IB Docket 11-109

WUNNER ENGINEERING ASSOCIATES

ENGINEERS · LAND SURVEYORS · PLANNERS
P.O. BOX 303
SUCCASUNNA, NEW JERSEY 07876
973-584-2233 FAX 973-584-6646
www.wunnerenginering.com

NICHOLAS J. WUNNER,P.E.,P.L.S.,P.P.

LEE AMERSPEK, P.L.S.

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CONSTRUCTION LAYOUT

Via Regular Mail & Email

July 26, 2011

FILED/ACCEPTED
AUG - 9 2011
Federal Comm
Office of

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

Dear Chairman Genachowski:

As a licensed Professional Land Surveyor in New Jersey, I must express serious concerns regarding the Federal Communications Commission (FCC) granting LightSquared, LLC conditional approval to build a nationwide 4G-LTE wireless broadband network (FCC File No. SAT-MOD-20101118-00239). Early testing by GPS technology leaders, Garmin and Trimble Navigation, demonstrated that LightSquared's technology would likely interfere with Global Positioning System (GPS) receivers, degrading their performance in the best case scenario and completely jamming GPS receivers in the worst case scenario.

The Department of Defense, FAA, DHS, NASA, DOI, DOT, DOC, and the Professional Land Surveying and Engineering professions, have all expressed serious reservations in regards to this plan by LightSquared, LLC to build 40,000 ground stations in the U.S. that could cause widespread interference to GPS signals. This network of ground stations will transmit signals within the L-band frequency immediately adjacent to the GPS L1 frequency at more than one billion times the strength of the low-power GPS signal from space. Furthermore, each mobile phone using LightSquared's wireless service would potentially become a portable GPS jamming device by jamming GPS receivers in its immediate vicinity.

Mr. Seybold a noted wireless industry guru writes that LightSquared should not be permitted to move forward at all. On July 6, 2011, he published the following:

"Okay, I admit it. I don't believe LightSquared should be permitted to use what was supposed to be satellite spectrum for a terrestrial broadband network. Not only that, I don't believe LightSquared has a sound business plan. Building more than 40,000 cell sites, maintaining them, and reselling the bandwidth to others who want to sell it to its customers, does not pencil out in my book. The margins will be too slim, especially given the fact that prices for both voice and broadband services keep failing in the United States so margins will continue to be squeezed. But apart from a faulty business plan, the main reason I am opposed to LightSquared's plan to build this network is that if there is the slightest chance it will interfere with GPS receivers, it simply should not be permitted to be built."

High-precision GPS equipment used by Land Surveyors and other geomatics professionals costing thousands of dollars per receiver would be more adversely affected than the consumer GPS devices given their inherent design. Literally, tens of thousands of high-precision GPS receivers are used in the United States. GPS technology has transformed the way we build and manage our infrastructure, adding a tremendous level of efficiency to the design, construction, and maintenance of roads, bridges, commercial properties, residential subdivisions, parks, farms, golf courses, etc. GPS has become an essential tool for design professionals and it is imperative that these GPS signals are not jeopardized by broadband technology.

Dr. Nam D. Pham, Ph.D. in a paper entitled "The Economic Benefits of Commercial GPS Use in the U.S. and The Costs of potential Disruption" gave the following summary table.

Summary Table. Estimated Annual Economic Costs of GPS Signal Disruption

	100% Degradation (in $ billions)	50% Degradation (in $ billions)
DIRECT ECONOMIC IMPACTS		
Commercial GPS Users	$87.2	$43.6
Foregone increased in productivity and cost-savings	$67.6	$33.8
Precision agriculture (crop farming)	$19.9	$10.0
Engineering Construction (heavy & civil, and surveying/mapping)	$ 9.2	$ 4.6
Transportation (commercial surface transportation)	$10.3	$ 5.1
Other commercial GPS users	$28.2	$14.1
Investment losses in GPS equipment	$19.6	$ 9.8
GPS Manufacturers	$ 8.8	$ 4.7
Foregone GPS equipment sales	$ 8.3	$ 4.1
R&D spending	$ 0.5	$ 0.5
Opportunity costs of R&D spending	$ 0.1	$ 0.1
TOTAL	**$96.0**	**$48.3**
OTHER DIRECT & INDIRECT IMPACTS		
Emission reductions from fuel savings		
Health and safety gains in work place		
Worker time savings		
Public safety and emergency response times		
Employment in GPS-related industries and supporting industries		
Quality-of-life improvements from noncommercial (consumer) GPS products and services		
Military, national defense, and public safety		
Large tax base to fund federal and local government expenditures		

As can be seen this situation has the potential of becoming a tremendous public safety issue and an economical disaster not only for New Jersey, but also for the United States as a whole. The members of the New Jersey Society of Professional Land Surveyors urge you to reject the LightSquared application until such time that all tests conclusively demonstrate there is no risk of interference.

Sincerely,

Lee Amerspek, PLS

Cc: Senator Frank Lautenberg
Senator Robert Menendez
Congressman Rodney P. Frelinghuysen
NJSPLS