



40mm XM1112 Airburst Non-Lethal Munition (ANLM)

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Sponsors: JNLWD

User Support: USAIC
USAF



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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

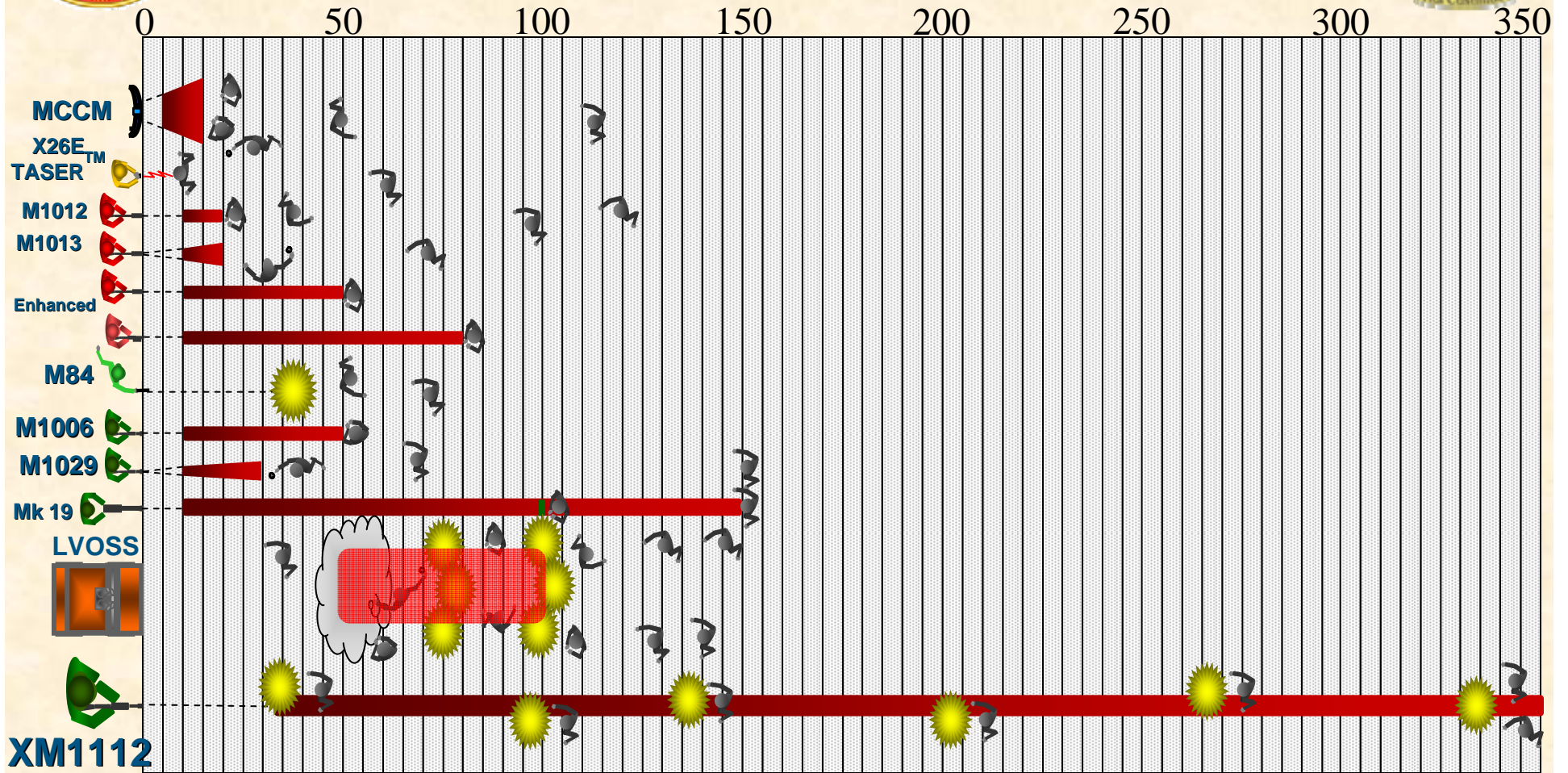
Parameter	Threshold	Objective
Duration of Non-lethal Effect	≥ 30 seconds	≥ 60 seconds
Ballistics	Close to M433 HEDP	Matches M433 HEDP
Reliability	95%	98%
Minimum Engagement Range	35 meters	15 meters

- CDD through TRADOC in staffing for AROC approval





The Need





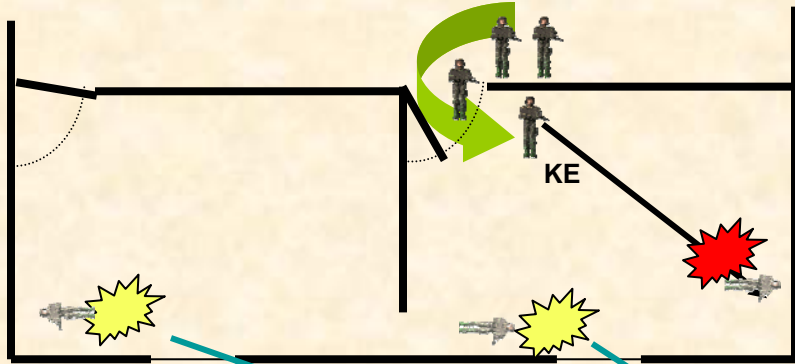
Concept of Operations (CONOPS) – Crowd Control

