Critical Payload Testing Begins For First Missile Warning Satellite Built By Lockheed Martin

The Lockheed Martin -led team developing the nation's next-generation missile warning system announced today that it has completed preparations to enable the payload for the first Space-Based Infrared System (SBIRS) geosynchronous orbit (GEO) satellite to begin engineering thermal vacuum testing.

The SBIRS GEO payload, developed by Northrop Grumman Corporation's Electronic Systems sector, consists of a scanning sensor and a staring sensor, with sensor pointing achieved by the spacecraft's Pointing Control Assembly (PCA). The scanning sensor is designed for continuous observation and surveillance of traditional intercontinental ballistic missile threats, while the staring sensor is designed to detect very low signature, short-burn-duration theatre missiles. The staring sensor recently completed its flight-acceptance test.

One of the most significant program milestones, thermal vacuum testing verifies the payload functionality and performance in a vacuum environment, where the payload is stressed at temperature extremes greater than those expected during on-orbit operations. The baseline ambient functional tests as well as radiometric tests will be repeated in this "test-it-like-it-flies" environment with the infrared sensors at their cryogenic operating temperatures.

"The start of engineering thermal vacuum testing is a significant achievement and represents our sustained momentum on this critical national program," said Mark Crowley, Lockheed Martin's SBIRS vice president. "Following this vital test phase, approximately 90 percent of the GEO payload development activities will be complete and the team will be another step closer to launching this first-of-its-kind satellite."

The successful completion of thermal vacuum preparations marks the completion of the initial development of over 100,000 lines of flight software code for the Signal Processing Assembly (SPA) software and Pointing Control Assembly (PCA) software. In addition, development of the Electrical Support Equipment and its associated software as well as dozens of test scripts required to put the payload through its paces have been completed.

"The GEO payload will be thoroughly tested in the vacuum testing phase," said Sal Romano, vice president of the SBIRS program at Northrop Grumman. "This process will further assure that the SBIRS GEO payload will deliver outstanding surveillance and detection of missile threats."

Lockheed Martin Space Systems, Sunnyvale, Calif., is developing the SBIRS program under contract to the U.S. Air Force Space and Missile Systems Center, Los Angeles Air Force Base, Calif. Northrop Grumman Electronic Systems, Azusa, Calif., is the payload provider.

When fully operational, SBIRS will comprise two payloads in highly elliptical orbit (HEO), four satellites in geosynchronous orbit (GEO), as well as fixed and mobile ground-based assets to receive and process the infrared data. The team has delivered both HEO payloads and is on track to begin final integration and test of the first GEO satellite in preparation for launch in fiscal year 2008.

SBIRS High already is providing the nation enhanced worldwide missile- detection and tracking capabilities, battlefield data, and technical intelligence through its consolidated ground segment operations at Air Force Space Command, Buckley Air Force Base, Colo.

Headquartered in Bethesda, Md., Lockheed Martin employs about 135,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services. The corporation reported 2004 sales of $35.5 billion.

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