

## **Boeing Completes Environmental Tests for Wideband Gapfiller Satellite**

The first of three Wideband Gapfiller Satellites (WGS) developed by The Boeing Company [NYSE:BA] has successfully completed key dynamic environmental tests, confirming the spacecraft's structural design and mechanical integrity.

In tests conducted at Boeing's Satellite Development Center in El Segundo, Calif., the WGS team exposed the spacecraft to vibration and acoustic tests to ensure it will withstand the stresses of ground transportation and launch into space. Boeing is preparing the first WGS satellite for launch in the second quarter of 2007.

"These rigorous environmental tests encompass the loads associated with both Atlas and Delta medium class Evolved Expendable Launch Vehicles," said U.S. Air Force Lt. Col. Steve Hargis, WGS program manager. "The WGS spacecraft successfully passed the mechanical tests that will allow it to fly on both the Atlas and Delta launch vehicles."

During the vibration test, the WGS spacecraft was shaken in three independent axes to test its ability to withstand the forces of launch vehicle liftoff and ascent into orbit. The nine-day vibration test included multiple runs at progressively higher levels to demonstrate that the spacecraft will survive in predicted environments.

The spacecraft also successfully passed acoustic stress testing, during which the WGS team used high-powered speakers to verify the spacecraft's ability to tolerate the high sound pressure levels associated with specific launch events. Launch pad decibel levels are nearly four times higher than the levels found near a jet engine. The acoustic test chamber simulates the launch noise of several launch vehicles in use today.

The WGS spacecraft also passed a series of tests that confirmed its deployable appendages, such as the solar wings, heat radiator panels and Ka-band antennas, will release correctly. Boeing is preparing the spacecraft for thermal vacuum testing, which will confirm its ability to operate in a vacuum and under the extreme temperatures of space.

Boeing is under contract to build three satellites for the WGS program. The U.S. Air Force also has authorized Boeing to begin non-recurring engineering and advanced procurement of parts for a fourth WGS satellite. The WGS system is a multi-spacecraft constellation designed to provide improved communications support for America's warfighters.

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