Lockheed Martin Team Delivers Flight Software For Nation's New Missile Warning Satellite

Lockheed Martin announced today that it has successfully delivered the first of two major blocks of flight software designed to provide highly reliable command and control of the Space Based Infrared System (SBIRS) geosynchronous orbit (GEO) spacecraft.

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

Lockheed Martin Space Systems, Sunnyvale, Calif., prime contractor for the SBIRS program, has enhanced the SBIRS flight software architecture to enable more robust command and data handling, fault management and safe-hold capabilities on the GEO satellite system.

The first block of software includes 25,000 source lines of code and will be used to test the command and telemetry functions of the new architecture on flight-equivalent hardware, an important step toward integration and test with the second block on the GEO-1 space vehicle later this year. The software will also be integrated into the end-to-end SBIRS GEO Simulation to start checkout of space-to-ground interfaces with the new flight software.

"Delivery of this software is the result of our government-industry partnership and commitment to successful execution of this important national security program," said Jeff Smith, Lockheed Martin's SBIRS vice president and program manager. "This spacecraft constellation will provide revolutionary new surveillance capabilities for our warfighters and we look forward to our continued positive momentum and achieving mission success for our customer."

The second block, scheduled for delivery in August, will consist of the remaining 35,000 lines of code and contain applications that control space vehicle electrical power, temperature, attitude and navigation. It will also feature a more 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.

Successful delivery of the flight software is necessary to support pre-launch spacecraft testing, including thermal vacuum testing which will validate spacecraft performance at temperature extremes greater than those expected during on-orbit operations. After the extensive environmental and final integrated test phase, the spacecraft will be shipped to the Air Force in late 2009 in preparation for launch from Cape Canaveral Air Force Base, Fla.

Lockheed Martin Space Systems Company, Sunnyvale, Calif., and Northrop Grumman Electronic Systems, Azusa, Calif., the payload integrator, are developing SBIRS for the U.S. Air Force Space and Missile Systems Center. Air Force Space Command operates the SBIRS system.

Lockheed Martin is currently under contract to provide two HEO payloads and two GEO satellites, as well as ground-based assets to receive and process the infrared data. The Lockheed Martin team has delivered both HEO payloads and the first GEO satellite launch is scheduled for late 2009. The first HEO payload has completed initial on-orbit deployment and checkout and demonstrated that its performance meets or exceeds specifications. 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 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.

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