# Second Advanced EHF Military Communications Satellite Built By Lockheed Martin Completes Environmental Testing

Lockheed Martin has successfully completed thermal vacuum testing of the second Advanced Extremely High Frequency (EHF) military communications satellite, a major program milestone that proves spacecraft performance and functionality in a complete test-like-you-fly environment.

The U.S. Air Force's Advanced EHF system will provide global, highly secure, protected, survivable communications for warfighters operating on ground, sea and air platforms.

Conducted between Jan. 26 and March 14 inside Lockheed Martin's Dual Entry Large Thermal Altitude (DELTA) chamber, the successful test verified Advanced EHF spacecraft functionality and performance in a vacuum environment where the satellite was stressed at the extreme hot and cold temperatures it will experience in space throughout its 14-year design life.

The milestone is one of several critical environmental test phases that validate the overall satellite design, quality of workmanship and survivability during space vehicle launching and on-orbit operations.

"The team executed a highly disciplined and successful test and the results give us high confidence that this vitally important protected communications satellite will meet all performance requirements," said John Miyamoto, Lockheed Martin's AEHF vice president. "Completion of thermal vacuum testing is a critical milestone that moves the team closer to the launch pad and we look forward to achieving mission success for our customer."

With the completion of spacecraft thermal vacuum testing, the team of Lockheed Martin Space Systems, Sunnyvale, Calif., the Advanced EHF prime contractor, and Northrop Grumman Aerospace Systems, Redondo Beach, Calif., the payload supplier, will now perform environmental test data analysis, acoustic testing and final systems test activities necessary to prepare the vehicle for flight. The spacecraft is planned for delivery to the Air Force in 2011 in preparation for launch aboard an Atlas V launch vehicle.

A single Advanced EHF satellite will provide greater total capacity than the entire Milstar constellation currently on-orbit. Individual user data rates will be five times improved.

The higher data rates will permit transmission of tactical military communications, such as real-time video, battlefield maps and targeting data. In addition to its tactical mission, Advanced EHF will also provide the critical survivable, protected, and endurable communications to the National Command Authority including presidential conferencing in all levels of conflict.

Lockheed Martin is currently under contract to provide three Advanced EHF satellites and the Mission Control Segment to its customer, the Military Satellite Communications Systems Wing, located at the Space and Missile Systems Center, Los Angeles Air Force Base, Calif. The program is in the early stages of adding a fourth spacecraft to the planned constellation.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 146,000 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 2008 sales of $42.7 billion.

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