

## Guided Multiple Launch Rocket System (GMLRS) – Unitary

### Executive Summary

- U.S. forces have fired over 390 Guided Multiple Launch Rocket System - Unitary (GMLRS-Unitary) in support of current combat operations. The rockets are reportedly achieving desired lethal effects and reliability while minimizing collateral damage.
- In May 2007, GMLRS-Unitary completed Milestone C and entered into low-rate initial production (LRIP).
- DOT&E is working with the Army to develop a Test Plan for the upcoming Initial Operational Test and Evaluation (IOT&E) in 2QFY08.

### System

- The GMLRS-Unitary warhead rocket has a single 196-pound high explosive warhead and a range of 70 kilometers (km). The rocket uses Inertial Measurement Unit guidance and the Global Positioning System (GPS) to enhance accuracy.
- The procurement objective for GMLRS-Unitary is expected to be 34,848 rockets.
- The M270A1 Multiple-Launch Rocket System and the High Mobility Artillery Rocket System (HIMARS) are capable of firing GMLRS-Unitary rockets.
- GMLRS-Unitary will have three fuze settings enabled to attack different target types at extended ranges:
  - Proximity fuze for use against personnel in the open
  - Delay fuze for lightly fortified bunkers and structures
  - Point detonating fuze for single, lightly armored targets



- GMLRS-Unitary rockets provide a day and night engagement capability in all terrain or weather conditions.

### Mission

Artillery units will use GMLRS-Unitary rockets to attack point targets in complex and urban terrain to minimize collateral damage.

### Activity

- U.S. forces have fired over 390 Guided Multiple Launch Rocket System-Unitary (GMLRS-Unitary) in support of current combat operations. The rockets are reportedly achieving desired lethal effects and reliability while minimizing collateral damage.
- In FY07, the Army completed GMLRS-Unitary Insensitive Munition (IM) testing and decided not to pursue an IM rocket motor for GMLRS-Unitary. Testing revealed the new IM motor was only slightly better than the currently fielded rocket motors. The Army will continue leveraging IM risk mitigation technology as it becomes available. The GMLRS-Unitary warhead is IM compliant, making it less susceptible than other types of Army MLRS warheads.
- The project manager completed flight Production Qualification Tests in December 2006. The testing team fired GMLRS-Unitary rockets against threat representative

targets and then conducted post-test damage assessments to determine the warhead lethality.

- In May 2007, GMLRS-Unitary completed Milestone C and entered into the LRIP phase.
- DOT&E is working with the Army to develop a Test Plan for the upcoming IOT&E in 2QFY08.

### Assessment

- Throughout the developmental testing program, the GMLRS-Unitary rocket demonstrated appropriate accuracy and reliability rates. The Army estimates a 98 percent reliability rate for the rockets supporting combat operations.
- Developmental testing also confirmed that with accurate target location, the rocket is lethal against its intended target set. The Army has confirmed deployed soldiers in combat can locate stationary targets with the needed accuracy.

# ARMY PROGRAMS

- During IM rocket motor development, the ignition system experienced problems in flight tests and demonstrated the new motor was only slightly better than the currently fielded rocket motors.
- The GMLRS-Unitary rocket is dependent on two key requirements in order to achieve accuracy: accurate long-range sensors and targeting systems and a responsive command and control system to clear airspace in a complex operational environment. Current operations demonstrated the ability to acquire static targets and coordinate airspace using niche tactics, techniques, and procedures. Joint Force commanders must continue to resolve the many cross-Service targeting and clearance issues with deep fires.

## Recommendations

- Status of Previous Recommendations. The Army should continue capitalizing on Lessons Learned from current combat operations for optimizing targeting and command control to effectively exploit the weapon's range and accuracy (FY06).
- FY07 Recommendations. The Army should:
  1. Continue pursuing methods to improve the IM ratings.
  2. Conduct additional tests and analysis of GPS jamming to determine the conditions under which the system may be vulnerable and, if required, explore potential mitigation efforts.