

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Inquiry Concerning the Deployment of) GN Docket Nos. 09-47 and 09-137
Advanced Telecommunications Capability)
to all Americans in a Reasonable and)
Timely Fashion, and Possible Steps to)
Accelerate Such Deployment Pursuant to)
Section 706 of the Telecommunications Act)
of 1996, as amended by the Broadband Data)
Improvement Act)
)
A National Broadband Plan for Our Future) GN Docket No. 09-51

To: The Commission

**REPLY COMMENTS – NBP Public Notice #30
THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

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Summary

During the course of this important proceeding, the Wireless Internet Service Providers Association (“WISPA”) has submitted a number of Comments that expose significant obstacles that many consumers face in gaining access to affordable broadband service and that recommend solutions the Commission can implement. For these Reply Comments, WISPA emphasizes the policy changes the Commission should make to enable affordable spectrum to be deployed, financed and sustained, thereby facilitating broadband service to rural, unserved and underserved areas of the country.

Millions of Americans continue to lack access to broadband service. According to two recent studies, broadband is not available to between 17 percent and 24 percent of households. As the Commission readily acknowledges, its broadband data collection procedures lack granularity and thus has over-represented broadband availability. The problem of availability profoundly affects the economies of rural communities, which are seeing young adults leave for bigger cities, and job-seekers who are more likely to stop looking for employment if broadband is not available.

Current spectrum policies have not succeeded in promoting more expeditious deployment of broadband networks in high-cost rural, unserved and underserved areas. While unlicensed spectrum has given WISPs the building blocks to serve areas that DSL and cable modem providers do not serve, increasing levels of congestion and interference create a noisy environment that will not sustain reliable service in the future. Likewise, auctions have proved to be inadequate. Misplaced priorities that favor revenues over service and that auction large geographic areas combine both to limit meaningful auction participation by small, local companies and to delay service to sparsely populated areas that cannot support a large, national carrier’s business model. These spectrum limitations also keep private sector investment on the sidelines, which has thwarted the ability of WISPs to expand their successful self-funded systems to nearby areas that lack service.

The Commission should re-focus its spectrum policies to promote broadband service to rural, unserved and underserved areas. First, the Commission should designate 300 megahertz of spectrum for fixed wireless broadband, which may be the only technology capable of economically serving remote areas. Second, the Commission should allocate this spectrum – as well as TV white spaces and other spectrum blocks – according to non-exclusive “licensed lite” (or “hybrid”) procedures that combine the benefits of affordability, rapid deployment and private resolution of interference disputes. “Licensed lite” can be a stand-alone allocation system, or the Commission could implement “licensed lite” for rural markets while auctioning the same spectrum bands for urban markets in recognition of the high cost of deploying in rural markets. An association of communications investors supports the use of alternative licensing mechanisms to help lower investment risk. Third, the Commission should consider incorporating “spectrum homesteading,” a cousin of “licensed lite” that would convert a non-exclusive license into an exclusive license if the licensee meets aggressive build-out, service and localism requirements.

For any licenses the Commission auctions, geographic areas should be small enough that WISPs and other bidders do not have to purchase more spectrum than they need. The Commission also should consider market-based approaches to spectrum auctions where reclaimed licenses could be auctioned more quickly and, where appropriate, in combination with other spectrum or licenses available in the secondary market.

The Commission also should strengthen its “substantial service” rules to require auction winners to serve high-cost areas. Under present standards, auction winners contribute billions of dollar to the U.S. Treasury and focus operations on densely populated, high-revenue areas. This does not stimulate the economy, create jobs or improve broadband access in the direct way that investing in local infrastructure, local workforces and local build-out can, especially in high-cost areas.

WISPA commends the Commission for its comprehensive analysis of broadband, the refreshing transparency in which it has invited public input and its desire to create a meaningful National Broadband Plan. To these ends, WISPA urges adoption of its recommendations to speed fixed wireless broadband deployment to millions of Americans in rural, unserved and underserved areas.

