



Editorial

>> Marc Cheves, LS,
and Gavin Schrock, LS

Do You Depend on GPS to Make Money?

The LightSquared issue refuses to go away. After the presentations by LightSquared and the Coalition to Save Our GPS at the Survey Summit in July, it seemed that if LightSquared stayed in the lower band of the two bands adjacent to GPS, its plan might work. Since then, it has become apparent that even that band is unacceptable. Here's the situation: the bands that LightSquared is seeking to use have always been reserved for space-based transmissions. Because LightSquared has convinced the FCC to allow it to make terrestrially-based transmissions, the problem becomes one of signal strength. Signals from space have been described as whispers, and the GPS manufacturers have done a marvelous job of extracting useable information from these weak signals, even being able to sort out GPS signals from signals that are *millions* of times stronger. LightSquared, with its terrestrial scheme, broadcasts signals that are *billions* of times stronger than GPS. The bottom line for us is that we simply cannot coexist with LightSquared in bands that are adjacent to the GPS signals.

To support this, the National Space-based Positioning, Navigation and Timing Advisory Board finally weighed in with the following: *We strongly recommend that the Commission rescind its conditional waiver and not allow a change in the structure of the MSS band that abuts GPS to allow transmissions that interfere with GPS. Another frequency band must be found, well away from GPS that allows LightSquared to compete with the other broadband suppliers and does not jeopardize US infrastructure, imposing unnecessary costs to the many millions of current GPS users.*

To make matters worse, collusion in the highest places seems to be the order of the day according to an *Inside GNSS* article which states "...political influences, driven by Harbinger's billions and the president's desire to lift up expansion of wireless broadband as a feature of his re-election campaign..." This is not the first time the FCC—an agency that apparently answers to no one—has been accused of being susceptible to undue influence. Once again, it appears that the FCC has been co-opted by political and financial interests.

To provide more information, I have asked Gavin Schrock—our resident GNSS expert and tireless campaigner against that which would remove our ability to make money with GPS—to provide an update:

"The public comment period on 'LightSquared Subsidiary LLC Request for Modification of Its Authority for an Ancillary Terrestrial Component' closed July 30th. With many hundreds of comments and related documents filed it is easy to see where the lines are drawn with respects to supporters and opponents. An overwhelming majority of the comments were against, but overall there is not the number of filings the FCC would usually receive for issues of even less economic impact. There have been matters affecting amateur radio enthusiasts in the past that received far more. It is very likely that the FCC has made up their minds already, possibly even before the waiver was granted early this year, and later despite the damning results. After all, LightSquared was granted an extension right when the early test results showed clearly that the GPS folks were not 'exaggerating the potential interference hazards' (as the supporters 'talking points' had it before the testing even began).

"GPS end users like surveyors are *not* the GPS industry. We are the lowly end users that will be hurt the most by this particular broadband proposal. Even though the FCC filing period is closed, it may be Labor Day or later before the

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FCC dusts off that rubber stamp they have in wait and approve (or allow yet another retooling of the proposal).”

Things You Can Still Do

“GPS end users can still barrage their elected representatives with some old fashioned grass roots lobbying of their own. Letters and calls do not take much effort; but let’s be armed with some ‘talking points’ of our own; not from the manufacturers or industry, but our own; calm and reasoned:

- Broadband is a good thing. It will boost industry and all of the other cool things; it would be good for surveyors. Just *not this particularly flawed* broadband proposal.
- The Broadband for Public Safety Initiative is a separate initiative, in a completely different piece of spectrum. Halting or rethinking this LightSquared proposal will *not* kill the public safety initiative. You would be shocked to find out how many elected folks and their staffers think they are one in the same.
- The 2003 authorization for LightSquared to do very limited terrestrial in the satellite band was *much* less hazardous than the current modification plan. It was for terrestrial to *augment* satellite communications where satellites could not do it alone, *not* for a primarily huge powered terrestrial augmented very little by satellites. The claim is that GPS knew about the 2003 plan, and did nothing about it. No comparison; it is like your neighbor asking if he could park a bicycle on the lawn between the driveways and then one morning you find an M1 Abrams tank there.
- So much of the modified proposal counts on technological solutions that do not even exist yet (even in the laboratory). If it is so easy to filter out the signals, then why could no one find any to test?
- The U.S. looks at other countries that have widespread broadband at higher speeds and at much lower costs with envy. Now how did these countries succeed in providing such great broadband without killing GPS?
- What a sad legacy if high precision GPS works everywhere else in the world *except* in the United States. Didn’t we pioneer, design, build, pay for, and continue to operate this wonderful system? There will be high



- precision GPS in Syria, Libya, Iran, Pakistan, etc... everywhere but here.
- Jobs that will be exported to other countries with other constellations as they accept this “gift” of exclusivity in high precision GNSS.
 - Supposedly, the counter proposal would only affect 0.5% of GPS end users. Bummer is that it represents about 40% of all of the economic value of GPS; billions and billions. Go get ‘em!”

Hello?

In response to my last e-newsletter, Robert D. Towery, the Chief City Surveyor for the City of Houston wrote: *Part of my responsibility as the City Surveyor of Houston is the City’s active CORS. Houston is not a stable enough place that benchmarks don’t move, so GPS is realistically our only reliable, cost effective method for providing control, referencing surveys, our basis for GIS, and relating to the flood plain. We could go back to our old system, hard point monuments that become unreliable after a few years, (the earth moves under us here), at a projected cost of more than \$50 million, just to cover our current City Limits and an annual budget of \$5 million, to re-observe and adjust monuments in high subsidence areas. When I came to work for the City, we had 53 different datum sources and adjustments. You literally could not get there from here, the adjustments were area-specific, crossing out of a specified area of adjustment into another caused never-ending sources of trouble for City projects. Going back to that nightmare is just too horrifying to think of.*

If you make money with GPS, I urge you to contact your elected representatives. Because the fix appears to be in with the FCC, the public comments

appear to have been in vain, and you’ll have more luck contacting your political representatives. An added item for all this is Javad Ashjaee’s proposal for the military to discontinue encrypting the P-Code on L2. Javad’s position is that encryption provides little in the way of security for our country, and because it causes the L2 signal to be up to a thousand times weaker, makes it more susceptible to interference, for example, LightSquared. So, while you are contacting your representatives, bring this idea up as well. (You can learn more about P-Code encryption in this month’s JAVAD GNSS ad.)

ACSM, NSPS and the Future of Surveying

In this issue, Tony Cavell presents a re-organization idea for our national organization. I have been a member or supporter of ACSM since 1979, and have continuously supported it through 15 years of magazine publishing. In other countries, membership in the national organization is a given by all professionals. Some say that the day of the national organization has passed, that surveyors get what they need in the way of education from their state organization. Notwithstanding the fact that the national conference offers education you’ll never get from your state show, or that legislative efforts on the national level—such as qualification-based selection—trickle down to surveyors at the local level, surveyors in this country just don’t seem to be interested. While many folks don’t see the value in paying the annual dues, as a professional, I’ve always believed I need to support my profession at the national level. I have never looked at my membership only as “What does national do for me?” 