Lockheed Martin Summarizes Risk Reduction And Flight Test Accomplishments For Advanced Precision Kill Weapon System II

Lockheed Martin , in a media briefing at the Association of the U.S. Army's Winter symposium, revealed an extensive company-funded risk reduction program for the Advanced Precision Kill Weapon System (APKWS) II. Lockheed Martin is competing to design, develop and produce APKWS II.

"Our proposal offers the most affordable and credible price with the lowest-risk and most reliable high-performance solution," said Rick Edwards, vice president -- Tactical Missiles, for Lockheed Martin Missiles and Fire Control. "We have invested substantially in a pre-contract test program since the summer of 2005. This long series of successful tests has validated key design and performance discriminators, demonstrating the unequalled maturity and lowest risk of our solution.

"We are informally referring to our candidate as HELLFIRE(R) Junior," Edwards continued. "We wouldn't use that name without making certain our APKWS II rocket is on track to continue the combat-proven HELLFIRE tradition."

The APKWS II is a 2.75-inch laser-guided rocket that will provide crews of the U.S. Army Apache and Marine Corps Cobra attack helicopters and other platforms with precision-strike capability against non-armored targets that do not require a 7-inch HELLFIRE missile-an option not presently available. This low-cost alternative will destroy non-armored, high-value targets that are close to civilian assets and/or friendly forces.

"We flew two ballistic test vehicles on December 14, 2005, at Eglin Air Force Base, FL," said Steve Barnoske, director - Tactical Missiles, at Lockheed Martin Missiles and Fire Control. "These tests evaluated the launch transients and separation effects of an APKWS II rocket launched from a ground-based pylon-mounted M260 launcher.

"Earlier, we tested the key components: guidance electronics group and optics assembly; roll isolator assembly; control actuator system; and telemetry package," Barnoske continued. "These component tests, along with temperature and vibration tests, verified the functionality and performance of all key components. Our warhead/fuze performance analyses showed the guidance section design does not degrade warhead lethality."

In September 2005 in Orlando Lockheed Martin conducted early integration testing and assessed seeker algorithm performance. These tests demonstrated seeker function and performance and enabled the company to accomplish early integration testing with existing software. Lockheed Martin participated in U.S. Government-sponsored testing of the semi-active laser seeker in October and November 2005, both in laboratory environments and in outdoor characterization tests.

During August and September 2005, extensive wind tunnel tests were conducted to assess the separation, stability and range performance of Lockheed Martin's APKWS II weapon kit design, greatly reducing performance and integration risks. This data allowed completion of the aerodynamics database in its integrated flight simulation. Lockheed Martin assessed airframe modes via a ground vibration survey in its Dynamics Test Laboratory in Orlando, FL.

Hardware-in-the-loop (HWIL) tests were conducted at the Lockheed Martin facility in Orlando, FL, and at the Government's facility at Redstone Arsenal, AL.

Simulations were developed for APKWS II, using validated models from several fielded systems, including HELLFIRE, Longbow and Javelin as well as the current U.S. Government-approved JCM models.

"Mature, low-risk tactical software substantially reduces APKWS II cost and risk, which will enable us to get this much-needed weapon system to our customer as soon as possible," Barnoske said.

Headquartered in Bethesda, Md., Lockheed Martin employs about 135,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration and sustainment of advanced technology systems, products and services.

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