

# Competition Widens But Need for GPS 3 Questioned

JEREMY SINGER, WASHINGTON

More than a year after being knocked out of the running to build the U.S. government's next generation of navigation satellites, Spectrum Astro won a study contract that allows it to officially rejoin the competition.

However, a push to reinforce earlier-model Global Positioning System (GPS) navigation satellites against enemy jamming has raised questions about the need for the next-generation system, according to sources involved with the program.

The U.S. Air Force announced its intent Feb. 5 to award a \$2 million to \$3 million contract to Spectrum Astro of Gilbert, Ariz., to refine its design over the next year for the future system, known as GPS 3. The award gives Spectrum Astro new life in the competition to build the satellites, which are slated to begin launching in 2010.

In November 2000, the company was passed over by the Air Force in favor of Boeing Space and Communications Group of Seal Beach, Calif., and Lockheed Martin Space Systems of Denver for GPS 3 study contracts worth \$16 million apiece.

Since then Spectrum Astro has been spending its own money to continue work on its GPS 3 concept and remain in the hunt for the construction contract, which is slated for award in 2003.

But that date may change based on the new direction the GPS 3 program may take, according to a written statement from the GPS program office provided by Christina Greer, a spokeswoman for Air Force Space and Missile Systems Center, Los Angeles.

The Air Force included \$511 million for GPS modernization work in its 2003 budget request, including \$100 million for GPS 3. But the service likely will brief Congress soon on a revised budget request for GPS modernization, sources involved with the effort said.

According to these sources, the Air Force is locked in a debate with some Pen-



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**Enemy Jamming:** John Stenbit (above), assistant secretary of defense for command, control, communications, and intelligence, is urging the U.S. Air Force to consider further reinforcing its current GPS Block 2F and Block 2R GPS satellites against enemy jamming.

tagon leaders who want to bolster the GPS system against jamming threats prior to the deployment of the GPS 3 satellites.

A full GPS constellation generally consists of 24 satellites providing location, time and speed information to receivers anywhere on Earth or in the air.

The GPS satellites now being launched are the Block 2R craft, which are built by Lockheed Martin. Fourteen of the Lock-

heed Martin satellites remain to be launched. Boeing also is building six GPS Block 2F satellites, which are slated to begin launching around 2005.

John Stenbit, assistant secretary of defense for command, control, communications, and intelligence, is urging the service to consider further reinforcing the GPS Block 2F and Block 2R satellites against enemy jamming, the sources said. This

could lead the Pentagon to cancel the GPS 3 effort, and focus instead on improving the current generation of satellites, the sources said.

Brad Parkinson, a Stanford University physics professor who is credited with helping develop the original GPS program, said the Air Force should pursue parallel paths of reinforcing the current-generation satellites and developing GPS 3.

Reinforcing GPS against enemy jamming likely would entail strengthening the signal, but Parkinson said better receivers also should be part of the mix.

Retired Air Force Gen. Howell Estes, a former commander in chief of U.S. Space Command, said the Air Force needs to improve the jamming resistance of GPS as soon as possible.

"I'm shocked that we didn't get jammed in Afghanistan," Estes said, referring to the U.S.-led military campaign in that region, where GPS played a major role in weapon guidance. U.S. forces are not likely to be so lucky that a future adversary in the war on terrorism will not use jamming, Estes said.

Greer did not return a follow-up call requesting comment on the conflict between Pentagon leaders and the Air Force by press time.

Air Force Lt. Col. Ken McClellan, a spokesman for the office of the secretary of defense, also did not return calls requesting comment on the matter by press time.

Meanwhile, the Air Force GPS program office said bringing Spectrum Astro back into the GPS 3 competition is not an indication that it is dissatisfied with the work being done by Lockheed Martin and Boeing.

Spectrum Astro has "identified several very attractive and innovative capabilities," the office said. The program officials declined to comment further.

"This interest from the government validates that we have something there of importance," said Ron Graves, Spectrum Astro's GPS program manager.