Lockheed Martin Reports Close Match Between APKWS II Simulations And Results Of Guided Flight

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Lockheed Martin is competing for a U.S. Army requirement to develop and produce a 2.75-inch guided rocket, a program that could potentially exceed $2 billion. Lockheed Martin's completion of its post-flight analyses of the first guided flight of its candidate for the U.S. government's Advanced Precision Kill Weapon System II (APKWS II) indicates success in all test objectives, with a high correlation between simulations and the trajectory.

In a briefing at the National Press Club today, the company showed never- before-seen imagery from its recent successful initial guided test vehicle (GTV-1) flight at Eglin Air Force Base, FL, including a side-by-side comparison with the trajectory predicted in its integrated flight simulation (IFS) model.

The Lockheed Martin rocket hit the target board 2.8 kilometers downrange and the impact was less than half a meter from the laser spot designation.

"The close correlation between pre-flight predictions and the actual flight path is as important as the target hit," explained Steve Barnoske, director - Tactical Missiles at Lockheed Martin Missiles and Fire Control. "The paths are virtually identical. The target hit demonstrates our performance. The close match with the models shows the maturity of both our hardware and our software designs."

Rick Edwards, vice president - Tactical Missiles at Lockheed Martin Missiles and Fire Control, said the results validated the company's claim that it has the most affordable, lowest-risk solution for APKWS II.

"The close agreement between our simulations and the test data is a direct result of our extensive pre-contract risk reduction program," Edwards said. "It validates the design of our semi-active laser seeker, based on technology from the combat-proven HELLFIRE(R) and from Joint Common Missile; and it also validates the designs of the control actuation system, provided by HR Textron , and the inertial sensor assembly, supplied by Honeywell .

"The maturity of our design means we can help the Army get this weapon into the field fast to support the warfighters," Edwards continued. "This will meet a critical requirement for a small HELLFIRE-like weapon that can take out non-armored urban targets close to friendly forces or civilian assets, with minimal collateral damage -- and from a safe standoff range that protects aircrews from enemy counterfire."

Lockheed Martin previously announced two successful APKWS II ballistic test vehicle (BTV) flights (December 2005) that preceded the guided flight, as well as wind tunnel tests; hardware-in-the-loop testing; seeker tests; warhead fuze tests and component-level testing that dates back to mid-2005.

"We have achieved remarkable success on our development," Barnoske said. "The maturity and proven performance of our hardware and software place us in a strong position to pass Critical Design Review early in the System Design and Development (SDD) program. That, in turn, will get the product to the field as soon as possible."

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 targets that do not require a 7-inch HELLFIRE missile -- an option not presently available. This low-cost alternative will destroy non-armored targets that are close to civilian assets and/or friendly forces.

Lockheed Martin plans to produce the APKWS II seeker at its plant in Ocala, FL, with final rocket assembly at its facility in Troy, AL. The control actuation system will be produced at HR Textron's plant in Santa Clarita, CA; the inertial sensor assembly, at Honeywell's facility in Minneapolis, MN.

"The production lines are already in place at Lockheed Martin and our suppliers, with proven high-volume, low-cost manufacture across multiple missile programs," Barnoske said. "This not only makes our APKWS II affordable, it also provides a measure of cost credibility that cannot be matched."

Lockheed Martin has delivered more than 90,000 laser guided munitions to the warfighter, and in total has produced more than 135,000 laser guided systems, including HELLFIRE, Copperhead, Paveway II Laser Guided Bombs and Laser Guided Training Rounds. Lockheed Martin has over 30 years of experience and investment in precision semi-active laser technology.

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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