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THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

The Wireless Internet Service Providers Association (“WISPA”) provides these Reply Comments in response to NBP Public Notice #30 to emphasize the need to include in the National Broadband Plan recommendations for significant changes to spectrum policy and licensing mechanisms that will stimulate the growth of broadband service to large portions of the country.¹

In participating in this ongoing and thorough proceeding, WISPA has identified and commented on several obstacles limiting delivery of fixed wireless broadband service to residences, businesses and anchor institutions in urban, suburban and rural areas across the nation.² Access to sufficient and affordable spectrum is the largest problem faced by WISPs and the communities they serve and would like to serve. With more spectrum and improved spectrum policies, reliable and affordable fixed wireless

¹ See Public Notice, “*Reply Comments Sought in Support of National Broadband Plan*,” DA 10-61, GN Docket Nos. 09-47, 09-51 and 09-137 (rel. Jan. 13, 2010).

² A table listing WISPA’s Comments and its main points is attached as Exhibit 1 hereto.

broadband service can be extended to areas where broadband is limited or non-existent, creating economic opportunities for communities and stimulating private sector investment. In these Reply Comments, WISPA articulates the existing problems and offers solutions that include alternative spectrum allocation mechanisms that will eliminate barriers to fixed wireless broadband deployment.

Introduction

If not for WISPs, the “digital divide” that separates our country would be much greater – more homes and businesses would have the Hobson’s Choice of “dial-up” access or no access. Through creativity, ingenuity and entrepreneurship, small self-funded, locally-owned WISPs have sprouted up in places like Odessa, Washington, Mt. Vernon, Illinois and Brattleboro, Vermont offering, in many cases, the only broadband access service for residents and businesses. Depending on conditions such as population density, terrain, tree density and height, building density and wireless interference, WISPs “mix and match” spectrum from a variety of Part 15 unlicensed frequency bands – the 900 MHz (902-928 MHz), 2.4 GHz (2400-2483 MHz) and 5 GHz bands (5250-5350 MHz, 5470-5725 MHz and 5725-5825 MHz). These bands have dramatically different propagation characteristics and often must be combined in innovative ways as WISPs seek to efficiently and effectively meet demand for service from consumers on farms, in small communities and in suburban and urban areas. Today, WISPA estimates that WISPs serve more than 2,000,000 persons in homes, businesses, hospitals and public safety facilities.³ Many of these people do not have access to DSL or cable modem

³ The Commission’s most recent report on high-speed services shows four-fold increases in fixed wireless high-speed lines (over 200 kbps in at least one direction) and advanced services lines (over 200 kbps in both directions) from June 2005 to June 2008. *See High-Speed Services for Internet Access: Status as of June 30, 2008*, Industry Technology and Analysis Division, Wireline Competition Bureau (July 2009)

service because it is not financially prudent to expand DSL and cable service to sparsely populated areas. Fixed wireless broadband is often the only practical solution.

In the *NOI* that launched the Commission's efforts to develop a National Broadband Plan, the Commission expressly recognized the valuable contributions that WISPs have made to promote broadband deployment:

Unlicensed technologies are often used by Wireless Internet Service Providers (WISPs) to offer broadband service in urban, suburban and rural communities. Unlicensed technologies are increasingly incorporated in devices operating under our licensed radio services rules to enhance consumers' broadband experience, such as cell phones that include Wi-Fi broadband access capability. We also note that the Commission recently established provisions for unlicensed devices to operate in the TV white spaces, which hold promise for the introduction of new broadband services.⁴

WISPs want to do more, but WISPs need more than government policies have historically given them. With more spectrum and better spectrum policies and allocation schemes, WISPs can and will quickly extend the reach of broadband so that the promises of ubiquitous and affordable broadband access are realized.

Discussion

I. MILLIONS OF AMERICANS CONTINUE TO LACK ACCESS TO BROADBAND SERVICES.

While the accomplishments of WISPs are impressive, millions of Americans continue to lack access to broadband. In a recent report examining broadband availability at the Census block level, Brian Webster Consulting and The Gadberry Group concluded with high confidence that nearly 29 million households – 24.57 percent of the occupied

(“2009 High-Speed Report”) at Tables 1 and 2. Most of this growth has occurred with respect to residential lines. *See id.* at Tables 3 and 4.

