

Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS)

SUMMARY

- The Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) will provide the Army an elevated sensor for detecting and tracking air and surface targets.
- JLENS will provide the Army with an elevated fire control radar to enable the Patriot missile to engage low-flying targets at its maximum kinematic range.
- The JLENS program is producing a Test and Evaluation Master Plan to support a July 2005 Milestone B decision for entry into System Design and Development phase.



SYSTEM DESCRIPTION AND MISSION

JLENS is an airborne radar platform designed to provide surveillance and fire control quality radar data on Land Attack Cruise Missiles and other air breathing targets. The system also acquires and tracks moving surface targets and supports the detection of tactical ballistic missiles.

JLENS supports air-directed surface-to-air-missile and air-directed air-to-air missile engagements through both the engagement on remote and forward pass mechanisms.

A JLENS system consists of two aerostats, one containing a surveillance radar and other a Precision Track Illumination Radar. The aerostats are non-developmental 71-meter, unmanned, tethered, non-rigid aerodynamic structures filled with helium and air. Tethered Aerostats attach to a mobile mooring station and a processing station via a fiber optic/power tether. The surveillance radar provides the initial target detection and then cueing to the Precision Track Illumination Radar, which generates a fire control quality track. Link 16 integrates the JLENS system into the Joint Tactical Architecture.

The JLENS system contains a Cooperative Engagement Capability, Single-Channel Ground and Air Radio System, and Enhanced Position Location Reporting System. The system provides key contributions to a generation of a Single Integrated Air Picture through the fusion of high-accuracy, long-range tracking and target classification information with that of other sensors in the Joint Air and Missile Defense architecture. Both radar systems will include Identification Friend or Foe interrogators.

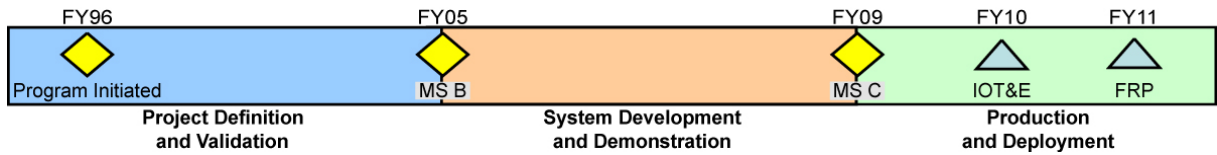
Operators of weapon systems such as Patriot, Navy Standard Missile, the Marine Corps Complementary Low-Altitude Weapons System, and the Army Surface Launched Advanced Medium-Range Air-to-Air Missile can use the JLENS Precision Track Illumination Radar data to engage low-flying terrain masked cruise missiles before their own ground-based sensors can detect them. JLENS supports air-directed surface-to-air missile and air-directed air-to-air missile engagements through both the engagement on remote and forward pass mechanisms.

The JLENS program has two spirals. The first develops one 37-meter aerostat with modified Sentinel radar. The second spiral develops the fielding objective system of two 71-meter aerostats. One carries the Precision Target Illumination Radar while the second aerostat carries the surveillance radar.

ARMY PROGRAMS

The objective of the first spiral is proof-of-concept and development of tactics, techniques, and procedures. Scheduled system developmental testing of Spiral I and Spiral II is in FY05 and FY07, respectively.

TEST AND EVALUATION ACTIVITY



DOT&E developed and provided a Test and Evaluation Concept to the JLENS program manager and operational tester as input into their test planning process. An Integrated Test Team, with DOT&E participation, developed a draft Test and Evaluation Master Plan. Spiral I test planning has begun, and an update is forthcoming. Testing will leverage at least two large force exercises to demonstrate integration and joint interoperability. Spiral testing is good for proof-of-concept and developing tactics, techniques, and procedures. It is also an excellent tool for working with the Surface Launched Advanced Medium Range Air to Air Missile and Patriot missiles. We are expecting many lessons learned for Spiral II. DOT&E has no issues with the test planning.

TEST AND EVALUATION ASSESSMENT

To complete the operational effectiveness and suitability evaluations of the JLENS Spiral II system, live testing of end-to-end aircraft and cruise missile detection-to-engage is needed to determine what the system will deliver and whether there are unresolved issues that impact effectiveness and suitability.