Lockheed Martin And ATK Test New Propulsion Technologies For Navy Strategic Missiles

The U.S. Navy, Lockheed Martin and Alliant Techsystems have tested new propulsion technologies for strategic missiles at Naval Air Weapons Center China Lake, Calif. A static test fire was conducted of the Third-Stage Application Program-3 (TSAP-3) motor, a modified Trident II D5 motor that incorporates cost-saving technologies.

Under the Strategic Missile Technologies contract for U.S. Navy Strategic Systems Programs, prime contractor Lockheed Martin Space Systems Company led the development of the TSAP-3 motor, with ATK as the propulsion provider. The advanced technology motor incorporates new components and materials that enhance efficiency in the production and operation of strategic-sized booster motors powered by high-performance class 1.1 solid fuel. The motor features a new low-cost, low-erosion ceramic rocket nozzle throat, a new low-cost, high-performance propellant, and a lighter weight motor case and insulator to increase missile range.

"The Navy's Strategic Systems Programs organization never rests in seeking to improve upon an already excellent record of efficient, cost-effective performance," said Joe Woo, Strategic Missile Technologies program manager, Lockheed Martin Space Systems Company. "This test supports our customer by showing the potential of new technologies to increase motor performance while reducing cost."

Lockheed Martin developed the ceramic throat for solid rocket motors under company-funded independent research and development. By withstanding the extreme heat of rocket exhaust, the ceramic throat increases thrust and can be fabricated at a lower cost than nozzle throats currently in use.

ATK developed the new RDX-NEPE solid propellant for the TSAP-3 motor. This fuel provides performance comparable to the propellant currently used in Trident II D5 motors at a lower cost.

All of the components and materials tested are applicable to first-, second- and third-stage motors for strategic and conventional ballistic missiles, including those for Prompt Global Strike missions.

U.S. Navy Strategic Systems Programs awarded Lockheed Martin Space Systems Company, Sunnyvale, Calif., the Strategic Missile Technologies prime contract in 2004 to demonstrate alternative technologies for propulsion, controls, ordnance and electronics subsystems.

Lockheed Martin Space Systems Company's Strategic Missile Programs line of business is a leader in the design, development, production and test of ballistic missiles and reentry systems, including the U.S. Navy's Trident II D5 fleet ballistic missile, for which the company is the prime contractor and program manager.

Headquartered in Bethesda, Md., Lockheed Martin employs about 140,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The corporation reported 2006 sales of $39.6 billion.

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