

M270A1 Multiple Launch Rocket System (MLRS) Improved Armored Cab (IAC)

Executive Summary

- In December 2008, the Army directed that chassis improvement requirements identified in the approved High Mobility Rocket System (HIMARS) Operational Requirements Document be incorporated in the M270A1 Multiple Launch Rocket System (MLRS) launcher. This resulted in the development of an Improved Armor Cab (IAC) to replace existing M270A1 cabs, improved armor protection, and the addition of mine protective seating. The Army wanted to provide greater crew protection across all fielded MLRS launchers comparable to that provided by the HIMARS.
- The M270A1 IAC is designed to protect the crew against various direct fire, mine blast, and underbody fragmenting improvised explosive device threats.
- The Army completed the M270A1 IAC LFT&E program in September 2015. DOT&E's preliminary analyses of the armor coupon and exploitation test data, and system-level and full-up system-level live fire test data, indicate that the IAC protects the crew against the specified threats.

System

- The M270A1 MLRS is a tracked, indirect fire, field artillery system capable of firing all rockets and missiles in the MLRS Family of Munitions.
- The M270A1 IAC upgrades the crew protection of the currently-fielded M270A1 MLRS.
- This improvement in crew protection is intended to protect the M270A1 crew against a variety of threats, including direct fire, mine blast, and underbody fragmenting IED events.
- The upgrades include cab and hull modifications to improve occupant survivability, and suspension modifications to accommodate the vehicle's increased weight.
- This crew protection upgrade provides M270A1 crewmembers the same protection as currently provided to crews operating



the wheeled HIMARS. Both HIMARS and MLRS operate in a similar manner and fire identical rocket and missile munitions.

Mission

Commanders will employ units equipped with the improved M270A1 launcher to provide medium-range field artillery rocket and long-range missile fires in support of ground forces to destroy, neutralize, or suppress the enemy, in accordance with applicable tactics, techniques, and procedures.

Major Contractors

- Lockheed Martin Missile and Fire Control Division Grand – Prairie, Texas (system integrator)
- BAE Ground Systems Division – Santa Clara, California (cab structure, chassis armor)

Activity

- The M270A1 IAC program is being conducted per a December 2008 memorandum from the Office of the Deputy Chief of Staff, G-3/5/7 requiring synchronization of protection requirements across all MLRS launchers. The M270A1 IAC will provide M270A1 crewmembers with protection comparable to that provided by the HIMARS. The IAC is an Engineering Change Proposal to the M270A1 and does not impact the launcher's system performance or the tactics, techniques, or procedures used during tactical operations.
- In January 2015, DOT&E approved the Army's test plan for the live fire testing of the M270A1 IAC. The Army will use the results of live fire testing to determine whether the IAC provides the required crew protection against the required operationally relevant conventional ballistic threats.
- From January through August 2015, the Army conducted six system-level and three full-up system-level live fire events using a production-representative IAC against specified

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threats. These threats included mines, fragmenting IEDs, and an explosively-formed projectile.

- The Army also conducted armor coupon and exploitation testing against several threats. Coupon testing produced data that provided general vulnerability insights as well as specific information to support complex vulnerability modeling. Exploitation testing was conducted on a production-representative cab to obtain data on the ballistic protection capabilities of the cab at locations such as seams, edges, and bolts on the cab. The Army completed its exploitation testing in September 2015.
- In 2QFY16, DOT&E intends to submit a classified live fire report for the M270A1 IAC upon completion of testing and analysis of test results.

Assessment

Analysis of the test data is ongoing. DOT&E's preliminary analysis of the armor coupon and exploitation test data, and system-level and full-up system-level live fire test data indicate that the improved armored cab protects the crew against the specified threats. The classified DOT&E report will provide a detailed survivability evaluation of the M270A1 IAC.

Recommendations

- Status of Previous Recommendations. This is the first annual report for this program.
- FY15 Recommendations. There are currently no recommendations, as analysis of test data is ongoing. DOT&E will include any recommendations in its final live fire report.