



OKLAHOMA DEPARTMENT OF TRANSPORTATION

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SURVEY DIVISION

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July 18, 2011

Mr. Julius Genachowski, Chairman
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Received & Inspected

JUL 25 2011

FCC Mail Room

Re: LightSquared and High Precision Global Positioning System (GPS)

Dear Mr. Genachowski,

The FCC has initiated a National Broadband Plan to establish 4G coverage nationwide. The company, LightSquared, has developed a plan to create this network. This plan causes interference with high precision GNSS receivers. The frequency range selected is right next to the frequency range occupied by GPS L1 signal. When you factor in that LightSquared is broadcasting 1500 watts per antenna vs. GPS's 31 satellites, 11,000 miles in space, broadcasting 30 watts, there is considerable interference into the L1 spectrum. Even though LightSquared occupies a different spectrum than GPS L1, the signal generated is powerful enough to degrade GPS performance and/or jam high precision receivers. In tests that were conducted in May 2011 to see the effects of LightSquared's signal on different GPS receivers, all brands were negatively affected. High precision receivers were the worst affected. If this initiative is allowed to proceed, at this time, it will cause our high precision GPS receivers to be non-operational and worthless.

GPS is utilized in 80% of our field data collection. To lose this vital component of our operations would be detrimental to the design schedule of all Oklahoma Department of Transportation (ODOT) projects. Add to this the construction industries wide-spread use of Automated Machine Guidance (AMG) systems, which also utilize high precision GPS receivers on their construction equipment, current construction and maintenance operations will be delayed and severely hampered. The effects of this on ODOT could run into the hundreds of millions of dollars. Equipment costs alone could reach \$10 million.

ODOT is not the only one affected. All Surveyors and GIS data collection that use high precision GPS will be negatively affected by this. Local, State and Federal entities all will feel the negative effects. High precision GPS, in its current form, is vital to infrastructure construction and maintenance. This technology should not be allowed to be degraded by any other technology, by any degree. It is my opinion that LightSquared should find a frequency range far enough away from all GPS signals to eliminate the problem.

Sincerely,

A handwritten signature in blue ink, appearing to read "L. Reser".

Larry D. Reser, PLS
Chief of Surveys

"The mission of the Oklahoma Department of Transportation is to provide a safe, economical, and effective transportation network for the people, commerce and communities of Oklahoma."

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