⁴ *A National Broadband Plan for Our Future*, Notice of Inquiry, FCC 09-31 (rel. Apr. 8, 2009) (“*NOI*”) at ¶21 (footnotes omitted).

households in the United States – do not have access to broadband.⁵ A June 2009 Pew Research Center report concluded that:

For both non-internet and dial-up users, there are small increases in those saying they can't get service where they live. For dial-up users, 17% say they cannot obtain service where they live, an increase from 14% in 2008 that is not statistically significant. For non-users, 16% cited "can't get access" in 2009, an uptick from 12% in 2007 that is significant at the 90% confidence level. Overall, this translates into 17% of non-internet or dial-up users who cite lack of availability as a reason they do without either internet service or broadband.⁶

As the Commission recently admitted,⁷ the Commission's data collection lacks accuracy because, until the March 2009 Form 477 forms were filed, the Commission collected data at the ZIP code level, a low-granularity unit of measurement.⁸ Beginning with the March 2009 Form 477 reports, broadband providers are required to report broadband information according to Census tracts, still 100 times less granular, and thus less accurate, than Census block reporting.⁹ As a result of this lack of granularity, the Commission's reports have historically over-reported broadband availability. While the

⁵ See Industry Report, "Evolving Metrics: New Levels of Accuracy Reveal Increased Take Rates," Brian Webster Consulting and The Gadberry Group (November 2009), at Table 2.

⁶ Home Broadband Adoption 2009, Pew Internet & American Life Project (June 2009) at 42.

⁷ See Presentation of the Omnibus Broadband Initiative, September 2009 Commission meeting (Sept. 29, 2009) ("September Presentation"), at 32-34.

⁸ WISPA has previously pointed out that ZIP codes may not even be polygons. See WISPA NOI Comments at 11, n.31, *citing* http://www.manifold.net/doc/zip_codes_are_not_areas.htm. ("ZIP codes are postal codes in the United States created by the US Postal Service. Perhaps the most common misconception in GIS is that Zip codes are polygonal regions or areas. People often think of mapping in the US as a hierarchy of ever-subdivided polygonal areas: states, counties, cities, zip codes. If they need higher resolution than a county, they next leap to zip codes because they think of zip codes as polygons. This is not true. Zip codes are **linear** features associated with specific roads or with specific addresses such as apartment buildings or military bases that are best regarded as a point. In some cases, Zip codes have no physical location because they are assigned to a mobile or abstract "location" such as a military ship. Even in the most common case of Zip codes assigned to streets, Zip codes **do not** clump together in groups that may be covered by rational polygons.") (emphasis in original).

⁹ See *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvements of Wireless Broadband Subscriber Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscriber Data*, 23 FCC Rcd 9691, 9695 (2008) ("2008 Data Gathering Order") (requesting broadband data by Census tracts). See also September Presentation at 33. The Commission has not reported on the results of its 2009 Form 477 data collections.

“true” number of households where broadband is not available may never be known – even the broadband mapping project may be inaccurate for a variety of reasons¹⁰ – suffice it to say that “[e]ven with huge advances in broadband penetration, many Americans live in areas where broadband networks have not been deployed or where choice is limited.”¹¹

The lack of broadband availability has profound consequences for rural America. WISPA has written about the documented “rural brain drain” resulting from the flight of young adults from rural areas to cities.¹² Among the reasons for this phenomenon is a lack of digital infrastructure that prevents rural consumers from participating in the economic and educational opportunities enabled by broadband.¹³

Broadband availability also affects the ability of consumers to seek employment, a primary objective of the Recovery Act. According to a recent Phoenix Center report, there is a strong correlation between Internet access and employment – “[u]sing broadband at home or in a public setting reduces the probability of abandoning the labor market due to discouragement by about 50% (or more).”¹⁴ Thus, job seekers who use the Internet are more likely to keep actively looking for jobs and less likely to drop out of the labor pool than those without Internet access.

¹⁰ See Broadband Data Improvement Act, Title I of Public Law No. 110-385, 122 Stat. 4096 (Oct. 10, 2008); American Recovery and Reinvestment Act of 2009, Public Law No. 111-5, 123 Stat. 115 (Feb. 17, 2009) (“Recovery Act”).

¹¹ Report of the U.S. Broadband Coalition on a National Broadband Strategy, Sept. 24, 2009, at 21.

¹² See Comments of WISPA, Public Notice NBP #18, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Dec. 4, 2009).

¹³ See also Comments of the Rural Broadband Policy Group, Public Notice NBP #18, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Dec. 4, 2009), at 3 (“Many rural communities suffer from lack of basic infrastructure, little economic investment, scarce employment opportunities, outmigration, and poverty.”).

¹⁴ Phoenix Center Policy Paper Number 39: Internet Use and Job Search, Phoenix Center for Advanced Legal and Economic Public Policy Studies (January 2010), at 30-31.

