Lockheed Martin Begins Key Test Of First SBIRS GEO Satellite With New Flight Software

Lockheed Martin announced today that the first Space-Based Infrared System (SBIRS) geosynchronous orbit (GEO-1) satellite has entered a major test phase with the latest version of flight software designed to provide highly reliable spacecraft command and control operations.

The U.S. Air Force SBIRS program is designed to provide early warning of missile launches, and simultaneously support other missions including missile defense, technical intelligence and battlespace awareness.

The test of the GEO-1 spacecraft, known as Baseline Integrated System Test (BIST), is being conducted at Lockheed Martin's Space Systems facilities in Sunnyvale, Calif. The test will characterize the performance of the integrated satellite and establish a performance baseline prior to entering thermal vacuum testing.

"The start of this extensive test is a major achievement that will demonstrate our readiness to proceed with the critical thermal vacuum test phase," said Jeff Smith, Lockheed Martin's SBIRS vice president. "Working closely with our customer, the team continues to make strides on all fronts in preparing GEO-1 for flight and we look forward to delivering this cutting-edge spacecraft to the warfighter."

Lockheed Martin's SBIRS flight software architecture is designed to enable robust command and data handling, fault management and safe-hold capabilities on the GEO satellite system.

The flight software delivered for the BIST milestone contains applications that control space vehicle electrical power, temperature, attitude and navigation. It also features a robust fault management system, which responds when an anomaly is detected during on-orbit operations, putting the satellite into a safe state while operators on the ground analyze the situation and take corrective action.

In addition, the Lockheed Martin team recently delivered the GEO-1 Command and Telemetry Database, known as Database 91. This major release supports qualification and delivery of the SBIRS Ground Segment software, and development of operational command plans and scripts that will be used for the upcoming GEO-1 intersegment tests, readiness rehearsals and launch.

Delivery of the final flight software block is planned for February to support thermal vacuum testing which will validate spacecraft performance at temperature extremes greater than those expected during on-orbit operations. The spacecraft is planned for delivery to the Air Force in early fiscal year 2010 in preparation for launch aboard an Atlas V launch vehicle.

The SBIRS team is led by the Space Based Infrared Systems Wing at the U.S. Air Force Space and Missile Systems Center, Los Angeles Air Force Base, Calif. Lockheed Martin Space Systems Company, Sunnyvale, Calif., is the SBIRS prime contractor, with Northrop Grumman Electronic Systems, Azusa, Calif., as the payload integrator. Air Force Space Command operates the SBIRS system.

Lockheed Martin's current SBIRS contract includes the two HEO payloads now on-orbit, two GEO satellites, as well as ground-based assets to receive and process the infrared data. The program is in the early stages of adding additional GEO spacecraft and HEO payloads to the planned constellation.

Headquartered in Bethesda, MD, Lockheed Martin is a global security company that 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 2007 sales of $41.9 billion.

Media Contact: Steve Tatum, 408-742-7531; e-mail, Stephen.o.tatum@lmco.com

First Call Analyst:
FCMN Contact:

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