Evolving Affordable Training Systems for OICW and Related Factors - Individual & Crew-Served Systems

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Objective Individual Combat Weapon (OICW)

Revolutionizing The Infantry Weapon - Enhancing the Capabilities of the 21st Century Infantryman
Users Vision

- Soldier’s Individual Combat Weapon – well into 21st century!
  - Bursting Munition Concept
    - Provides revolutionary capability
    - Offsets aim error associated with iron sights
    - Provides more efficient lethal mechanism

- Dual Munition System
  - 20mm High Explosive
  - 5.56mm Bullets

- Increases range/lethality

- Target Acquisition/Fire Control System
  - Laser Range Finder
  - Ballistic Computer
  - Fuze Setter
  - Electronic Aim Point
Training Concept Approach

OICW Training Objectives

ORD

STRAP

Training System Integration (SAT)

Individual

Collective

Commonality with Existing / Planned Training

- Ranges
- Equipment
- Training Procedures

Training System Design Criteria

- IET
- INSTITUTION
- UNIT
- TADSS
- SPECIAL AMMO
- LIVE FIRE

Proficiency (Marksmanship, Maintenance) – Realism – Measurability – Affordability (Non-recurring/Recurring)
OICW TRAINING CONCEPT PLAN

★ Develop and Implement the most effective and efficient Training Strategy for the SOLDIER using the OICW.

★ Use live, virtual, and constructive simulations linked to MANPRINT and weapon design to make it easy to train.

★ Leverage existing simulations and training ranges (including Land Warrior upgrades) to the fullest extent.

★ Crawl, Walk, Run to meet the Training Objectives.
OICW Training Concept Guidelines

- OICW training development goals shall be to: Maximize the Soldier/systems required proficiency/capability, and:
  - Minimize training resource increases
  - Accomplish OICW individual and collective training requirements with an emphasis on simulation
  - Leverage legacy weapons training systems
  - Minimize level of dependence on OICW live fire
  - Maximum use of existing ranges
  - Minimize new special targetry procurement programs
Training Concept Considerations

- Make maximum use of existing ranges
- Minimize new special targetry procurement programs
- Use simulations to decrease service and training ammunition cost and allocations
- Identify follow-on training device/virtual and live simulation requirements
- Minimize institutional and unit training time without sacrificing Soldier proficiency
Unit Gunnery Strategy

Classroom Instruction → Hands-on Training → Gate Training SIMULATOR → Qualify SIMULATOR → Live Fire Range

CALFEX

DAY Practice/Qual → NIGHT Practice/Qual → QUALIFIED FOR CALFEX

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Proposed 20MM Marksmanship Program

- Pre-Fire Phase
- Basic Firing Phase
- Advanced Firing Phase
- Decision Firing
- Qualification Firing
Pre-Fire Phase

- Classroom Instruction:
  - Introduction To The Weapon
  - Fire Control Functionality
  - Assembly and Disassembly

- Fundamentals Of Marksmanship
Basic Firing Phase

- Simulation-based
- Three ranges - Three firing positions
- Lasing techniques
- Day only
- Untimed
- All optics (DVO, Video, Thermal, Iron sights)
Advanced Firing

- Simulation-based
- All positions
- All optics
- Laser exercises
- Untimed and timed
- Single multiple, and moving targets
- Day and night
Decision Firing

- Simulation-based
- Weapon selection
- All positions
- All optics
- Variable ranges and targetry
- Timed targets
- Day and night
Qualification Firing

- Simulation and live fire
- Pre-qualification done in simulation and live fire
- Qualification in live fire
  - Day and night
  - HE/KE decision making
  - TP only
  - Use existing ranges
## Trigger Pull Summary (Semi-Annual)

<table>
<thead>
<tr>
<th>PHASE</th>
<th>SIM</th>
<th>LIVE</th>
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<tbody>
<tr>
<td>Pre-fire phase</td>
<td>108+</td>
<td>Dry fire</td>
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<tr>
<td>Basic firing phase</td>
<td>162+</td>
<td></td>
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<tr>
<td>Advance firing</td>
<td>324+</td>
<td></td>
</tr>
<tr>
<td>Decision firing</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Pre-qualification firing</td>
<td>25 (TP)</td>
<td>25 (TP)</td>
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<tr>
<td>Qualification firing</td>
<td>25 (TP)</td>
<td>5 (HE)</td>
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<tr>
<td>Familiarization firing</td>
<td>80 (TP)</td>
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<tr>
<td>CALFEX (Annual)</td>
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1238 Sim rounds per man/per year
180 TP rounds live per man/per year
10 HE/AB service rounds per year

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Training Aids, Devices, Simulators & Simulations (TADSS)

Institutional (I) & Sustainment (S)

- Training Aids/Devices
  - Mock-Ups (I)
  - Disassembly Mat for Hands-On (I/S)
  - Maintenance Trainer (I/S)
- Virtual
  - Engagement Skills Trainer 2000 with Pre-Planned Product Improvements - for marksmanship, collective, and shoot-don’t shoot training (I/S)
  - Dismounted Infantry Module (DIM) -- CCTT link (S)
- Live
  - Conform to existing and future Tactical Engagement Simulation Systems, i.e., One Tactical Engagement Simulator System (I/S)
- Constructive
  - One Simulated Automated Forces (OneSAF) (S)
- Range Instrumentation
  - Developing Requirements to sense rounds (X/Y/Z Coordinates)
  - PM - Instrumentation Training & Target Systems, STRICOM
  - New Generation of Army Targetry System
  - Location Of Miss And Hit (LOMAH) - like, Doppler Radar Technology

OICW Will Leverage Current Technologies
Conclusion

- OICW is evolving an affordable training system that will maximize the Soldier/systems required proficiency and capability. These approaches can also apply to other individual and crew-served systems. The end results are:

  - Minimizes training resource increases
  - Accomplishes individual and collective training requirements with an emphasis on simulation
  - Leverages legacy weapon training systems
  - Minimizes level of dependence on live fire
  - Maximizes use of existing ranges
  - Minimizes new special targetry procurement programs
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