

## Line-of-Sight Anti-Tank Missile (LOSAT)

The Line-of-Sight Anti-Tank Missile (LOSAT) is an anti-tank weapon system intended to provide lethal fire to defeat any known or projected armor system at ranges greater than 4,000 meters. It uses kinetic energy as its kill mechanism. LOSAT, which will be mounted on a U.S. Army High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) chassis, is being developed as a supplemental anti-armor capability for fielding to light divisions currently equipped with Tube-launch Optically-controlled Wire-guided (TOW) and Javelin anti-tank systems. The basic system will consist of two HMMWVs and a high-mobility Missile Resupply Trailer. One HMMWV, called the Fire Unit (FU), will be the LOSAT missile launch platform and will carry four ready-to-fire missiles. The fire control system in the FU is based on the Improved Bradley Acquisition System, which features an acquisition system using a second-generation Forward-Looking Infrared sensor for night environments and a daylight TV. The other vehicle, the Resupply HMMWV, will tow the missile resupply trailer, which will carry eight additional missiles. The system is to be deployable by strategic (e.g., C-5, C-17) and tactical airlift (C-130), and external air transport via UH-60 and CH-47 helicopters.

The LOSAT program was designated as an Advanced Technology Demonstration in 1992 and upgraded to an Advanced Concept Technology Demonstration (ACTD) in 1997. The program was restructured in 1999 to enter an Engineering and Manufacturing Development-like phase, referred to by the Army as ACTD Plus, to prepare for a Low-Rate Initial Production (LRIP) decision planned for early FY04. The LRIP decision will be followed by Initial Operational Test & Evaluation in FY05 supporting a full-rate production decision in early FY06.

### TEST & EVALUATION ACTIVITY

During 2002, the principal test activities were the certification by the government to ensure that the system is safe for manned use in an operational environment and an early soldier involvement assessment to ensure that operator displays, controls, and other man/machine interfaces are appropriate and useful.

The Test and Evaluation Master Plan is currently under revision. The test events being planned include: 1) Dismounted Battlespace Battle Lab Demonstrations in the FY03/04 timeframe to examine tactical deployability and military utility; 2) a Limited User Test to provide information to support the LRIP decision; an IOT&E, comprised of live firings and force-on-force exercises that will be conducted in the FY06; and, vulnerability and lethality Live Fire Test and Evaluation (LFT&E) testing. The LFT&E program will assess the degree to which the LOSAT system (including the missile, both HMMWV vehicles, and the loaded trailer) is vulnerable to expected threats. This program describes critical vulnerability and lethality issues, and the scope of testing needed to address them, including the need for more than one FU vehicle in a full-up, system-level LFT&E to support the planned full-rate production decision.

### TEST & EVALUATION ASSESSMENT

All prior testing has been technical. Results to date indicate that the LOSAT is capable of defeating any current or projected tank it hits and that the launch effects from shock, g-load, flash, toxic gases, pressure, and sound (in and outside the vehicle) have been demonstrated to fall within the Army's



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acceptable ranges for human factors. Furthermore, missile firings against evasively moving and multiple targets are needed to confirm its operational effectiveness. However, the survivability of the system itself is more problematic; the Army has chosen to trade some ballistic protection for enhanced deployability (to ensure that the LOSAT system will be sling-loadable from a UH-60 helicopter).