II. SPECTRUM POLICIES HAVE FAILED TO PROMOTE RAPID EXPANSION OF BROADBAND TO RURAL, UNSERVED AND UNDERSERVED AREAS OF THE COUNTRY.

Commission policies have not adequately addressed the problem of broadband access. For too long, necessary spectrum resources have been out of reach for most WISPs, municipalities and others that are willing and able to serve rural Americans. Non-exclusive unlicensed spectrum is simply not adequate, and exclusive licensed spectrum is too expensive for WISPs to acquire under current policies. As congestion in unlicensed bands increases and as larger carriers and cable companies largely avoid deploying in areas where the rate of return does not justify further investment in wired plant, the situation is not getting any better.

A. Unlicensed Bands Are Congested And Lack Long-Term Viability.

To date, WISPs' use of unlicensed spectrum has been prolific, but the record makes clear that it cannot be sustained. The largest users of unlicensed fixed-wireless spectrum – WISPs and energy companies – independently identified increasing congestion as a significant problem to their respective operations. The needs of consumers in rural, unserved and underserved areas to have broadband access and the needs of energy companies to manage communications are critical, yet both industries are feeling the harmful effects of congestion and interference.

In its earlier Comments, WISPA stated that:

In some respects, WISPs have become victims of their success. In urban areas and even some rural areas, the license-free bands have become “noisy” as access points proliferate and bandwidth requirements increase. WISPs generally do a good job of managing interference among themselves, but the time has come when existing unlicensed bands are

congested, leaving customers to choose between sub-optimal service or no service at all.¹⁵

Likewise, the American Petroleum Institute (“API”) observed in its Comments that “growing interference concerns in the license-exempt bands, particularly the 902-928 MHz band, threaten the ability of the oil and natural gas industry to satisfy requirements for point-to-multipoint communications.”¹⁶ In its Reply Comments, API wrote extensively about the “unacceptable levels of interference in the license-exempt bands” that are “exacerbated by incompatible technologies such as radios based on 802.11 ‘Wi-Fi’ protocols and ‘Wi-MAX-like’ radios.”¹⁷

Even interests promoting the allocation of additional spectrum for licensed mobile wireless service understand the adverse consequences of congestion and interference in unlicensed bands. Qualcomm stated that “unlicensed devices are less reliable than those that used licensed spectrum, and as unlicensed devices proliferate, their reliability is unlikely to improve.”¹⁸ CTIA similarly explained that “[w]ithout an exclusive license, it is largely impossible to know the level of use by other devices in the spectrum band, and consequently a wireless network operator can accurately predict neither the capacity of the network nor the revenues it will earn.”¹⁹ Though mobile interests were commenting

¹⁵ Comments of WISPA, Public Notice NBP #6, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Oct. 23, 2009) (“WISPA Spectrum Comments”), at 4. *See also* Reply Comments of WISPA, Public Notice NBP #6, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Nov. 13, 2009).

¹⁶ Comments of the American Petroleum Institute, Public Notice NBP #6, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Oct. 23, 2009), at 2.

¹⁷ Reply Comments of the American Petroleum Institute, Public Notice NBP #6, DA 10-61, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Nov. 13, 2009) at 3 & 4.

¹⁸ Comments of Qualcomm Incorporated, Public Notice NBP #6, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Oct. 23, 2009), at 32.

¹⁹ Comments of CTIA, Public Notice NBP #6, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Oct. 23, 2009), at 24. *See also* Comments of MetroPCS, Public Notice NBP #6, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Oct. 23, 2009), at 7.

on the unreliability of unlicensed mobile spectrum, the same holds true for unlicensed fixed spectrum.

The “tragedy of the commons” is not just a clever catch-phrase, but a reality in the daily business of WISPs. As the noise floor increases from the presence of other unlicensed devices, the ability of WISPs to serve their *existing* subscribers is jeopardized. Further, WISPs are reluctant to invest in extending service to nearby unserved and underserved areas because of the risk of interference from other unlicensed devices.

These challenges will not diminish, but will only get worse over time. Increased use of unlicensed bands for bandwidth-intensive applications and expanding energy infrastructure will exacerbate a problem that is already at a critical stage. In sum, allocation of additional *unlicensed* spectrum will not facilitate affordable, reliable and innovative deployment of broadband service to those on the other side of the digital divide.

