

Wireless network outlines plans to protect GPS

June 20 2011, By JOELLE TESSLER , AP Technology Writer

LightSquared, a Virginia-based company that plans to build a nationwide wireless broadband network, is proposing to adapt its network so as not to interfere with GPS systems.

The company plans to move some of its operations to a different slice of airwaves and to transmit signals at lower power levels to ensure that its network would not interfere with GPS systems that rely on nearby [wireless spectrum](#).

The company outlined its plans Monday amid mounting concern that its new network would cripple GPS systems used for everything from aviation to [public safety](#) to military operations. The announcement follows the recent release of government test results showing that LightSquared's wireless signals interfered with GPS receivers used by the Coast Guard and NASA, and caused [Federal Aviation Administration](#) GPS receivers and GPS receivers used by state police, fire and ambulance crews to lose reception.

In January the [Federal Communications Commission](#) gave LightSquared approval to build a nationwide wireless network that would compete with super-fast systems being rolled out by AT&T and Verizon. LightSquared plans to sell wholesale access to its network to other companies that will rebrand the service under their own names. The FCC sees the LightSquared network as part of a broad government push to bring high-speed Internet connections to all Americans.

LightSquared Chairman and Chief Executive, Sanjiv Ahuja, said Monday that the company remains committed to reaching 260 million Americans with its coverage footprint by 2015 and is aiming to accelerate that time table by at least a year.

But the company's plans have alarmed GPS equipment makers, and the many government agencies and companies that rely on GPS systems, because LightSquared's network would use airwaves right next to those already set aside for GPS. They warn that sensitive satellite receivers - designed to pick up relatively weak signals coming from space - could be overwhelmed when LightSquared starts sending high-powered signals from as many as 40,000 transmitters on the ground.

The FCC has said it will not allow LightSquared to launch its network until the interference problems are resolved. And it has required the company to participate in a technical working group with GPS manufacturers and users to study the matter. That group conducted GPS interference tests using LightSquared equipment in Las Vegas last month.

The results of those tests were due to the FCC last week, but LightSquared filed for a two-week filing extension even as GPS equipment makers say the results showed significant interference problems.

Other tests point to the same conclusion. A working group of the National Executive Committee for Space-Based Positioning, Navigation, and Timing - a federal organization that advises and coordinates among federal agencies that rely on GPS technology - recently released results from a series of tests conducted by various government agencies in New Mexico in April. Researchers found potential for widespread GPS interference.

And tests conducted by RTCA, a nonprofit group that advises the Federal Aviation Administration, uncovered that LightSquared's use of airwaves closest to the GPS spectrum would cause a "complete loss of GPS receiver function" over large metropolitan areas.

Against that backdrop, LightSquared acknowledged Monday that a 10-megahertz block of spectrum that it had planned to use for the initial launch of its network would pose problems for many GPS receivers. The company said it will therefore use a different block of spectrum currently held by mobile satellite provider Inmarsat. The new block is located farther away from GPS frequencies and would not disturb the vast majority of GPS receivers, LightSquared said.

The company already has a spectrum-sharing agreement with Inmarsat, which has disclosed a \$40 million payment from LightSquared.

LightSquared added that it is committed to addressing remaining interference concerns for a limited number of high-precision GPS receivers used primarily in farming, construction and surveying equipment. LightSquared also said Monday that it will reduce the maximum allowed power for its base-station transmitters by more than 50 percent to provide additional GPS protection.

In addition, the company said it will work with the FCC, other government agencies and commercial GPS users to explore additional ways to protect GPS systems as it grows its network. "LightSquared believes that its next-generation... [network](#) can live harmoniously, side-by-side, with GPS users," the company said in a release.

Still, GPS equipment makers were not convinced. Jim Kirkland, vice president and general counsel of Trimble Navigation Ltd., which makes [GPS systems](#), called LightSquared's new plan a "Hail Mary move." He said the results from the recent government tests and the tests done by

the FCC-mandated study group show that even if LightSquared moves to the Inmarsat spectrum, it will still interfere with many critical GPS receivers beyond just precision receivers.

For its part, the FCC is still awaiting a full report from the study group. The report is due by July 1. The FCC had no comment on LightSquared's announcement Monday.

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