

July 7th, 2002

To whom this may concern,

Please accept my comments in response to ET -Docket No. 02-135

COMMENTS

1. *What specific policy and rule changes are needed to migrate from current spectrum allocations to more market-oriented allocations?*

An effective way to move spectrum allocation to a fully market-oriented approach is to change the Commission from a top-down, frequency and content control organization to that of one that assists in the enforcement of private property rights. In a fully deregulated environment, a market-based system will occur naturally within a short amount of time without the need for any additional centralized oversight and prodding. Not only should adoption of a free market-based allocation system more ethical than previous methods, but could be considerably more practical as well.

To address the issue of spectrum use by non-profits, academia and other science oriented organizations - while certainly their efforts and intentions are noble and appear for in 'the public good', it is highly questionable that these needs are truly of higher value to society than those by consumers and businesses.

While the pursuit of pure science, be it outward looking through the use of radio telescopes or inward looking by use of radio tracking of wildlife, when these activities are put side by side with the needs of most common people, they suddenly appear very 'strategic and speculative' at best. History shows us that it is highly probable that only a few of these efforts (which currently use huge amounts of scarce spectral resources) will amount to any tangible benefits to the masses, even in the long term. Hopefully this commentary will not be construed as Luddite or anti-science by any means but show that current methods of acquiring many of these highly desirable spectral bands for the use of the few at the expense of the many, certainly pose numerous ethic questions. For example, by whose measure should these decisions of allocation be made? Certainly the speculation of future benefit for all of mankind is highly subjective and allowing a single individual or organization to continue to make these decisions artificially elevates these parties to a false level of elitism. The theory that any one individual or organization can accurately determine and prioritize resource usage for large numbers of people has certainly been disproved with the demise of the legacy U.S.S.R Central Planning Board. Open markets and private property rights are the basis of U.S. freedoms and should be upheld in spectrum allocations as well.

A more ethical solution to this problem is to allow non-profits and other organizations the opportunity to buy bands of spectrum, as they require - the same as everyone else. Just as research facilities require grants to acquire real estate and other facilities to engage in research, spectrum is just as scarce a resource as land and should be treated as such. In this regard (as in the business context) not only does long-term realization of benefits to mankind require long term investment, but also associated long-term risk comes with this investment as well and should its assumption should be voluntary. No more free lunches. Spectrum set aside for

research and other uses causes more scarcity and higher prices in the remaining bands, where consumers must pick up the tab.

2. Should current, restrictive service and operating rules applicable in many bands be changed to provide licensees with greater flexibility? If so, in which bands and how?

a. *Should incumbent users be given flexibility within their existing spectrum?*

Yes. Existing commercial licensees should have the ability to buy, sell and lease their current spectrum as they see fit. It is virtually impossible for the Commission or any other single company or entity to predict which types of wireless services the public will value in the future. Only by allowing individuals and companies the freedom to utilize their spectral property as they see fit, will highly valued and efficient use of resources occur. With multi-band receiver and transmitter technology now commonplace, consumers are no longer ‘locked in’ to single vendor/frequency solutions as they have been in the past, further eroding arguments calling for increased consumer protections.

b. *Should “site” licenses (e.g., broadcasting, private land mobile) be converted to geographic area licenses? If so, how should such licenses be defined (e.g., by power limits at geographic and frequency boundaries)?*

Geographical boundary definitions would enable increasing creative utilization of spectral/geographical space. Defining ‘property lines’ or boundaries based on power also enable equipment manufactures to sell variable power transmitter, allowing operators to reduce their equipment costs. This scheme is the most advantageous for the higher bands (1Ghz and up) used indoors where walls often provide a natural attenuation. Interference or spectral trespassing then becomes a matter for mediation or the civil courts – not an overburdened FCC.

c. *How should spectrum not currently licensed by geographic areas be assigned or re-assigned, e.g., by auctioning Commission-defined “overlays” or by other means?*

The Commission should begin by defining minimal ‘lot’ sizes based on spectral and geographical units. Parties interested in aggregating lots together to create larger

allocations could do so in the future through private exchanges and brokers. This method allows small independents fair access to spectral property so as to not advantage large corporate entities. Perhaps lessons learned from past US homesteading acts could assist in these proceedings.