B. Auctions for Exclusive Spectrum Have Not Enabled Broadband Service In Rural, Unserved And Underserved Areas.

Auctioning spectrum for fixed wireless deployment also is an inadequate method of making fixed broadband service available to the millions of Americans that lack access. Current auction policy is premised on the belief that the entity that bids the most for a license in an auction is the entity that places the highest value on the use of the spectrum and is best able to put the licenses to use for the benefit of the public.²⁰ But this policy has not enabled broadband access to rural, unserved and underserved areas because basing auctions on economic value ignores consideration of policy objectives

²⁰ See, e.g., *Morris Communications, Inc.*, 23 FCC Rcd 3179 (2008), *aff'd*, *Morris Communications, Inc. v. FCC*, 566 F.3d 184 (D.C. Cir 2009).

that would support service to these areas, especially when the cost of spectrum is considered. Moreover, auction winners have not been putting their licenses to use to benefit the public in rural areas, but have focused build-out on larger, densely populated areas that give shareholders a greater return on their investment. Even with “designated entity” bidding credits, past auction structures have heavily favored incumbent publicly-traded mobile wireless companies that acquire large geographic areas with little or no interest in deploying in rural areas. As Spectrum Bridge observed:

current spectrum allocation methods are as much a barrier to entry as the legacy technical rules. The auction process, for instance, tends to favor those with deep pockets, not those that will put spectrum to optimal use. Much of the innovation in the wireless industry comes from small companies or those outside the wireless industry, neither of which can compete in a high stakes auction for large swaths of spectrum against entrenched incumbents.²¹

Few WISPs have participated in Commission auctions, and even fewer have been successful in acquiring licenses. First, many WISPs have no desire to serve large markets, even markets as “small” as CMAs. Rather, WISPs want the ability to serve smaller communities that do not require a large amount of capital or that do not include larger cities. Second, the majority of WISPs that are self-funded simply cannot afford to compete for large-area licenses with AT&T, Verizon and other large CMRS carriers, especially where policies are designed to simply reward the highest bidder at the expense of more worthy policy objectives. Bidding credits have proved to be largely inconsequential for WISPs.

Historically, Commission auctions have enabled large carriers to increase their already-dominant spectrum holdings. In advocating rules that would have encouraged

²¹ Comments of Spectrum Bridge, Inc., “*Fostering Innovation and Investment in the Wireless Communications Market; A National Broadband Plan For Our Future*,” Notice of Inquiry, GN Docket Nos. 09-157 and 09-51 (filed Sept. 30, 2009) (“Spectrum Bridge Comments”), at 8-9 (footnote omitted).

greater participation in the Upper 700 MHz auction (Auction No. 73) by smaller companies, WISPA urged the Commission to auction two blocks of spectrum by Cellular Market Area (“CMA”), the smallest geographic area for the auction, and to grant certain qualifying bidders an additional 20 percent bidding credit for rural CMAs (*i.e.*, RSAs) to help offset higher build-out costs.²² WISPA presented results from the previous AWS-1 auction showing that the CMRS providers that control more than 90 percent of wireless revenues, and the cable consortium that partnered with Sprint Nextel, are the same companies that accounted for almost 80 percent of AWS-1 auction revenues.²³ To illustrate this point, WISPA included the following table in its Comments:

Company	Service Revenues (billions)²⁴	% of Total Service Revenues²⁵	AWS High Bid (thousands)	% of Total High Bids²⁶
Cingular	29.7	27.4	\$1,344,610	9.8
Sprint-Nextel	26.3	24.2	\$2,377,609 ²⁷	17.3
Verizon Wireless	26.3	24.2	\$2,808,599	20.5
T-Mobile	11.3	10.4	\$4,182,312	30.5
Alltel	6.2	5.7	0	N/A
Total	99.8	91.9	\$10,713,130	78.1

The Commission did not adopt WISPA’s proposals and, not surprisingly, the vast majority of licenses available for the 700 MHz auction were purchased by the large wireless carriers. According to a post-auction analysis from an investment research firm,

²² See Comments of WISPA, *In the Matter of Service Rules for 698-746, 747-762 and 777-792 MHz Bands*, Report and Order and Further Notice of Proposed Rulemaking, FCC 07-72 (filed May 23, 2007).

²³ According to Council Tree Investors, Inc., at the time Cingular, Sprint Nextel, Verizon Wireless, T-Mobile and Alltel control 92 percent of the wireless carrier revenue. See Council Tree Written Ex Parte Presentation, WT Docket No. 05-211 (dated Mar. 27, 2006) at 6.