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



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CONOPS – Warning Munition

Shipboard and Convoy Protection

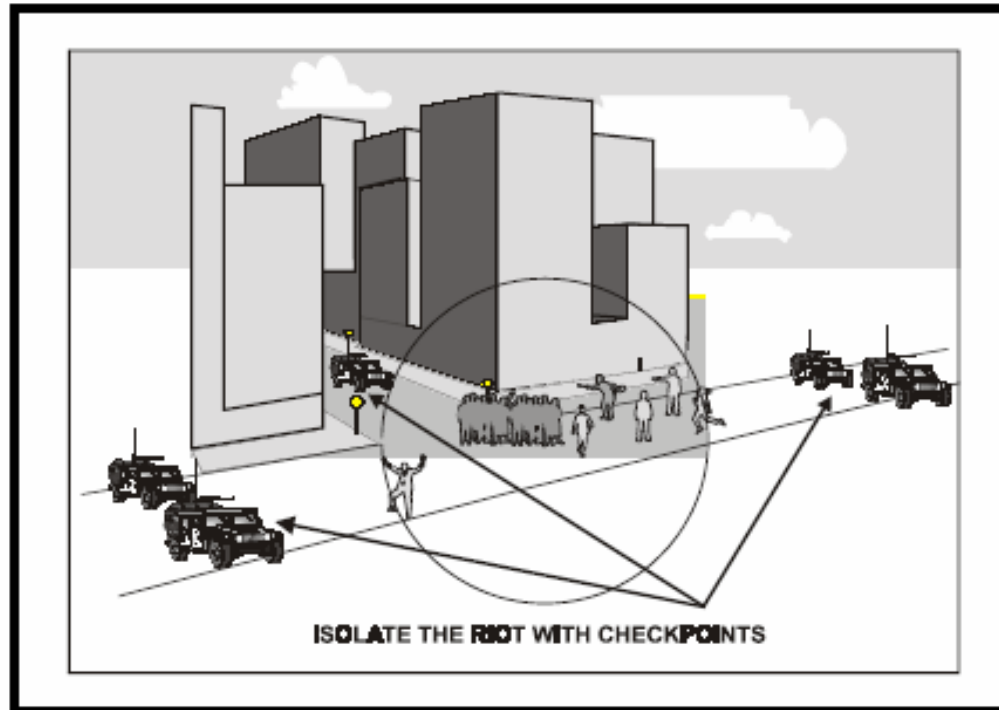
- Create and enforce standoff area around vessels and convoys.



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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.





