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GENERAL DYNAMICS
Ordnance and Tactical Systems

155mm XM1063 Non-Lethal Personnel Suppression Projectile

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Sacramento Convention Center – Sacramento, California

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XM1063 - Outline

- Introduction
- Program Background
- Operational Sequence
- Concept of Operation
- Design Concept Development
- Demonstrated Tests
- Program Timeline
- Future Plans
- Potential Spiral Development Opportunities
- Summary/Conclusions
- Acknowledgments

XM1063 - Introduction

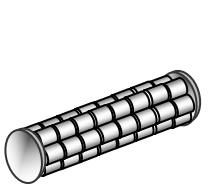
- DoD Definition of Non-Lethal Weapons
  - Incapacitate while minimizing fatalities and permanent injury
- Non-Lethal Weapons Also Minimize Damage to Property and Environment
- XM1063 Will Provide Non-Lethal Capabilities
  - Separate combatants from non-combatants
  - Suppress, disperse or engage personnel
  - Deny personnel access to, use of, or movement through a particular area, point or facility

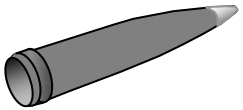
XM1063 - Background

- US Army ARDEC Leads the IPT That is Developing the XM1063
  - GD-OTS focuses on payload submunition development and production of test hardware
  - Many contractors and other government agencies have contributed to the IPT's success
- XM1063 Intended to Provide a New Capability
  - Non Line of Sight Non-lethal

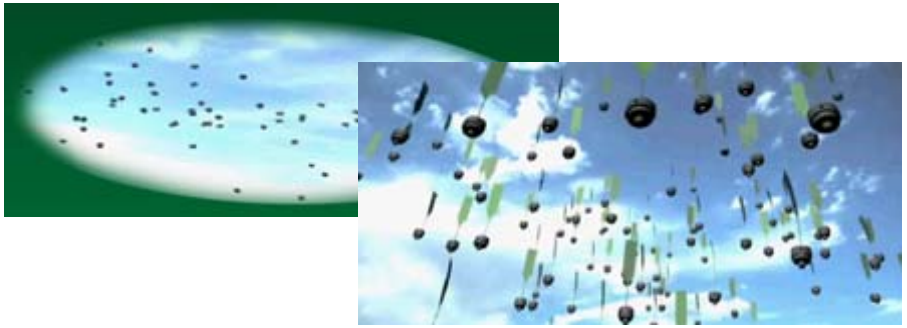
XM1063 – Operational Sequence

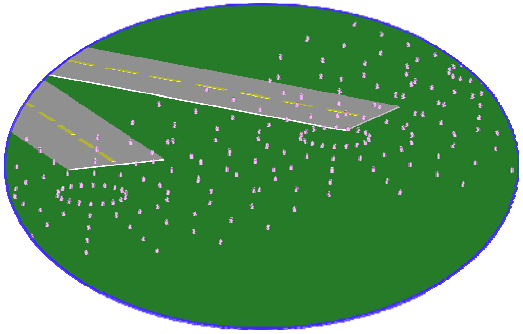
• Projectile Fired
• Non-Lethal Payload Release Mechanism Activated





• Non-Lethal Payload Ejected





• Non-Lethal Submunitions Dispersed
• KE of Submunitions Minimized

• Non-Lethal Personnel Suppression Effect Delivered Over Target Area
• Base Burner & Projectile Body Delivered to Separate Location