²⁴ *Id.*

²⁵ See *id.* Percentage based on total industry LTM revenue of \$108.5 billion.

²⁶ The net total of high bids was \$13,700,267,150. See Auction of Advanced Wireless Services Licenses Closes, Winning Bidders Announced for Auction No. 66, DA 06-1882 (rel. Sept. 20, 2006).

²⁷ Bidding entity was SpectrumCo, which also includes large cable companies in combination with Sprint Nextel.

AT&T Wireless and Verizon Wireless accounted for approximately \$16.3 billion of the \$19.6 billion in high bids – roughly 83 percent of the total.²⁸

As the above discussion makes clear, auctions have proved to be an ineffective method for WISPs, local companies and local entrepreneurs to obtain licensed spectrum. Auctions also have not spurred deployment of broadband services to rural, unserved and underserved areas, but rather have served to fill up the spectrum coffers of large carriers that have little interest in building out to high-cost, low-margin areas, and no economic reason for doing so.

C. The Lack Of Viable Spectrum Options Also Limits Private Sector Investment In Broadband Facilities.

In recent Comments to the Commission, CoBank, a leading telecommunications bank that finances rural infrastructure, wrote that:

The key challenge of developing a national broadband plan that seeks to ensure that all people of the United States have access to affordable broadband capability is to recognize that building and maintaining capital expenditure to provide broadband to rural America costs more than 10 times to provide local connections and more than 20 times for transit and transport costs than in urban areas. In high-cost rural areas, subscriber densities are rarely high enough to ensure the level of cash flow needed to provide a return on capital (equity and debt) associated with deployment of broadband.²⁹

Given this perspective, it is apparent why the private sector has largely avoided investing in wireless broadband deployment in rural areas. And CoBank's statements do not even account for two other important points – the risk profile associated with unlicensed

²⁸ See Stifel Nicolaus Report, "FCC Announces Winning Bidders: Verizon, AT&T Bid 16B for Lion's Share," March 20, 2008. See also Public Notice, "Auction of 700 MHz Band Licenses Closes," DA 08-595, rel. March 20, 2008.

²⁹ Comments of CoBank, ACB, Public Notice NBP #28, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Jan. 8, 2010), at 2 (footnotes omitted). CoBank supported a sustainable cost recovery mechanism for high-cost rural areas based on the Universal Service Fund. WISPA previously urged the Commission to eliminate USF windfalls and reallocate legacy voice support to promote broadband access. See Comments of WISPA, Public Notice NBP #19, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Dec. 7, 2009).

spectrum and the high costs to acquire spectrum – both of which create disincentives to equity or debt financing in rural telecommunications projects. Indeed, it has only been through government subsidies that telephone lines were extended to rural areas – why should extension of broadband connections be any different?

In WISPA’s view, direct governmental support for broadband is only part of the answer. Governmental support must be combined with private sector investment, and the private sector will invest only where it is financially prudent to do so. As the Communications Finance Association (“CFA”) has written, the Commission has the opportunity to remove constraints on private sector financing of the broadband industry and, in so doing, help bridge the rural broadband gap.³⁰

III. THE COMMISSION SHOULD IMPROVE ITS SPECTRUM ALLOCATION POLICIES TO PROMOTE DEPLOYMENT OF BROADBAND TO RURAL, UNSERVED AND UNDERSERVED AREAS.

The dwindling amount of useable unlicensed spectrum, the practical unavailability of auctioned licensed spectrum and the lack of private sector investment combine to impede the deployment of fixed broadband services in rural, unserved and underserved areas. WISPA urges the Commission to designate more spectrum for fixed wireless broadband and to make fundamental changes to its spectrum allocation scheme to help eliminate these obstacles and enable expeditious expansion of broadband to areas of need. When implemented, these recommendations will together create a regulatory and spectrum management environment that will make better use of spectrum, stimulate

³⁰ See Comments of the Communications Finance Association, Public Notice NBP #28, GN Docket Nos. 09-47, 09-51 & 09-137 (filed Jan. 8, 2010) (“CFA Comments”).

investment and bring broadband service to areas that are currently unserved and underserved.

