



Soldier Requirements Division



LETHALITY BRANCH

April 5, 2023





LETHALITY BRANCH

MAJ Marcus Farmer
Branch Chief

Mr. Andrew Vincent
Small Arms Deputy

Mr. Steve Howard
Firepower Deputy



Agenda



- Lethality Branch Organization
- Lethality Branch Mission
- Portfolio Programs
- Challenges | Opportunities
- Desired Capabilities
- Questions



Lethality Branch Mission

Soldier Requirements Division's Lethality Branch designs the Army of 2040 and delivers the Army of 2030 by serving as the Department of the Army proponent for Small Arms Systems, Mortars, Close Combat Missile Systems, Beyond Line-of-Sight Systems, Shoulder Launched Munitions, Soldier Handheld Munitions and advocate for scalable effects.





Soldier Portfolio Programs



LETHALITY

Individual Weapons



M17



M4 / M4A1

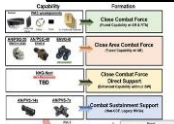


SDM-R WPN



Small Arms Ammunition

Limited Visibility Devices



Moderation Strategy



ENVG
ENVG-B



NVG-N



Legacy NVGs



Crew-Served Weapons



Heavy MGs



LT / MED MGs



Fire Control

- Sniper
- Spotting Scope
- CSW (M240L, Grenade Launcher)



Sniper Weapon Systems



Rockets / Missiles / Bursting Weapons



SLM Family, Individual Assault Munition (IAM)



Grenades, Smoke, Pyrotechnics)



M320A1



GSS



40mm Ammunition

Mortars



Legacy 60mm, 81mm & 120mm Systems

Weapon Sights / Enablers



STORM (PI,SLX,II)



ATPIAL PEQ-15

Future Generation SA Devices IVAS (CFT)



FWS-CS



FWS-I



FWS-S



LTLM II

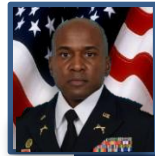


Legacy Thermal Weapon Sights

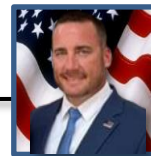


SMALL ARMS

Small Arms Section



MAJ Marcus Farmer
Lethality Branch Chief



Mr. Eric Seto
Deputy, Small Arms



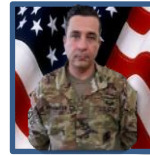
Mr. Andrew Vincent
Lethality Branch
CAPDEV



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Small Arms
Section Chief



CPT Matthew Rogers
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Project Officer



SFC Benny Hermanson
Small Arms
Project NCO

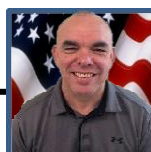
Individual Weapons/ Fire Control (FC)

Ammunition

LNO



Mr. Ken Caruthers
Close Effects



Mr. Ben Bremer
Precision Effects
P-FC



Mr. Mark Elsey
5.56mm | 7.62mm
.50 | 40mm Ammo



Mr. Tom Henthorn
JSSAP



Mr. Jeremy Gibson
Intermediate Effects



Mr. Scott Dickmann
Indirect Effects

Non-Lethal

Vacant



Mr. John Amick
PM MAS



Mr. Phil Simpao
Volume Effects

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Military **GS Civilian** Contractor **LNO**



Soldier Portfolio Programs



SMALL ARMS

Individual Weapons



M17



M4 / M4A1



M110A1



M249

Small Arms Ammunition Individual / Crew Served Weapon



- Fire Control
- Sniper
 - Spotting Scope
 - CSW (M240L, Grenade Launcher)



Crew-Served Weapons



Heavy MGs



MK22



M107



M240B



M240L

LT / MED MGs



M2010



M110 SASS

Bursting Weapons



40mm Ammunition



M320A1



GSS



M3 / M3A1 MAAWS





Opportunities



- All fire fights become a counter defilade fight after the initial moment of contact
 - Individually employed at the squad level against targets in defilade
 - Multiple target sets
 - Across all operational environments

Squad precision counter-defilade capability



Summary of Small Arms Section Desired Capabilities



Individual Weapons

- Precision Grenadier System (PGS) = Counter Defilade Threat Engagement (CDTE) squad priority effort
- Individually employed as the Soldier's primary weapon system
 - Magazine-fed
 - Semi-automatic
 - Light-weight (Soldier carried)
 - Flat trajectory* key factor for employment considerations vs Max ORD munitions
 - Airburst technology to maximize lethal effects
 - Family of ammunition to optimize lethal effects against multiple target sets

Firefight ending capability



Summary of Small Arms Section Desired Capabilities



Suppression (Individual and Crew Served Weapons)

- Both visual and acoustic signature suppression for crew-served and individual weapons
- Visual signature is the priority (minimize localization of target by threat to improve survivability)
 - Reduce flash: visibility to naked eye
 - Reduce enemy detection from their optics; short-, mid-, long- wave IR
 - Disturbed Earth: minimize 'dust up' of earth and other vegetation
 - Reduce suppressor blow-back to the shooter
 - Reduce impact on friendly optics, night vision devices, scopes, etc.
- Reduce acoustic signature to minimize enemy detection
 - Improve command and control: Below 140 dB
 - Mitigate Soldier hearing loss
 - Increase Soldier survivability
- User level task to install, clean, PMCS suppressor



Summary of Small Arms Section Desired Capabilities (cont.)



Crew Served Weapons

- Platoon Arms and Ammunition Configuration (PAAC) study
 - Threat based study informs future of MMG requirement studying ammo, fire control, and weapon capabilities
 - Joint study (USMC, SOCOM, DEVCOMs, ARL...)
 - Study will inform senior leaders on potential FMMG courses of action
 - Final results expected 4QFY23, Supporting FY 24 MMG decision point



Summary of Small Arms Section Desired Capabilities (cont.)



Optics

- Desired fire control system technology (cone of fire / beating zone references as a digital enhancement or overlay)
- Digital Fire Control systems across all platforms have a degraded Direct View Optic capability
- Optics able to see beyond MER of ammunition employed
- Precision optics (Spotting Scope) technologies to exceed the extended engagement ranges of current sniper platform optics
 - Additional formations (R&S) not just limited to snipers
- Mutual sniper/spotter disturbed reticle technology
 - Capability to transfer data between scope and weapon optic
 - Digital enhancement vs full-digital (with degraded mode)
 - Wind direction/distance sensing
 - Prevent detection & targeting of observer

Lightweight & Power Efficient



Summary of Small Arms Section Desired Capabilities (cont.)



Lightweight Small Caliber Ammunition (LSCA)

- Reduces Soldier load for one of their heaviest items – ammo
- Drop in solution for existing family of 5.56mm, 7.62mm and .50 CAL weapons
- No compromise in current capability
 - e.g. reliability, durability, ballistic effects, lethality, dispersion
- Use in all climactic zones



Lethality Branch – Small Arms Points of Contact



Headquarters, Lethality Branch			
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Questions?