Guided Multiple Launch Rocket System (GMLRS) - Unitary

Executive Summary
- Testing to support interim fielding to forces in Iraq indicates the rockets are accurate and capable of killing their intended targets while limiting collateral damage.
- Initial testing indicated a 68 percent reliability rating as opposed to the 92 percent requirement. These results are typical for a system at this point of development.
- The Army continues to test the interim rockets while further developing and testing the production version. The final version is intended to be insensitive to enemy fire and will add a proximity fuze mode.

System
- There are two variants of Guided Multiple Launch Rocket System munitions (GMLRS): a unitary rocket and a Dual-Purpose Improved Conventional Munitions (DPICM) rocket.
- Both variants:
  - Have ranges over 60 kilometers (km)
  - Employ inertial guidance and the Global Positioning System to enhance accuracy
- The unitary version carries a single, high-explosive warhead.
- The Army plans to begin full-rate production of GMLRS-Unitary in FY08, but is currently deploying a limited number of early-production rockets to coalition forces in Iraq.
- The procurement objective for GMLRS is 140,004 unitary and DPICM rockets. The ratio between unitary and DPICM rockets is yet to be determined.

Before

After

Mission
- Commanders will use GMLRS-Unitary rockets against targets that require precise, individual aim points with high explosive warheads.
- GMLRS-Unitary will have three fuze settings 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
- The Army expects GMLRS-Unitary to limit collateral damage, particularly in urban environments.
- Two multiple launch rocket system launchers, the M270A1 and High Mobility Artillery Rocket System (HIMARS), are capable of firing GMLRS rockets.

Activity
- The Army began fielding an interim version of GMLRS-Unitary rockets in June 2005 to the Multi-National Corps – Iraq. These rockets have only point-detonating and delay fuze modes, and use a rocket motor that does not meet insensitive munition standards. The Army plans to field 486 of these rockets in Iraq by the end of 2005.
- To support this early fielding, the Army conducted test flights with 13 Unitary rockets during FY05. The Army used a number of different targets in these missions, including personnel targets, trucks, towed howitzers, and bunkers.
- The Army also conducted a command and control exercise to develop and validate the procedures needed to employ GMLRS-Unitary in Iraq. The exercise focused on procedures to reduce collateral damage.
- The Army continues to test the GMLRS-Unitary rocket to validate the production line making rockets for forces in Iraq and to develop the production version of the rocket.

Assessment
- The effectiveness of the GMRLS-Unitary rocket at extended ranges is dependent upon long-range sensors that are both accurate and available to provide targeting information to MLRS firing units. Currently, there are few target acquisition capabilities that meet these requirements. As a result, the long-range effectiveness of the munition will be less than it could be until long-range sensors become more accurate and the target acquisition and execution process is timelier.

- Testing to date indicates the GMLRS-Unitary rockets are accurate and are capable of killing their intended target sets, given the targets can be found with sufficient accuracy and attacked in a timely fashion. They are also capable of limiting collateral damage.
- Initial results indicate that GMLRS-Unitary rockets do not yet meet reliability requirements. Rockets tested through May 2005 demonstrated a 68 percent reliability rating. Testers detected many of the faults during pre-launch checks. These results are typical for a system at this point of development.
- GMLRS-Unitary is not compliant with insensitive munitions requirements. While the warhead complies with insensitive munition standards, the rocket motor does not. The Joint Requirements Oversight Council waived this requirement for the interim version the Army is fielding to coalition forces in Iraq. The Army plans to begin flight tests with an insensitive munition compliant rocket motor in 3QFY06.

Recommendations

1. The Army should continue to pursue the planned design changes to make the rocket motor insensitive to enemy fire.
2. The Army should continue conducting lifecycle testing to validate that expected environmental or tactical conditions do not degrade munition reliability.