- d. *What are the relative efficiencies and inefficiencies of different licensing models?*

Initial public auctioning is the most efficient and fair method. Some equivalent type of property taxes could discourage spectral squatting. After the initial sale, private

- e. *How would the interference rights of incumbents and new licensees be redefined under flexibility?*
- f. *What, if anything, should the Commission do to facilitate efficient restructuring of spectrum held by new licensees and incumbents, i.e., reduce transactions costs, avoid strategic holdouts, and create greater certainty about costs?*

Free market mechanisms such as auctions, allow the fastest path to price parity and liquidity and eventual true market equilibrium. Scheduled 'sun setting' of existing licenses will allow incumbents ample time to accommodate any required technological/spectral purchases.

3. *Should spectrum policy be different in different portions of the spectrum or in different geographic areas?*

- g. *For instance, should the more congested region of the spectrum (i.e., that below 3 GHz) be governed by different policies than the less congested portions of the spectrum? Should different licensing concepts be applied to upper millimeter wave spectrum where propagation characteristics limit the range and small wavelengths enable very narrow beams?*
- h. *Should spectrum policies vary by geographic area according to the relative level of spectrum congestion or use? For instance, should the rules be different in urban areas where spectrum is generally in high demand, than in rural areas where the demand for spectrum is typically low, or in the transition areas – where spectrum demand is somewhere between high and low demand regions?*

- i. *How can spectrum use, congestion and demand be accurately measured and predicted?*

Centralized management and control of congestion and demand is not a scalable solution and is causing more problems than it solves. In the analogous real estate sector, supply and demand effects self regulate the industry yet somehow everyone manages to purchase or lease homes that meet their needs and budgets – without centralized planning. Only in areas still under the cloud of well-intentioned rent control are there issues of scarcity in the face of underutilization.

7. Are new definitions of “interference” and “harmful interference” needed? If so, how should these terms be defined?

‘Harmful’ interference by definition resides within the realm of the subjective. As in municipal codes dealing with issues of light and noise pollution, it is difficult to objectively predetermine resolutions for all possible inter-party conflicts. These issues are better left for the civil courts to determine and leave legal precedents. The Commission should concentrate its efforts on defining private property boundary specifications for both geographic and band separation.

13. If the Commission adopts new policies to address interference, should the rights of new spectrum users be defined differently from those of the present incumbents? If yes, how?

Absolutely not. The rights of new entrants and incumbents are by law identical, as guaranteed by the US Constitution. While it is unfortunate that many incumbents have enjoyed the advantage of prior grant under a current grant system determined by questionable value metrics (as in the situation with the incumbent telecomms) continuing this flawed system any longer than necessary will initiate years of legal conflicts.

16. Some parties assert that the Commission should adopt rules for interference that are based on economics, and not purely technical, in nature. They argue that efficient interference management should involve an economic balancing between the parties using the spectrum. Would greater use of these types of alternatives lead to more certain and expeditious resolution of interference issues?

Many of the more complex interference issues will involve use within the unlicensed bands. Unlicensed bands by nature are ‘tragedy of commons’ in the making and should be auctioned off. The Commission would be wise to prepare for this impending calamity specifically within the 2.4/5.0Ghz ISM bands – as nearly all consumer hardware vendors are planning or shipping devices that function in these unlicensed frequencies.

An alternative solution to these public bands would allow private spectrum owners the ability to lease spectral time slices on the open market. Most, if not nearly all of these consumer devices do not require constant communication, especially in a national scope. It is much more efficient and cost effective for users and their associated devices to only pay for the spectral access that they actually use.

A market-based framework allows these possible types of solutions to flourish simultaneously without the need to just pick one model, watered-down by bureaucratic compromise.

24. How should the amount of spectrum dedicated for the support of public safety and related functions be determined?

Not only should dedication of spectrum to emergency services be considered ‘planned underutilization’, but the ability to determine and compromise emergency and security agency needs at a national level is nearly impossible. Public service agencies are already finding that publicly available consumer wireless mobile networks are cheaper to operate and more reliable than the dedicated band, centralized systems they have already built. Mission critical communication needs by civilian emergency services are often better served through the use of multiple redundant consumer-grade cellular solutions rather than single military-grade networks. Allowing the private sector access to additional spectrum at all frequencies will further drive down wireless access costs for all users – be they private or government in context.

Thank you for the opportunity and consideration of these comments.

Regards,

David Rhodes,
IT Consultant and US citizen and taxpayer

322 Cortland Ave, #65
San Francisco, CA 94110