

## ARMY PROGRAMS

# Surface-Launched Advanced Medium-Range Air-to-Air Missile (SLAMRAAM)

### SUMMARY

- In September 2003, the Army approved a Milestone B for the Surface-Launched Advanced Medium-Range Air-to-Air Missile (SLAMRAAM) system.
- Subsequently, in December 2003, the Army and the Marine Corps agreed to combine their similar short-range air defense programs into a joint acquisition.
- Since that time, the program has negotiated new contracts, developed an initial draft of a combined requirements document, and drafted a consolidated Test and Evaluation Master Plan (TEMP).



*SLAMRAAM is the Army's future short-range air defense weapon system.*

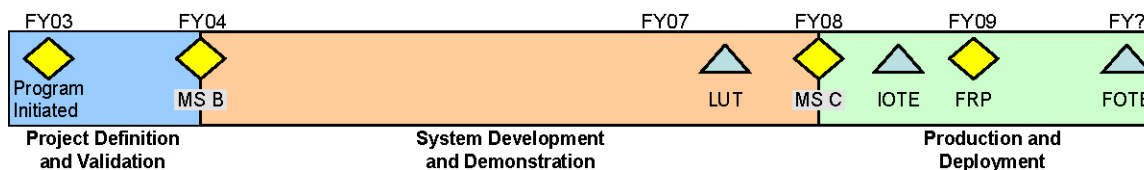
### SYSTEM DESCRIPTION AND MISSION

SLAMRAAM is the Army's future short-range air defense weapon system. It will replace four current short-range air defense systems that employ Stinger missiles. SLAMRAAM will counter fixed-wing and rotary-wing aircraft, cruise missiles, and unmanned aerial vehicles. An Army SLAMRAAM platoon will consist of four fire units (also known as launchers), one Integrated Fire Control System Battle Management Command, Control, Computers, Communications, and Intelligence element, and a Sentinel Enhanced Target Range and Classification radar. A SLAMRAAM fire unit will consist of four to six ready-to-fire AIM-120C7 Advanced Medium-Range Air-to-Air Missiles (AMRAAMs) mounted on a High-Mobility Multipurpose Wheeled Vehicle (HMMWV).

The Marine Corps is also developing a HMMWV-based surfaced-launched AMRAAM launcher system called the Complementary Low-Altitude Weapon System (CLAWS). CLAWS will have limited capability for use in emergency operations.

In December 2003, the Army and the Marine Corps agreed to a Joint acquisition of SLAMRAAM and CLAWS. The CLAWS launcher system will be Block 0 for the Marine Corps. The combined program will begin with SLAMRAAM Block 1.

### TEST AND EVALUATION ACTIVITY



Both the system contractor and the government will conduct developmental testing in FY06 and FY07. Testing will provide data to assess the contractual requirements in the system performance specifications. Force developmental experimentation in 3QFY07 will support development of soldier crew drills, tactics, techniques, and procedures used to

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operate the system on the battlefield. A limited user test (LUT) will support the Milestone C decision, currently scheduled for 4QFY07. Initial Operational Test and Evaluation (IOT&E) will support the full-rate production decision, currently scheduled for 4QFY08. The LUT and IOT&E will evaluate the ability of the SLAMRAAM system to perform its air defense mission. They will include field exercises, acquisition/tracking missions, and live missile flight tests. During the flight tests, SLAMRAAM fire units will launch AIM-120C7 missiles against threat-representative cruise missiles, unmanned aerial vehicles, and rotary-wing targets.

The SLAMRAAM lethality Live Fire Test and Evaluation (LFT&E) strategy will build upon previous AMRAAM lethality testing and live missile firings. It will use validated and accredited AMRAAM models and simulations to assess lethality against the SLAMRAAM aerial target set. If simulations of expected operational engagement scenarios predict large miss distances for any of the threat set, arena testing may be necessary. This arena testing would demonstrate and validate lethality models for the evaluation of effectiveness against those threats.

The user does not require the SLAMRAAM fire unit to include crew protection features, so DOT&E determined that it is not a covered system for survivability LFT&E. Due to experience in Operation Iraqi Freedom, DOT&E is strongly encouraging the Army to add crew protection to the fire units as a threshold requirement. The Army agreed to complete an assessment of vulnerability issues related to the expected ground threats to the SLAMRAAM system. The Air Force and Navy have conducted insensitive munitions testing of AMRAAM. The SLAMRAAM operational environment includes threats from small arms, mortars, and artillery that are not present in the AMRAAM operational environment. As a result, additional insensitive munitions testing will be required.

The program has hosted a number of meetings and working groups to develop a Milestone C TEMP by January 31, 2005.

### TEST AND EVALUATION ASSESSMENT

SLAMRAAM Milestone B occurred in 4QFY03 without a TEMP approved by DOT&E. DOT&E did not approve the Milestone B TEMP because the proposed operational test and evaluation program would not have adequately tested and evaluated the system.

The program's currently proposed test strategy is high-risk. It relies heavily on modeling and simulation, and includes only an eleven-missile flight test matrix. The program may have to repeat flight test failures experienced in developmental test or developmental/operational test prior to entering IOT&E. The program will demonstrate many flight test objectives for the first time during IOT&E.

An adequate LFT&E lethality assessment will require AMRAAM fuzing information against the threat set and high-fidelity target vulnerability models of these threats. Much of this information, and many of these models, do not exist, and must be collected and developed.