A. The Commission Should Designate 300 Megahertz Of Spectrum For Fixed Wireless Services.

As stated in the WISPA Spectrum Comments,³¹ the Commission should make available 300 megahertz of new spectrum to accommodate the needs of consumers in rural, unserved and underserved areas to have access to fixed wireless broadband services. As discussed above, existing unlicensed spectrum is too noisy and must be replaced. Further, as bandwidth-intensive applications proliferate, the unlicensed bands will become even more congested. Given the inability of WISPs to acquire licensed spectrum and the unwillingness of past auction winners to make affordable spectrum available in the secondary market, existing licensed spectrum solutions are few and far between.

WISPA believes that 300 megahertz will be a sufficient amount of spectrum to accommodate future needs. This amount will allow three WISPs in each area to each have access to 100 megahertz of spectrum, an amount deemed sufficient to address foreseeable consumer demand. WISPA urges the Commission to incorporate this recommendation into the National Broadband Plan.

B. The Commission Should Allocate Spectrum According To “Licensed Lite” Procedures.

In addition to making additional spectrum available, the next most important step the Commission should take is to provide effective means for allocating that spectrum. In its previous Comments, WISPA advocated expanded use of non-exclusive “licensed

³¹ WISPA Spectrum Comments at 19.

lite” processes similar to those used in the 3650 MHz Service.³² Under these rules, an eligible entity can obtain a nationwide non-exclusive license via the Universal Licensing Service (“ULS”). This license authorizes operation of a fixed or a base station once the station is properly registered through ULS. In adopting these rules, the Commission stated that:

We believe that a non-exclusive nationwide licensing scheme, coupled with a fixed and base station registration requirement, will ensure open access to this spectrum for nominal application fees and allow effective and efficient use of this spectrum in response to market forces. This will allow opportunities for rapid deployment of broadband technologies and will advance our goal of bringing broadband services to all Americans including consumers living in less densely populated rural and suburban areas.

* * *

We wish to emphasize that the licensing requirements that we are adopting here for wireless operations in the 3650 MHz band are minimal in nature. The record in this proceeding indicates that service providers who typically operate on an unlicensed basis under our Part 15 rules are interested in using this spectrum for the development of wireless broadband services particularly in underserved and rural communities. We applaud these efforts and wish to encourage them.³³

To help mitigate the potential for interference between licensees operating in the same or nearby market, the Commission cautioned that “[l]icensees should examine [the ULS registration] database before seeking station authorization, and make every effort to ensure that their fixed and base stations operate at a location, and with technical parameters, that will minimize the potential to cause and receive interference.”³⁴

³² See Section 90.1307.

³³ *Wireless Operations in the 3650-3700 MHz Band*, 20 FCC Rcd 6502 (2005), at 6512.

³⁴ *Id.* at 6512-13. The Wireless Telecommunications Bureau recently affirmed that “the licensing scheme imposes on all licensees the mutual obligation to cooperate and avoid harmful interference to one another. . . Licensees must make every effort to ensure that their fixed and base stations operate at a location, and with technical parameters, that will minimize the potential to cause and receive interference.” *World Data PR Inc.*, Memorandum Opinion and Order, DA 09-262 (rel. Dec. 22, 2009).

WISPA believes that “licensed lite” or “hybrid” licensing offers the best of both unlicensed and licensed spectrum allocation schemes. Unlike license-exempt bands, licensees obtain a license, and station registrations create a record of operations and an obligation for other licensees to engage in private coordination to mitigate potential interference. Because day-to-day management of interference is left to the licensees, the Commission does not have to adjudicate interference complaints. Licensees also can develop and operate under a business model that is based on more concrete expectations than an unlicensed system, which can suffer unanticipated congestion and interference at any time. In addition, licensees would be operating in spectrum where they do not suffer interference from an ever-increasing number of unlicensed devices.

Unlike auctioned spectrum, licensees do not have to compete for exclusive licenses and pay large sums of money just for licenses. Moreover, spectrum is available at a time and at a place where it is needed rather than when and where the Commission decides it wants to auction it. As a result, “licensed lite” procedures enable service to be deployed rapidly in areas where demand for broadband is greatest. Since licensing began in November 2007, the Commission has granted almost 1,200 non-exclusive licenses and “licensed lite” facilities are operating in communities across the country.³⁵

The financial community also recognizes that a “licensed lite” spectrum allocation scheme offers greater protection rights than the “minimal protection” afforded users of unlicensed devices. In its Comments, CFA stated that:

³⁵ In the WISPA Spectrum Comments, WISPA pointed out that certain operating rules should be amended to facilitate more widespread use of the 3650-3700 MHz band. *See* WISPA Spectrum Comments at 10-16. WISPA suggested that, in the interim period before new rules are proposed and granted, the Commission be favorably disposed to granting requests for waiver of power limits in rural areas where operation would not increase interference to FSS earth stations. *See id.* at 13.

