High Mobility Artillery Rocket System (HIMARS)

SUMMARY

- The Army determined that High Mobility Artillery Rocket System (HIMARS) was ready for operational testing based on its performance in developmental and live fire testing.
- On July 29, 2004, DOT&E approved the Army's initial operational test and evaluation (IOT&E) plan as adequate to assess the effectiveness, suitability, lethality, and survivability of the system.
- The Army conducted the IOT&E from September to November 2004.
- The Army will make the full-rate production decision in May 2005 and plans to equip the first unit with HIMARS in March 2005.
- Pending clarification of its movement toward a modular force structure, the Army intends to buy 888 HIMARS launchers. This total will field 45 battalions.
- The Army deployed three HIMARS Advanced Concept Technology Demonstration (ACTD) launchers to support Joint operations during Operation Iraqi Freedom. They fired 39 Army Tactical Missile System (ATACMS) missiles and maintained a 94 percent operational readiness rate.

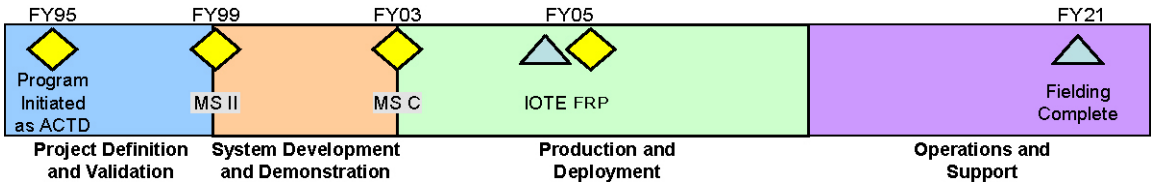
The Army intends HIMARS to provide continuous support to light, airborne, and air assault forces in almost any weather.

SYSTEM DESCRIPTION AND MISSION

HIMARS is an artillery rocket system mounted on a Family of Medium Tactical Vehicles (FMTV) five-ton truck chassis used throughout the Army. It fires the entire family of multiple launch rocket system (MLRS) rockets and missiles up to 300 km. The Army intends HIMARS to provide continuous support to light, airborne, and air assault forces in almost any weather. It can attack enemy artillery, air defense, and other high-value targets that may move quickly. The Army designed HIMARS to be C-130 deployable to support Joint contingency and forced entry forces. The Marine Corps intends to buy 45 launchers and field two HIMARS battalions.

A three-man crew operates the HIMARS launcher. The launcher carries a single pod, consisting of six surface-to-surface rockets or one ATACMS missile. The launcher has its own fire control, position-navigation, and reload systems. It uses software that is 95 percent common with existing M270A1 MLRS launchers. Each HIMARS also has two resupply vehicles (M1084A1 FMTV trucks with onboard materiel handling equipment that carry two rocket/missile pods each) and two resupply trailers (standard M1095 five-ton trailers that carry two rocket/missile pods each).

TEST AND EVALUATION ACTIVITY



The Army flew a combat-loaded HIMARS launcher on a C-130 from Redstone Arsenal, Alabama, to Ft. Sill, Oklahoma, in November 2003. Once the crew off-loaded and derigged the launcher at the assault-landing zone, it moved to a firing point and fired the six practice rockets that it carried during the flight.

During a three-week field exercise at Redstone Arsenal in December 2003, the Army conducted operations at wartime tempos with two HIMARS launchers to validate hardware and software upgrades. The exercise, conducted with Army and Marine Corps crews, included 420 dry-fire missions that simulated firing the entire family of MLRS munitions. The test verified that the new low-cost fire control panel, the weapon interface unit, and the position navigation unit were successfully integrated into the launcher. It also demonstrated that there were no interoperability issues between the launcher, Guided MLRS rockets, and the advanced field artillery data system.

In January 2004, The Army fired 18 reduced-range practice rockets and six Guided MLRS rockets at the Cold Regions Test Center, Alaska. Temperatures ranged from -22 to -24 degrees Fahrenheit. The Army also inserted a new battery and validated that it improved cold start performance identified as a problem during previous cold-weather testing.

The Army conducted a logistics and maintainability demonstration from January through March 2004. Soldiers and Marines demonstrated how operators and maintenance personnel would maintain and support HIMARS, to include the resupply vehicles and trailers. For example, the exercise tested their ability to detect and isolate faults using the HIMARS system software; associated test, maintenance, and diagnostic equipment; and the logistics interactive electronic technical manual. The test identified several shortcomings in the interactive electronic technical manual. The Army has corrected these shortcomings and we will evaluate those corrections during the initial operational testing.

The Army conducted a two-week extended system integration test at White Sands Missile Range, New Mexico, in June 2004. This was the third in a series of three system integration tests for HIMARS. The exercise, again conducted with Army and Marine crews, included one low-rate initial production configured and two production launchers. This exercise allowed the Army to confirm the integration of the HIMARS software and to evaluate the performance of the fully combat-loaded system at realistic operational tempos. The three launchers conducted 336 dry and 42 live fire missions (180 reduced range practice rockets) over a two-day period. Extended System Integration Test III served as a dry run for the IOT&E. Upon the completion of this test, the Army declared HIMARS ready for operational testing.

TEST AND EVAULATION ASSESSMENT

During developmental testing in FY04, the HIMARS program fired: 107 M26 live warhead rockets; 60 M28 extended range live warhead rockets; 29 XM30 Guided MLRS rockets (with GPS technology to enhance accuracy); 200 M28 practice rockets; 396 M28A1 reduced range practice rockets (RRPR); and eight ATACMS missiles. We cannot assess accuracy for the M28 and M28A1 practice rockets because they have no ballistic characteristics. However, preliminary analysis from the other live fire missions indicates that munitions fired from HIMARS are as accurate as when fired from the existing family of MLRS launchers. During the initial operational test, HIMARS fired 18 more M26 rockets, 24 Guided MLRS rockets, and another GPS-aided ATACMS. These firings took place under operational conditions. The GMLRS firings were against targets that represented realistic enemy targets with active and passive countermeasures (berms, sandbags, and GPS jamming). We will use all previous flight data and these additional firings to assess the systems' accuracy and lethality. The IOT&E also included firing an additional 720 M28A1 reduced range practice rockets.

Cumulatively, the mission completion rate (the percentage of missions actually fired on time from the total number of those sent to the launcher) was approximately 92 percent for live fire missions during developmental testing. In developmental tests, HIMARS met the classified requirements for mission cycle and reload times. HIMARS' reliability will be an area that we will examine closely using the IOT&E results. Specifically, we will examine the difference in reliability ratings between live fire missions (actually firing rockets or missiles) and simulated dry fire missions.

The vehicle's cab is designed to protect the crew from the rocket/missile launch and the resulting debris. It does not provide ballistic protection for the crew. To survive enemy threats, HIMARS must rely on concealment between missions and rapid movement after missions. During the IOT&E, we assessed HIMARS' ability to survive by simulating enemy artillery detecting and attacking the HIMARS launch points.