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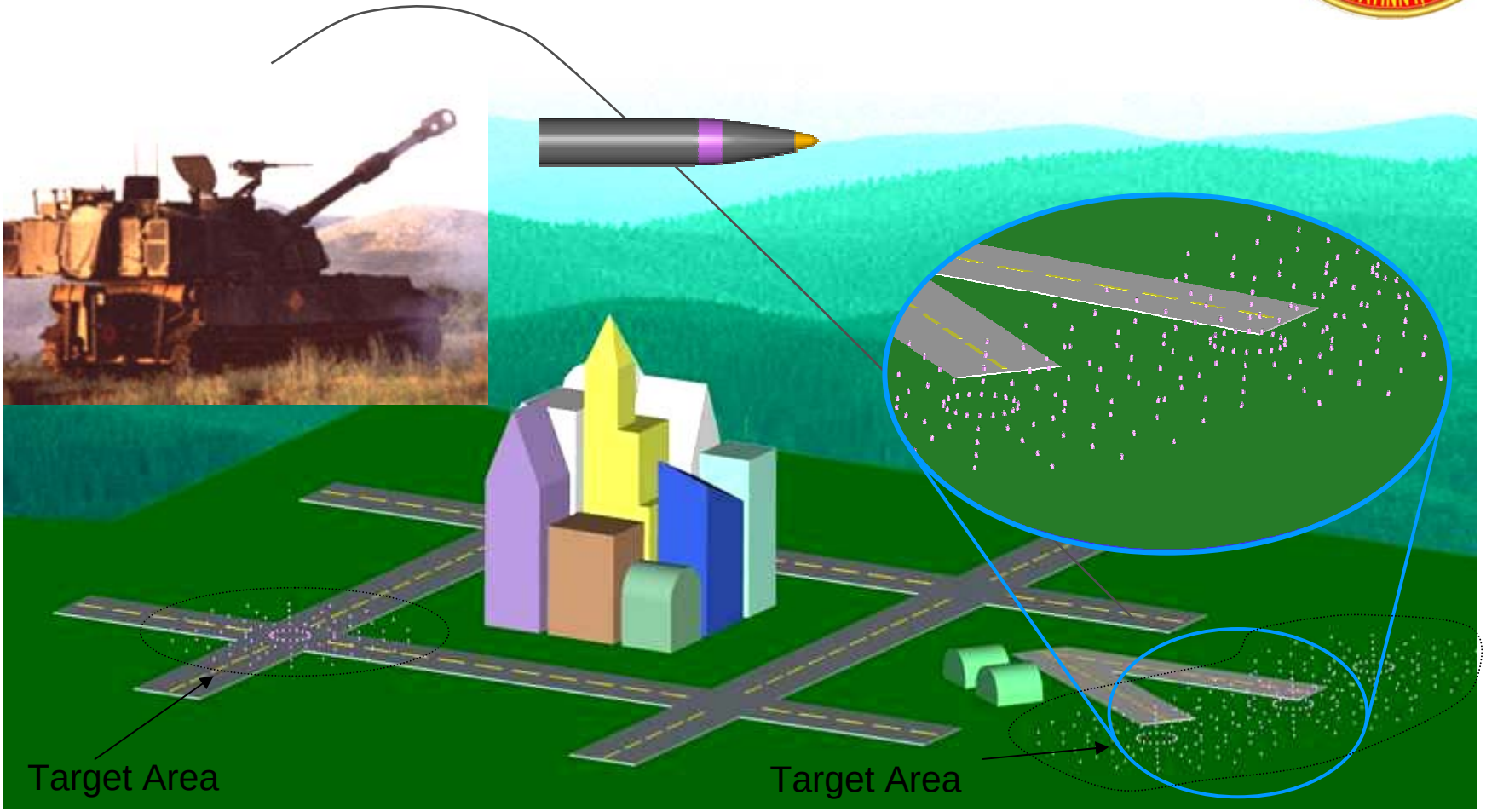
XM1063 – Concept of Operations

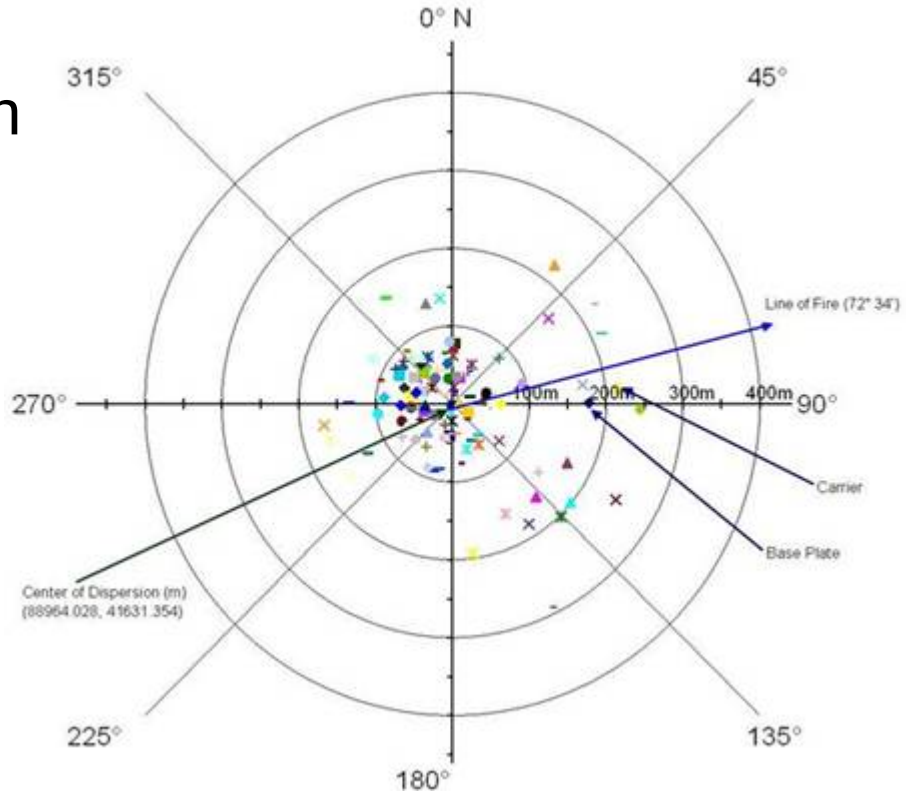


XM1063 – Design Concept Generation

- Utilizes Type Classified M864 DPICM Projectile Body, Base Burner, Fuze, Expulsion Charge
- Non-Lethal Submunitions Replace DPICM Payload
- Submunitions Dispense Non-Lethal Personnel Suppression Agent Without Use of Detonators or Explosives

XM1063 Demonstrated Tests

- Live Fire Testing at YPG
  - Standard 39 Caliber with MACS Zone 4
  - Prototype FCS NLOS-C with MACS Zone 3
  - Stadia Pattern >200 m
- Additional Testing for Design Refinement
  - Helicopter Drop, Wind Tunnel, Static Payload Dissemination, etc.



