FCS Multi-Role
Armament and Ammunition ATD
(MRAAS)
Guns & Ammunition Symposium

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Agenda

• Current Multi-Role Armament and Ammunition System (MRAAS) ATD

• Proposed MRAAS Restructure
Future Combat Systems
Enabling the Objective Force

Indirect Fire Function

Direct Fire Function

Infantry Carrier Function

Organic & inorganic RSTA

Networked Command, Control & Comms

Sensor Function

* Manned or unmanned

Multi-Role Armament System is One Platform that provides Direct and Indirect Fire Capabilities For FCS
MRAAS Lethality

Full Spectrum Lethality (0 – 50 KM)

MRAAS Defeats
- Armored Vehicles
- Infantry
- Bunkers
- Buildings
- Helicopters
- UAVs
- Soft Targets

LOS - BLOS - NLOS
Multi-Mission Technologies

• Compact Lightweight Armament System
  – Provides Three Missions in One Vehicle
    • 105mm Lightweight Cannon
      – Swing Chamber Breech
    • Compact Autoloader
    • Advanced Fire Control
    • Integrated Turret

• Three Rounds of Ammunition Provide Full Lethality
  – Advanced KE
    • Novel Penetrator, Composite Sabot & ETC Propulsion
  – Smart Suite
    • MP-ERM (Multi-Purpose Extended Range Munition)
      – Multi-Purpose Warheads
      – Advanced Propulsion
    • Smart Cargo
      – Smart Skin, Metal Matrix Composites & Hi G Guidance & Control

Maximum Firepower at Minimum Weight
Why Restructure?

• MRAAS Program
  – Applies Advanced Technologies to Develop and Demonstrate a Lightweight, Multi-mission Armament System and Munition Suite for FCS
    • 105 mm LOS/BLOS/NLOS System
    • TRL 6 Demonstrations in FY06 & FY07

• FCS Program Refinements:
  – LSI Selected LOS/BLOS and NLOS Cannon as Separate Platforms
  – LSI & Multiple Trade Studies Recommend 120mm Caliber for LOS/BLOS Gun
  – FCS Development Becomes Increment 1 and Increment 2

Restructure MRAAS to Align with FCS Program
Proposed MRAAS Restructure

- **MRAAS ATD Divides into Two Programs:**
  - 120mm LOS/BLOS ATD (Increment 1)
    - TRL 6 Demonstrations in FY04
    - Warfighter Payoff
      - Accurate Fires, 0-16 km
      - Increased Stowed Kills Per Weapon
      - Reduced Ammunition Logistic Tail
  - BLAAST STO (Increment 2)
    - BLOS LOS Armament and Ammunition System Technologies
    - TRL 6 Demonstrations in FY07
    - Warfighter Payoff
      - Accurate First Round Fires, 0-20KM
      - Multi-purpose Warhead Lethality Against Full Spectrum Threat
      - Simplified Armament System & Munition Logistics
Technology Transition to LOS/BLOS ATD

• Armament
  – 120mm Gun with Conventional Breech
    • Lightweight Gun, Mount & Recoil System
      – Advanced Steel
      – Improved Muzzle Break
    • Advanced Fire Control
    • Firing from –10 to +30 degrees Elevation
    • Compact Ammunition Loading

• Ammunition
  – Mid Range Munition (MRM)
    • Autonomous Mode Seeker
    – Advanced KE
    – Temperature Insensitive Propulsion
    – Precision Ignition
Technology Transition to BLAAST STO

• Armament (Minimum Impact to Inc 1 design)
  – 120mm Gun
    • Advanced Lightweight Materials
    • Low Impulse Launcher
  – Firing to +50 degrees Elevation
  – Extended Range Fire Control
  – Automated Ammunition Resupply

• Ammunition
  – Advanced KE
    • Enhanced Accuracy
  – Munition Suite
    • Enhanced MRM (BLOS) & LOS MP
      – Multi-Effects Warhead
      – Dynamic Retargeting
  – ETC Ignition
Program Summary

- Proposed Restructure will transition MRAAS to a 120mm LOS/BLOS ATD and BLAAST STO

- Restructure Better Aligns Technology Development with FCS Program.

- Provides Maneuver Commander Maximum Flexibility

Restructure Supports FCS Program