modular Snowshoes (MCMS)
- Marine Corps Utility Cutter (MCUC)
- Marine Corps Wire Cutter (MCWC)
- Mechanical Breachers Kit (MBK)
- Multi-Faith Chaplains Kit (MFCK)
- M9 Multipurpose Bayonet
- Multipurpose Compact Attachable Light (MCAL)
- Small Unit Expeditionary Stoves (SUES)
- Ultra High Intensity Miniature Illumination System
- Military Ski System (MSS)
- 3 Season Sleep System (3S)
- Improved Sleeping Mat (ISM)
- Enhanced Bed Net System (EBNS)
- Extreme Cold Weather Bag (ExCWB)
- All Purpose Environmental Clothing System (APECS)
- Hard Face Microfleece Coyote Cap
- Extreme Cold Weather Mitten System
- Extreme Cold Weather Suit (Parka, Trousers and Bootie)
- Lightweight Flame Resistant Cold Weather Undershirt and Drawers
- Lightweight Exposure Suit (LES)
- Snow Camouflage Parka, Trousers, and Pack Cover
- Mid-weight Flame Resistant Cold Weather Pullover Shirt and Drawers
- Combat Desert Jacket (CDJ)
- Intermediate Cold Weather Glove (ICWG)

**TL Air & Amphibious  
Reconnaissance**  
Mr. John O'Brien

- Air Supply Rack Assembly (ASRA)
- Combat Diver Dry Suite (CDDS)
- Combat Diver Full Face Mask (CDDFM)
- Underwater Voice Comm (UVC)
- Combatant Diver Vest (CDV)
- Combat Rubber Raiding Craft (CRRC)
- Diver Propulsion Device (DPD)
- Enhanced Diver Propulsion Device (E-DPD) (Pre-ACAT)
- Expeditionary Hyperbolic Chamber System (EHCS)
- Marine Assault Breacher Kit (MABK)
- Marine Individual Assault Kit (MIAK)
- Maritime Operations Suite ( MOS)
- Non-gasoline Burning Outboard Engine (NBOE)
- Open Water Safety Craft (OWSC)
- Portable Compressor Diesel Driven (PCDD)
- Rapid Deployable Oxygen Transfer Pump system (RDOTPS)
- Transportable Recompression Chamber System (TRCS)
- MK-25 Underwater Breathing Apparatus (UBA)
- Aircraft Rigging Kit
- Container Delivery System (CDS)
- Cybernetic Parachute Release System (CYPRES)
- Drop Zone Kit
- Enhanced-Multi-Mission Parachute System (E-MMPS) (AAP)
- Heavy Equipment Air Delivery System (HEADS)
- High Altitude High Opening (HAHO) Parachutist Navigation System (PNS)
- Joint Parachute Airborne Delivery System (JPADS) 10K
- JPADS 2K-M/LW
- Loft Sets
- Multi-Mission Parachute System (MMPS)
- Parachute High Altitude Oxygen System (PHAOS)
- Parachutist Individual Equipment Kit (PIEK)
- Personnel Parachute Systems
  - Maneuverable Canopy 6 (MC-6) (AAP)
  - Maneuverable Canopy (MC-7)
- Recon Modular Helmet Kit (RMHK)
- Tandem Offset Re-supply Delivery System (TORDS)
- G-11 & G-12 Cargo Parachutes

**TL Individual Armor**  
LtCol Bryan Leahy

- Enhanced Combat Helmet (ECH) (ACAT IV)
- Enhanced Combat Vehicle Crewman's Helmet (ECVCH)
- Enhanced Side Armor Plate Insert (ESAPI)
- Full Spectrum Battle Equipment (FSBE) Individual Kit
- Improved Modular Tactical Vest (IMTV)
- Improved Load Bearing Equipment (ILBE) Pouches
- Lightweight Helmet (LWH)
- Modular Integrated Comm Helmet (MICH)
- Plate Carrier (PC) Generation III (PC Gen III)
- Protective Outer Garment (POG)
- Protective Under Garment (PUG)
- USMC Chest Rig
- USMC Holster
- USMC Pack (Adjustable frame & Reinforced frame)
- USMC Sub-Belt
- Improved Ballistic Eyewear (IBE)
- Ballistic Hearing Protection/Enhancement