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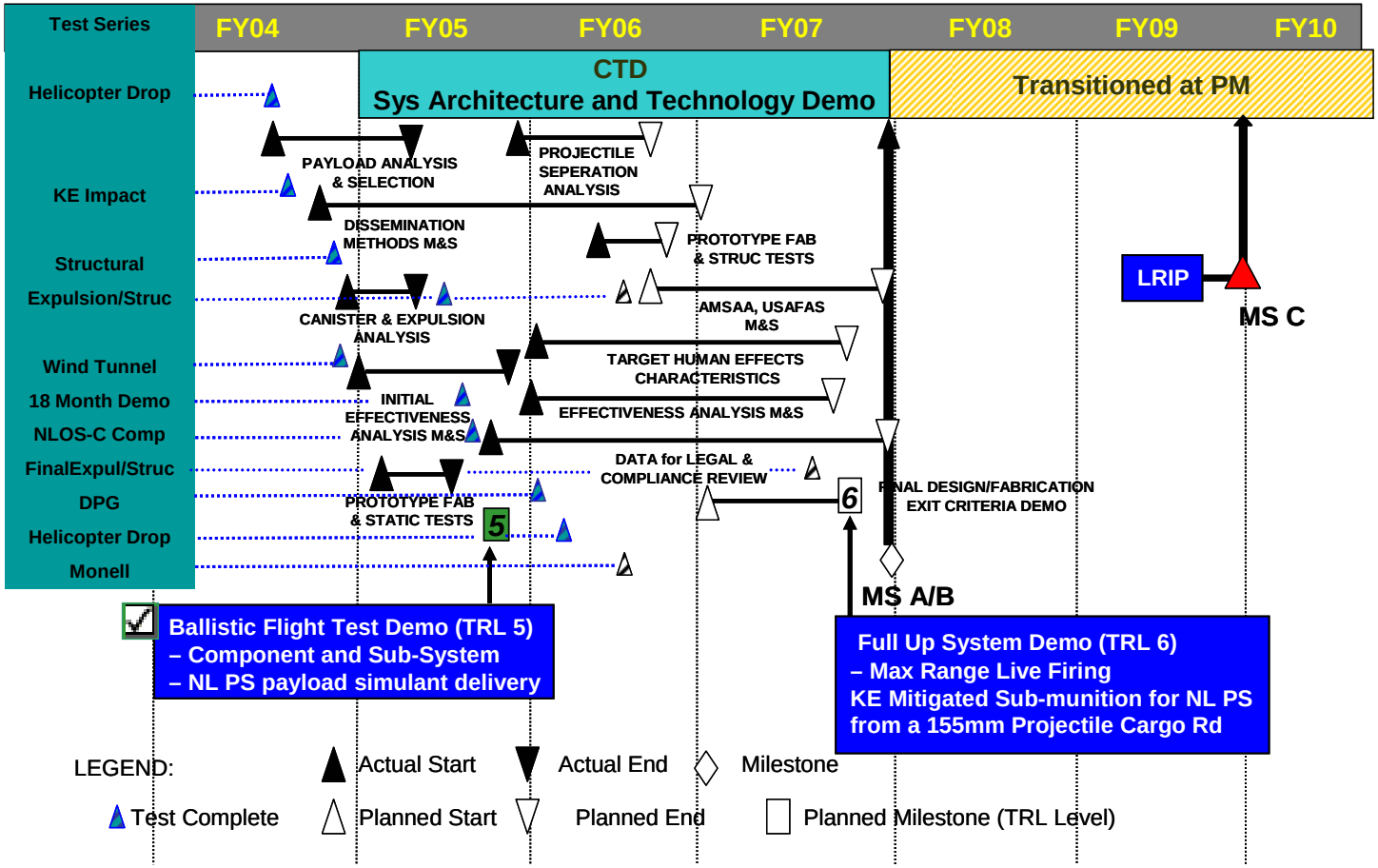
XM1063 – Program Timeline



Future Plans

- Technology Readiness Level 6 Demonstration 4th QTR 2007
  - Min/Max Range, Flight Stability, Payload Expulsion, Structural Integrity, Target Effectiveness and Area Coverage
- Design Refinement to Improve Effectiveness, Manufacturability and Cost

XM1063 – Potential Spiral Development

- Many Potential Payload Variants
  - Counter Materiel
  - Counter Capability
  - Sensing and Monitoring
  - Force Protection Applications
- Kinetic Energy Mitigation of Projectile Body and Base Burner
  - Army Research Laboratory Frangible Projectile STO

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XM1063 – Summary/Conclusions

- Provides Non-Lethal Personnel Suppression Capability at a Range of 28 km
- Utilizes Type Classified M864 Components for Easy Integration Into Inventory
- Demonstrated Using Standard 39 Caliber and Prototype FCS NLOS-C (TRL 5)
- Transition to PM at the End of FY07
- Spiral Development Expected to Enhance Capabilities

XM1063 - Acknowledgements

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