40mm XM1112 Airburst Non-Lethal Munition (ANLM)  
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Sponsors:  JNLWD  
User Support:  USAIC  
USAF
Participating Organizations

- JNLWD
  - Sponsor
- USAIC/DCD – Firepower Division
  - Requirements Generation and User Proponent
- Air Force Security Forces Center (AFSFC)
  - User Proponent
- PM-SW
  - RDT&E Execution
- PM-CCS
  - Production Execution
- ARDEC
  - Munition Lead and Fuze Design
- Dahlgren
  - Payload Technical Lead
- ATK Launch Systems
  - Payload Design and Integration Support
- HECOE
  - Human Effects Analysis and Support
- SAVIT Corp.
  - Cartridge Design, Integration, and Development Hardware Support
- Aberdeen Test Center/Navy Warfare Center CRANE
  - T&E
- Indiana Ordnance Inc.
  - Developmental Testing
- Kansas State University
  - Environmental Assessment
# Design Goals

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Threshold</th>
<th>Objective</th>
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</thead>
<tbody>
<tr>
<td>Duration of Non-lethal Effect</td>
<td>≥ 30 seconds</td>
<td>≥ 60 seconds</td>
</tr>
<tr>
<td>Ballistics</td>
<td>Close to M433 HEDP</td>
<td>Matches M433 HEDP</td>
</tr>
<tr>
<td>Reliability</td>
<td>95%</td>
<td>98%</td>
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<tr>
<td>Minimum Engagement Range</td>
<td>35 meters</td>
<td>15 meters</td>
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</tbody>
</table>

- CDD through TRADOC in staffing for AROC approval
The Need

0 50 100 150 200 250 300 350

MCCM
X26E
TASER
M1012
M1013
Enhanced
M84
M1006
M1029
Mk 19
LVOSS
XM1112

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Concept of Operations (CONOPS) – Crowd Control

Improved non-lethal capabilities will provide advantages in self-protection, crowd control engagement where combatants and non combatants are intermixed, and they will aid in determining hostile intent.
CONOPS – Room Clearing

- Engage and control local residents to preclude their involvement and their injuries
- Dislodge terrorists from their HQ without causing extensive collateral damage
- Dislodge enemy from strongholds without causing extensive damage or non-combatant casualties
CONOPS – Warning Munition

Shipboard and Convoy Protection

• Create and enforce standoff area around vessels and convoys.
CONOPS – Checkpoints

Isolate, dominate, maintain common situational awareness, and employ multi-dimensional/multi-echeloned actions. Employing lethal and non-lethal means to control the situation while reducing casualties and collateral damage.
What It Does

• Weapon
  – M203 Grenade Launcher
• Effective Range
  – Same as standard M203 ammunition
• Initiates in front of target or delay can be set by user for room clearing operations
• Cartridge stops in mid air dispensing payload
• Multiple Non-Lethal Effects:
  – Temporary Scotoma – up to 1 minute
  – Temporary Hearing Shift – duration and magnitude vary by distance
  – Heating
Human Effects

Device detonates & Optical Damage Range (yes, the dot)

Fireball

Sound levels exceed 140 dBA

Airburst Standoff

Target

High Heat Zone

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Demonstration Video

- June 29, 2006 Demo
  - Target - 12’ x 8’ plywood @ 100m
  - Direct Fire at Night

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Industry Opportunities

• Fuze Development/Production Contract
  – Team with ARDEC engineers in transferring existing fuze design into production
  – Demonstrate producibility through building test fuzes using actual mass production equipment and processes
  – Options
    • Produce final integrated cartridge assembly for qualification.
    • Follow – on production
  – Planned RFP 1Qtr FY08
QUESTIONS?