## **Areas Where Industry Can Help**

- ▶ **Lighter & flexible body armor/plates**
- ▶ **Integrated helmet solution**
  - ▶ Improved suspension system for helmets
  - ▶ Hearing protection/enhancement
- ▶ **Extreme cold weather improvements**
- ▶ **Flame resistant fabrics**
- ▶ **SWIR mitigation**
- ▶ **Maternity uniform improvements**
- ▶ **Sensors - biometrics**
  - ▶ Networked & wireless sensors
  - ▶ Controlled sensor emissions through cueing
  - ▶ Sensor data fusion



**Integrated Helmet System (IHS)  
(TOPIC ID #TBD)**



**Program Concerns/ Important Topics**

- D-UNS states fielding to Infantry/Infantry-like (27,499)
- Fielding focus: Infantry, Recon, Combat Engineers, LAR, ANGLICO
- Artillery may be added in the future.
- Additional \$17.8M in FY20-21 OMMC being requested through CCLTF and POM-21 to procure AAO

**Program Fielding Status/ Updates**

- Infantry Helmet D-UNS, 1 Feb 2018
- RFI Released 4 June 2019
- Send Invitation Letters Nov 2019
- Award OTAs Jan 2020
- Final Prototypes Due January 2021
- Initial Fielding FY22

**Configuration/ Integration Information**

- IHS will have an increase in ballistic protection
- Provides improved integration with hearing protection/enhancement and Binocular Night Vision Goggles
- Increased comfort and stability



## Hearing Enhancement



### Program Fielding Status/ Updates

- DLA TLSP purchase July 2019
- Estimated Delivery Date: Begin November 2019 and Complete March 2020
- Distribution to Artillery and Recon units
- Artillery: 2,244 Non-Comm Headsets and 627 Comm-Enabled Headsets with Push-To-Talk
- Recon Units: 1,336 Comm-Enabled Headsets with Push-To-Talk

### Program Concerns/ Important Topics

- Synchronize NET with PC Gen 3 NET
- Releasing AMHS Distribution message

### Configuration/ Integration Information

- Shipped with a single comm cable to connect to Squad Radio and dual comm cable for connection to AN/PRC-117/117G/119/148/152
- Compatible with Combat Arms Earplugs IV for double-hearing protection requirements



**Program Description**

- ❑ The MCWCP is a family of cold weather clothing items. The cold weather clothing is designed to support Marines operating in wet/cold and dry/cold or mountainous environments with a threshold temperature range from 4.4 to -31.6 °C (40 to -25 °F) when used as a system. The objective temperature range extends down to -37.2°C
- ❑ Submitted SRP modification for secondary closure for APECS parka. Contract modified and new version available in Aug 2019
- ❑ Common efforts with Army: Snow Overwhites, Happy Suit, and LWES
- ❑ Planning underway for User Evaluations on improvements to Layer 1, Layer 3, ICW boots, handwear and headwear at MWTC and Norway Jan-Mar 2020

**Program Status**

- ❑ AAO: Required/Fielded
  - ❑ Cold Weather Undergarments, Silk Weight: 972,000
  - ❑ Cold Weather Undergarments, Grid Fleece: 486,000
  - ❑ Extreme Cold Weather Set: 140,000/140,000
  - ❑ Hardface Fleece Caps: 168,833/168,833
- ❑ Special Issues: System review underway – completed comparison evaluation against Norwegian cold weather clothing
  - ❑ Examine wool for base layers and level 3 insulation layer
  - ❑ Wool/waterproofing for Caps and balaclavas
- ❑ Follow-On Strategy: Update and refine products based on user evaluations and after action reports

**Key Milestones**

Event	Date
FOC Attainment	FY12
Next ILA	FY20
Next In-Service Review	FY19
Winter evaluations	Jan-Mar 2020
Item Exit Date	Various



### CWC Layers:

- ❑ Product improvements to Level 1 and 3 to improve wicking/moisture transport and drying time
  - Explore mesh underwear for level 1.
  - Improved level 3 that improves moisture transport (wicking), dry time, and insulation – wool or synthetic
- ❑ Soft shell uniform solution for insulation and quick drying
  - from sweat and precipitation
  - in a wet-cold environment.
  - More breathable than APECS
  - Reduces sweat build up and condensation inside the garment.