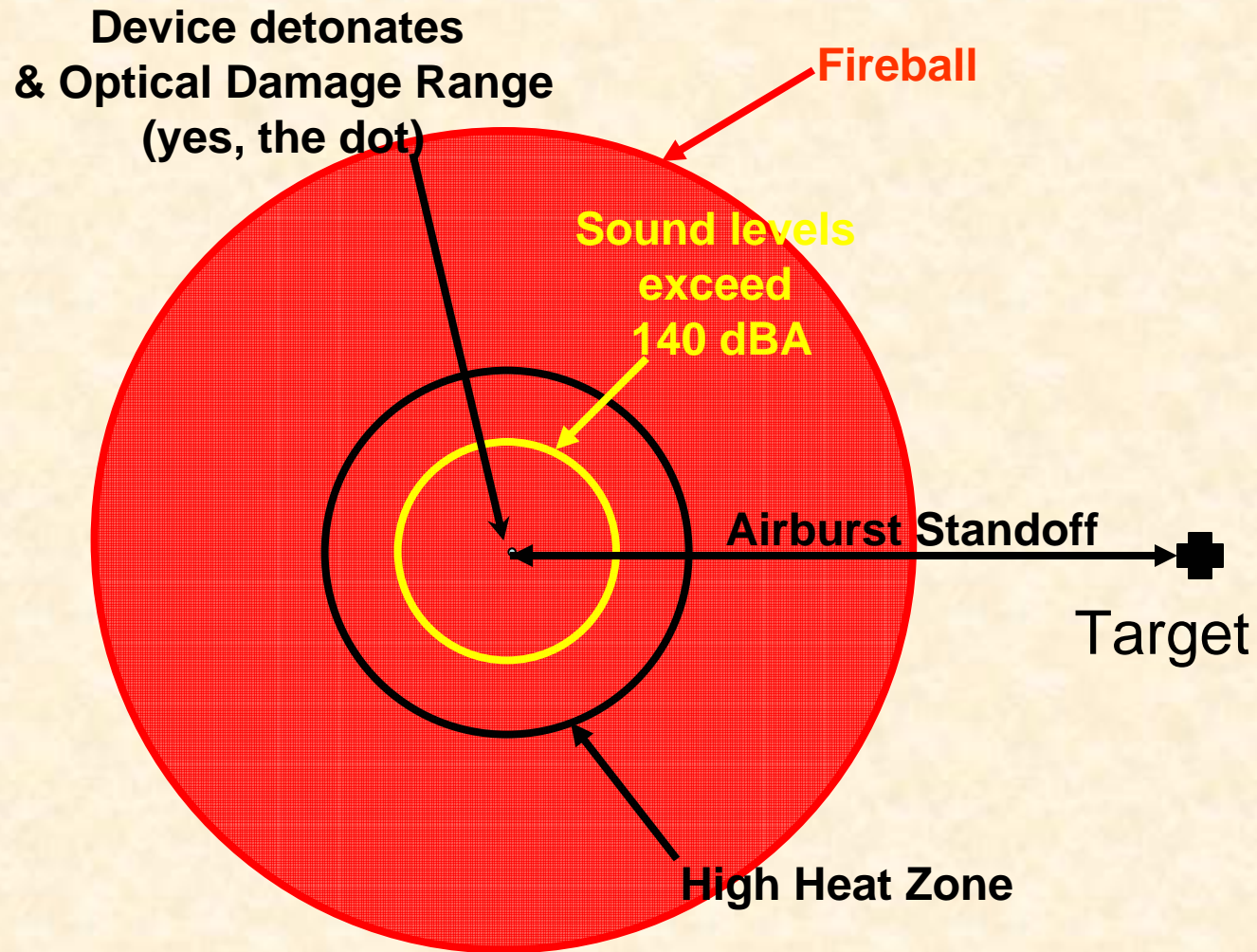
What It Does

- 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





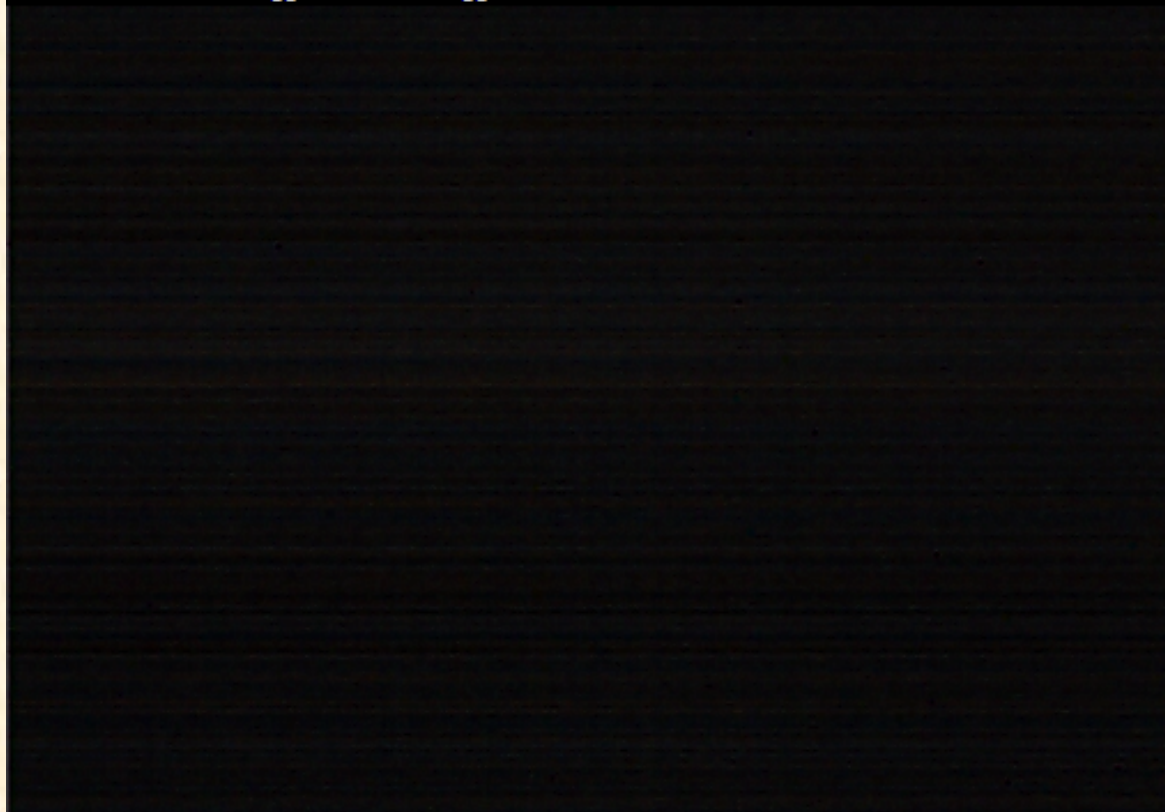
Human Effects





Demonstration Video

ID 0 Scene 488 Trigger CENTER Trigger Time 06/06/29 21:52:02.691807 Frame +00004863



Nickname 29 June 2006 night round #457 vertic... CID 1249 Rec 5000 Shutter OPEN nac fx-6000

- 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?



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