

## Armored Tactical Vehicles

### Executive Summary

- In FY13, the Army developed survivability upgrades intended to improve force protection compared to the existing Family of Medium Tactical Vehicles (FMTV) with the Long Term Armor Strategy (LTAS) B-kit armor. These upgrades include armor for the underbody of the crew cab (designated as a C-kit), improved blast mats on the crew cab floor, and blast mitigation seats. DOT&E's preliminary assessment is that the survivability upgrades improve force protection compared to the existing FMTV LTAS with B-kit armor.
- From February to December 2013, four High Mobility Multi-purpose Wheeled Vehicle (HMMWV) sustainment modification initiative (SMI) concept demonstrators underwent performance, endurance, and transportability testing at the Nevada Automotive Test Center, Nevada. The program will use the results from testing to select the best concept to develop the HMMWV SMI system design specification.
- In May 2013, the Army awarded contracts to AM General (partnered with Hardwire LLC), AM General (partnered with Plasan Sasa), Ceradyne Inc., and Textron Land & Marine Systems (partnered with Granite Tactical Vehicles) to conduct ballistic testing of their Modernized Expanded Capacity Vehicle (MECV) designs. The MECV HMMWV is a research and development effort that the Army does not intend to transition to a formal acquisition program.



**FMTV**  
(Family of Medium Tactical Vehicles)



**HMMWV**  
(High Mobility Multi-purpose Wheeled Vehicle)

### System

#### FMTV

- The FMTV re-procurement is the Army's fourth contract used for FMTV purchase. The FMTV is a series of trucks based on a common chassis that vary by payload and mission. These vehicles consist of the following light and medium variants that operate on- and off-road:
  - The Light Medium Tactical Vehicle (LMTV) transports a 5,000-pound payload and a 12,000-pound towed load.
  - The Medium Tactical Vehicle (MTV) transports a 10,000-pound payload and a 21,000-pound towed load.

#### HMMWV

- The HMMWV is a general-purpose tactical wheeled vehicle with light and heavy variants.
  - The Light Variant includes the light utility, weapons carrier, and two-litter ambulance with a required minimum payload of 2,600 pounds.
  - The Heavy Variant includes the heavy shelter carrier and four-litter ambulance with a required minimum payload of 4,550 pounds.
- The Marine Corps expects the HMMWV SMI program to restore performance, reliability, and sustainment capabilities of the HMMWV ECV lost due to up-armoring.

- The Army expects the MECV HMMWV effort to identify improved underbody crew protection.

### Mission

#### FMTV

- The Army employs the FMTV to provide multi-purpose transportation in maneuver, maneuver support, and sustainment units.

#### HMMWV

- The Army and Marine Corps employ this vehicle throughout the battlefield to provide highly-mobile, light tactical wheeled transport for command and control, troops and light cargo, medical evacuation, and weapon platforms to division and below units. The HMMWV operates in off-road and cross-country environments.

# ARMY PROGRAMS

## Major Contractors

### FMTV

- Oshkosh Corporation – Oshkosh, Wisconsin

### HMMWV

- AM General – South Bend, Indiana

### HMMWV SMI

- To be determined

### HMMWV MECV

- AM General (partnered with Hardwire LLC) – South Bend, Indiana

- AM General (partnered with Plasan Sasa) – South Bend, Indiana
- Ceradyne Inc. – Casa Mesa, California
- Textron Land & Marine Systems (partnered with Granite Tactical Vehicles) – Slidell, Louisiana

## Activity

### FMTV

- In FY13, the Army developed survivability upgrades intended to improve force protection compared to the existing FMTV with the LTAS B-kit armor. These upgrades include armor for the underbody of the crew cab (designated as a C-kit), improved blast mats on the crew cab floor, and blast mitigation seats.
- In July 2013, DOT&E approved the Army's LFT&E plans for the survivability upgrades. The program will use the results from the LFT&E to evaluate if the survivability upgrades improve force protection.
- From July to September 2013, the Army conducted two underbody blast tests against realistic threats at Aberdeen Test Center, Maryland. The Army will conduct three additional underbody blast test events in FY14.
- The program may issue a Full Material Release for the survivability upgrades in FY14.

### HMMWV SMI

- From February to December 2013, four HMMWV SMI concept demonstrators underwent performance, endurance, and transportability testing at the Nevada Automotive Test Center. Results from the testing will be used to select the best concept to develop the HMMWV SMI system design specification.
- The Program Office began drafting the initial HMMWV SMI Test and Evaluation Master Plan (TEMP) in March 2013 that outlines the HMMWV SMI developmental, operational, and live fire test and evaluation plans and resources for the Engineering and Manufacturing Development and production phases of the program.
- In November 2013, the Marines Corps expects to release a HMMWV Operational Requirement Document (ORD) clarification letter to define the HMMWV SMI requirement. The clarification letter will identify updated requirements to:
  - Restore safe operations over the expeditionary mission profile
  - Retain reliability, availability, and maintainability to ORD threshold values over the expeditionary mission profile
  - Retain or improve transportability

- Restore payload to ORD values
- Reduce operations and maintenance costs
- Retain or improve protection features
- The HMMWV SMI program plans to release a Request for Proposals in 2QFY14 for a competitive contract awarded to two vendors to produce prototype vehicles and participate in the Engineering and Manufacturing Development phase.
- The HMMWV SMI Milestone B decision is planned for May 2014.

### HMMWV MECV

- In May 2013, the Army awarded contracts to AM General (partnered with Hardwire LLC), AM General (partnered with Plasan Sasa), Ceradyne Inc., and Textron Land & Marine Systems (partnered with Granite Tactical Vehicles) to conduct ballistic testing of their MECV designs.
- In July 2013, DOT&E approved the Army's test plan for the live fire test of the MECV designs. The Army will use the test results to characterize the industry's ability to improve the underbody crew protection of the existing armored HMMWV.
- From August to September 2013 at Aberdeen Test Center, Maryland, the Army conducted two underbody blast tests on each of the MECV designs, plus one underbody blast test on an Army developed design and one underbody blast test on an existing armored HMMWV. This completes the test series. Due to sequestration, Federal Government shutdown, and restrictions in the Pay Our Military Act, the Army analysis has been delayed. DOT&E will provide a report to Congress with the test results compared to existing light tactical vehicles in 2QFY14. DOT&E will provide a second report to Congress with the MECV test results compared to test results from the Joint Light Tactical Vehicle program in 2QFY15.

## Assessment

### FMTV

- Analysis of the FMTV survivability upgrades underbody test data is ongoing. DOT&E's preliminary assessment is that the survivability upgrades improve force protection compared to the existing FMTV LTAS with B-kit armor.

# ARMY PROGRAMS

## **HMMWV SMI**

- The draft HMMWI SMI TEMP being proposed by the Marines requires additional details on reliability growth, developmental, and operational testing prior to DOT&E approval.
- The HMMWV SMI program intendeds to procure approximately 6,000 HMMWVs.

## **HMMVW MECV**

- Analysis of the MECV underbody test data is ongoing.
- The MECV is a research and development effort that the Army does not intend to transition to a formal acquisition

program. If the Army decides to transition the MECV to an acquisition program, adequate developmental, operational, and live fire testing will be required.

## **Recommendations**

- Status of Previous Recommendations. The Army has addressed all previous recommendations.
- FY13 Recommendations. None.

# ARMY PROGRAMS