

Guided Multiple Launch Rocket System – Alternate Warhead (GMLRS-AW) M30E1

Executive Summary

- The M30E1 Guided Multiple Launch Rocket System – Alternate Warhead (GMLRS-AW) surface-to-surface rocket meets the DOD unexploded ordnance policy requirements.
- The Army conducted the GMLRS-AW IOT&E from October through November 2014 at White Sands Missile Range. As part of the IOT&E, the Army conducted an Adversarial Assessment from October 15 – 17, 2014.
- On March 26, 2015 DOT&E submitted a classified combined IOT&E/LFT&E report detailing the results of testing. The Army Acquisition Executive approved full-rate production on April 8, 2015.
- Based on IOT&E results, DOT&E recommended the Army update GMLRS-AW tactics, techniques, and procedures (TTP). The Army revised the GMLRS-AW targeting procedures.
- Using the revised targeting TTP, the Army conducted a two-mission follow-on test at White Sands Missile Range from May 19 – 22, 2015, to address recommendations obtained from the IOT&E.
- In November 2015, DOT&E submitted an FOT&E classified report detailing the results of follow-on testing and assessed the following:
 - GMLRS-AW contains no submunitions to cause unintended harm to civilians and infrastructure associated with unexploded ordnance from cluster munitions.
 - GMLRS-AW is operationally effective with the Army’s updated targeting TTP.
 - GMLRS-AW is accurate. The GMLRS-AW rocket is well within the required specification.
 - GMLRS-AW is operationally suitable. Including the follow-on test, 99 rockets were fired during developmental and operational testing. All 99 rockets were reliable.
 - GMLRS-AW is survivable.

System

- The 200-pound GMLRS-AW high-explosive rocket contains approximately 182,000 pre-formed tungsten fragments. GMLRS-AW M30E1 surface-to-surface rocket meets the 2008 DOD Policy on Cluster Munitions and Unintended Harm to Civilians.



- The GMLRS-AW rocket uses Inertial Measurement Unit and GPS guidance augmentation to engage area targets out to a range of 70 kilometers.
- GMLRS-AW uses the same rocket motor, guidance system, and control system as the existing M31A1 GMLRS Unitary rocket.
- The GMLRS-AW rockets can be fired from the tracked M270A1 Multiple Launch Rocket System and the wheeled High Mobility Artillery Rocket System.
- The procurement objective is 18,072 GMLRS-AW rockets. The Army entered full-rate production on April 8, 2015.

Mission

Commanders will use GMLRS-AW rockets to engage area- or imprecisely-located targets without the hazard of unexploded submunitions.

Major Contractor

Lockheed Martin Missiles and Fire Control – Dallas, Texas

Activity

- The Army conducted the GMLRS-AW IOT&E from October through November 2014, at White Sands Missile

Range. As part of the IOT&E, the Army conducted an Adversarial Assessment from October 15 – 17, 2014.

FY15 ARMY PROGRAMS

- DOT&E submitted a classified combined IOT&E/LFT&E report on March 26, 2015, detailing the results of testing. The Army Acquisition Executive approved the full-rate production on April 8, 2015.
- From May 19 – 22, 2015, the Army conducted a two-mission follow-on test to demonstrate the newly-developed TTP. The Army fired the new TTP solutions at the follow-on test. DOT&E submitted a classified Operational Assessment report on November 3, 2015 detailing the results of the testing.
- The Army conducted all testing in accordance with the DOT&E-approved test plans.

Assessment

- GMLRS-AW munition does not contain submunitions to cause unintended harm to civilians and infrastructure associated with unexploded ordnance from cluster munitions and it meets the dud rate requirement.
- GMLRS-AW is operationally effective with the Army's updated targeting TTP.
 - In the IOT&E, GMLRS-AW met the Army's effectiveness requirements for 10 of 12 missions. A unit equipped with GMLRS-AW was not effective for certain targets. Details can be found in DOT&E's classified report on GMLRS-AW dated March 26, 2015.
 - Using IOT&E results, the Army developed new GMLRS-AW targeting TTPs.
- Targets executed in the follow-on test had the same targeting errors and countermeasures as the original IOT&E

missions. Both missions met the Army's effectiveness requirements. Details of the follow-on test can be found in DOT&E's classified Operational Assessment report dated November 3, 2015.

- The GMLRS-AW rocket is accurate. During the IOT&E and follow-on test the GMLRS-AW rocket is well within the required specification.
- GMLRS-AW is suitable. Including the follow-on test, 99 rockets were fired during developmental and operational testing. All 99 rockets were reliable.
- GMLRS-AW is survivable. No cybersecurity vulnerabilities were found with the rocket or launcher. Some vulnerabilities were discovered with the missile test device used at depot to test rocket hardware. The Program Office is addressing the new cybersecurity issues.

Recommendations

- Status of Previous Recommendations. The Army addressed all previous recommendations.
- FY15 Recommendations. The Army should:
 1. Model the ability of a committed force to sustain GMLRS-AW munitions in full spectrum operations given the increase in rockets to manage the counter fire campaign.
 2. Model the effectiveness of GMLRS-AW munitions against targets with different types of countermeasures.