### Headwear

- ❑ Balaclava - open face balaclava design to improve drying time, warmth, and wind protection



- ❑ ECW Cap - capability gap of an insulated, wind resistant, and highly water resistant headwear item



LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 5	LEVEL 6
PRODUCT IMPROVEMENT REQUIRED	PRODUCT IMPROVEMENT REQUIRED	NOT SUSTAINED / MATERIAL GAP		SUSTAINED	SUSTAINED	SUSTAINED
Light Weight Top & Drawer*	Mid Weight Top & Drawers*	Wind Pro Fleece	MC&U Blouse & Trouser	APECS Parka and Trouser	Light Weight Exposure Suit	Extreme Cold Weather Parka, Trouser & Booties



### Contact/Combat Glove

- Touch Screen
- FR
- Water repellent
- Evaluated candidates at MWTC and Norway during FY2019 winter User Evaluations – durability suffered



### Intermediate Cold Weather Gloves

- Procurement complete
- Reworked entire stock to repair faulty thumb crotch
- Final delivery order executed June 18 for 10,982 additional ICWGs



### ECW Mittens

- Looking at Army requirement.
- Joint requirement will result in better sustainment and economy of scale.
- Addition of trigger finger
- Generate joint mitten specification for DLA.



### Inserts

- Looking to develop Type II Wool Insert in addition to FR Light Duty Glove Insert (use with black leather shell or mitten)





## FR

- ❑ Low-Cost and Durable FR Treatment to the Marine Corps Combat Utility Uniform (MCCUU)
- ❑ USMC & Army – Natick R&D
  - Maintain current MCCUU attributes, including 50 wash cycles
- ❑ SBIR – FR MCCUU
  - Cost increase: < 5% (objective) / < 10% (threshold)
  - FR durability: 100 (objective) / 50 (threshold) laundering cycles
  - Minimal impact on non-FR performance

## SWIR

- ❑ USMC and Army effort with CCDC Soldier Center & NSWC Dahlgren
  - Objective: Reduce/eliminate SWIR detection from uniforms and equipment
  - Solution: Passive Modifications to Existing PPE (paint/pigment)
- ❑ SWIR signature mitigation of deployed warfighter (USMC and US Army) combat kit (uniforms and 500D nylon load carriage)
- ❑ Apparent Reflectivity signature measurement reduction



Baseline MARPAT vs. Proof Of Concept SWIR Developmental Materials.

## Intent is to merge SWIR Mitigation and FR into the NexGen MCCUU

### Where We Are Going:

- ❑ FY 20 – Publish Changes to Fabric Specifications & Item Purchase Descriptions
- ❑ FY 21 – User Evaluations on changes – refine Fabric Specifications & Item Purchase Descriptions
- ❑ FY 21 – Transition to production with final changes to Fabric Specifications & Item Purchase Descriptions
  - Phased approach encompassing ICE items (uniforms, load carriage)
  - Prioritization on combat uniforms and load carriage items pending contract renewal



**Modify existing Service Green Tunic and maternity shirt**

- Add color (Black)
- Add adjustable side tabs
- Add elastic bunching

**Certify Nursing T-Shirt for optional purchase in MCX**

**Certify Maternity T-Shirt for optional purchase in MCX**

- Follow on pattern change for DLA support

**Using existing Maternity Service Green trousers and skirt as baseline.**

- Add colors: Black (Skirt) and Sky Blue (Slacks) (Dress Uniform)
- Modify all designs to include 360° belly panels on Service and Dress skirt/slacks



**MARINE CORPS SYSTEMS COMMAND**  
Equipping our MARINES

# Questions?



## Clothing & Equipment

J.F. Augustine  
703 432 5700

[joseph.augustine@usmc.mil](mailto:joseph.augustine@usmc.mil)

## Individual Armor & Load Bearing

LtCol Bryan E Leahy  
703 432 4970

[bryan.leahy@usmc.mil](mailto:bryan.leahy@usmc.mil)

## Amphibious & Air Reconnaissance

John O'Brien  
703 432 5667

[john.obrien@usmc.mil](mailto:john.obrien@usmc.mil)