ALAS-MC – 2012 Joint Armaments Conference

Advanced Lethality and Accuracy System for Medium Caliber (ALAS-MC)

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• Project Purpose
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Purpose:
• Achieve enhanced lethality and accuracy in Medium Caliber Armament system technologies
• Design advanced munitions capable of defeating materiel, personnel and urban targets at current and extended ranges
• Develop a Medium Caliber Armament system with growth integrated to meet future threats
Urban targets with personnel within or behind structures
**Customer Deliverables:**

- Accurate Medium Caliber Armament for stationary and fire on the move capability with turret / vehicle integration

- Programmable Airburst Munition (PABM): Demonstrating optimized effects against Personnel (behind walls and in the open).

- Armor Piercing munition (APFSDS-T): Demonstrating optimized effects against like Materiel targets.

Growth Path

• Acquire baseline XM813 30mm gun (Completed April 2012)
  • Develop gun enhancements (Completion ~ 2QFY13)
    • **Integral mount** – Built in growth with common mounting configuration
    • **Remote Safety** – Required for remote operations
    • “**Sniper firing mode**” – Enhanced first round accuracy

• Acquire ICD for XM813 30mm gun with improvements

• Acquire preliminary space claim ICD for 50mm Bushmaster III gun

• **Provide weapon ICD’s demonstrating lethality path for future growth**
Guns

Bushmaster III 50mm
~660 lbs

Dimensions in inches

Feed Path Centers Aligned

“XM813” 30mm (Former FCS variant)
~460 lbs

Additional Turret Intrusion of BMIII
• **PHASIR Turret**
  - Setup PHASIR turret with stand at ARDEC
    - Full functionality - Mid 3rd Qtr. FY13 (Upon Delivery of XM813 gun improvements)
    - Platform integration by end of FY14

• **New 50mm Turret**
  - Design, analyze, fabricate, assemble & control – growth Turret
    - XM813 and Bushmaster III 50mm gun
    - Focus design on “aiming and accuracy”
  - Initial design ready for prototype by beginning of FY14
  - Platform and system integration for final demo – FY16
ALAS-MC “Near Term” Planned Activities

- Perform various live fire tests of XM813 30mm gun with Mk310 air bursting munition by 4QFY12
  - Validate 30mm system level error budget
  - Leverage validation data to develop 50mm PABM and APFSDS munitions
- Demonstrate XM813 30mm gun at TRL6 by 2QFY13
- Develop XM813 enhancements - “remote safety” and “sniper firing mode”
- Develop integral gun mount commonality - XM813 and Bushmaster III 50mm (Growth path)
- Demonstrate XM813 30mm gun system integration with PHASIR turret and linkless ammo handling system
- Baseline 30mm family of ammunition performance (Mk310 air bursting and APFSDS rounds)
- Develop PABM munition engagement doctrine (joint effort with MCoE)
- Acquire and provide 30mm XM813 ICD and Bushmaster III 50mm space claim ICD to demonstrate armament system growth path for future threats.
ALAS-MC “Long Term” Planned Activities

- Obtain Bushmaster III 35mm gun and Ammunition from the Dutch Govt. to evaluate KETF (Kinetic Energy Timed Fuze - AHEAD munition) performance
- Design and Develop 50mm Bushmaster III gun
- Design and develop 50mm PABM and APFSDS munitions
- Design and develop fire control system incorporating enhanced sensors to include:
  - Down range wind sensor, dynamic metrology and ammunition temperature sensors
  - Graphical user interface with programmed target selection
  - Enhanced laser ranging.
- Team with contractors to improve burst point accuracy and PD reliability of scalable fuze
  - Current fuze designs consist of either turns counting or time based with muzzle velocity correction
- Develop advanced turret to demonstrate growth from XM813 to Bushmaster III 50mm
- Perform platform integration of turret for system level demonstration with growth capability.
Questions?

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