

High Mobility Artillery Rocket System (HIMARS)

Executive Summary

- The High Mobility Artillery Rocket System (HIMARS) is operationally effective and suitable. HIMARS entered full-rate production in June 2005.
- The Army fielded the second HIMARS battalion in the Tennessee Army National Guard in 2006.
- HIMARS can avoid enemy counterfire. The current configuration does not provide ballistic crew protection and is vulnerable if engaged by enemy fire; however, deployed systems are retrofit/equipped with armored cabs.
- Several HIMARS modification efforts are funded and ongoing, including: Family of Medium Tactical Vehicles (FMTV) fleet enhancements, undercarriage fire protection, a removable machine gun mount, modified software and fire control systems, enhanced command and control of sensor to shooter missions, Global Positioning System (GPS) enhancements, and upgraded armor to provide increased crew protection.



System

- HIMARS, the newest artillery system in the Multiple Launch Rocket System (MLRS) family, entered full-rate production in June 2005.
- It fires all MLRS rockets, to ranges over 60 kilometers (km), and Army Tactical Missile System (ATACMS) missiles, to 300 km.
- Each HIMARS system includes a wheeled launcher, two resupply vehicles, and two resupply trailers.
- Each launcher carries six rockets or one ATACMS missile.
- The Army plans to buy 450 launchers to field 21 HIMARS battalions. The Marine Corps plans to buy 40 launchers to field two battalions.

Mission

- Commanders will use HIMARS to attack enemy command and control nodes, artillery, air defense sites, light armor, and other high-value targets at long-range and in urban and open terrain.
- Commanders can use the HIMARS deployment and mobility capabilities (transportable in C-130 aircraft) to:
 - Provide early deploying forces with long-range rocket and missile fires against area and point targets
 - Provide special operations forces with the ability to attack high-value targets at long range

Activity

- The Army fielded the second HIMARS battalion, 1-181 Field Artillery of the Tennessee Army National Guard.
- As an interim armor solution, the program executed an Urgent Materiel Release of the HIMARS Low Signature Armored Cabs (LSAC-H) for Army and Marine Corps launchers scheduled for operations in Iraq.
- The program continues to assess HIMARS field reliability. An October 2005 certification exercise found HIMARS reliability to be 250 hours mean time between system abort. A July 2006 update showed field reliability between 259 and 296 hours. This exceeds the HIMARS reliability requirement of 58 hours mean time between system abort. The program is working to correct travel lock actuator and cable assembly radio connector problems.
- The program continues with ongoing modifications, including: FMTV fleet enhancements (limp home, remote start, battery disconnect), and undercarriage fire protection.
- System upgrade development and verification testing activities include:
 - Removable machine gun mount for the armored cab
 - HIMARS Fire Control System software upgrade to operate Black GPS cryptographic keying materiel with initial production planned for FY07
 - GPS Advanced Masking Ring to block low elevation GPS jammers
 - HIMARS Fire Control System upgrade to mitigate obsolescence; flight tests are scheduled for January 2007, with production starting in FY07

ARMY PROGRAMS

- The program initiated development of upgrades for:
 - Enhanced Command and Control to execute fire missions received directly from various sensor platforms
 - Armored cab to provide all launchers with increased protection to the crew from small arms, fragments, and blast; production is scheduled to begin in FY08, with fielding to begin in FY09
- Conducted LSAC-H Cab Live Fire testing against small arms, rocket-propelled grenades, mines, and improvised explosive devices.

Assessment

- The IOT&E of the HIMARS system was adequate to support an evaluation of the system's operational effectiveness, operational suitability, and survivability.
- HIMARS is operationally effective and suitable. It does have some cross-country limitations when compared to tracked MLRS launchers.
- The HIMARS configuration tested in the IOT&E exposed pneumatic rubber hoses under its chassis that were vulnerable to flame and high heat created when rocket exhaust generated grass fires in dry conditions at the firing points. The production line added a fire retardant wrap to protect exposed hoses.
- HIMARS can fire its munitions and depart the firing location fast enough to avoid enemy counterfire. If the enemy can target and engage HIMARS, the current configuration is vulnerable to artillery and mortar fragmentation, improvised explosive devices, rocket-propelled grenades, and small arms fire. The LSAC-H mitigates this risk as an interim solution. The objective configuration is the Improved Crew Protection Cab that is under development.

- HIMARS achieved satisfactory results during tests involving electromagnetic radiation threats, near strike lightning, and direct strike lightning.
- Current MLRS munitions are not compliant with DoD insensitive munition requirements against ballistic threats and may explode if exposed to enemy fire such as improvised explosive devices, rocket-propelled grenades, small arms fire, or mortar/artillery fragments.

Recommendations

- Status of Previous Recommendations. The Army has begun to address DOT&E's FY05 recommendations and should continue efforts in the following areas:
 - FY05 #2: Assess the ability of the crew and maintenance personnel to repair the system after battle damage. The Army intends to do this during LFT&E of the armored cab.
 - FY05 #3: Continue efforts to mitigate the safety risks posed by MLRS munitions' non-compliance with insensitive munitions standards. Ongoing efforts include reviewing and adjusting tactics, techniques, and procedures for: tactical operations, commercial and military transportation, resupply, storage, dispersion, and security.
- FY06 Recommendations. The Army should:
 1. Capitalize on current HIMARS operational uses to develop and refine tactics, techniques, and procedures for employment, targeting, sensor-shooter links, airspace management, and command and control.
 2. Continue to improve and test the Increased Crew Protection Cab.