Many providers of broadband services presently utilize “unlicensed” spectrum. Such use currently is afforded minimal protection against interference and displacement. CFA urges the Commission to expand the availability of hybrid licensing or other low cost spectrum access schemes into the national broadband plan. Potential investors and lenders need to be assured that the business models for which they are asked to provide financing will not have their operations impaired by any loss or diminution of relied upon spectrum.³⁶

It is significant that the financial community appreciates the meaningful distinctions between unlicensed spectrum and “licensed lite” spectrum and supports WISPA’s position.

The Commission also can implement greater use of “licensed lite” for existing spectrum allocations. In its petition for reconsideration of the TV white space rules, WISPA asked for minor changes to the rules to incorporate “licensed lite” features, including requirements that fixed users examine the database before commencing operations to determine the presence of other fixed users and to coordinate operations in good faith.³⁷

In the WISPA Spectrum Comments, WISPA suggested that the Commission allocate spectrum for rural CMAs (“RSAs”) in the 2155-2180 MHz band according to “licensed lite” rules, and auction the remaining CMAs (*i.e.*, MSAs).³⁸ These short-term advances would lower entry costs in high-cost rural areas and encourage expeditious station registration as operators deploy. Moreover, equipment manufacturers supporting large carriers in MSAs would have equipment available for WISPs and others deploying in the RSAs. As other bands become available for assignment, the Commission should make spectrum available under the “licensed lite” mechanism.

³⁶ CFA Comments at 4.

³⁷ See WISPA Petition for Reconsideration, ET Docket Nos. 04-186 & 02-380 (filed March 16, 2009).

³⁸ See WISPA Spectrum Comments at 18.

C. **The Commission Should Consider “Spectrum Homesteading” To Encourage Aggressive Build-out And Service To The Public.**

Throughout this proceeding, WISPA has advocated a concept it calls “spectrum homesteading” as a supplement to “licensed lite” spectrum allocation.³⁹ Licensees could apply for non-exclusive licenses using available spectrum in specified rural areas of the country (as opposed to a nationwide license). If the licensee meets stringent coverage and service benchmarks beyond the traditional “substantial service “safe harbors” within a short period of time (*e.g.*, 18-24 months), the licensee would notify the Commission and, upon review and approval of the notification, the license would become exclusive on the utilized frequency or frequencies for the particular coverage area served. Licensees under a spectrum homesteading regime also would be required to establish a community portal, provide public safety communications and meet other reasonable public service and public interest objectives that benefit the local community.

Spectrum homesteading offers a number of benefits for the public. First, it creates a strong incentive for the licensee to build out an area quickly. Licensees desiring exclusivity would deploy the spectrum well in advance of any ten-year “substantial service” obligation that applies to the licensed wireless services. Second, with the prospect of an exclusive license in sight, licensees will have a better chance of securing necessary financing given investors’ preference for financing licensed operations. Third, spectrum homesteading can be easily implemented through ULS and, like “licensed lite,” can provide a database for private sector coordination. Fourth, like the “licensed lite” approach, spectrum homesteading can exist alongside spectrum auctions – spectrum in

³⁹ *See, e.g.*, WISPA NOI Comments at 14-15; WISPA Spectrum Comments at 18-19.

rural areas could be made subject to spectrum homesteading while the same spectrum in urban areas can be auctioned.

WISPA believes that spectrum homesteading warrants consideration in the National Broadband Plan as a viable alternative to spectrum auctions. As an initial effort, the Commission may wish to create a testbed for spectrum homesteading to determine whether and to what extent the benefits WISPA envisions will ensue.

D. To The Extent The Commission Continues To Rely On Spectrum Auctions, It Should Change Its Auction Procedures And Service Rules To Stimulate Broadband Deployment in Rural, Unserved and Underserved Areas.

WISPA has identified alternatives to auctions that will facilitate spectrum acquisition, deployment and utilization by small companies that desire to serve rural, unserved and underserved areas. By decreasing the cost of spectrum and eliminating the threat of interference in rural areas, the gaps in broadband coverage will be filled.

If the Commission rejects WISPA's proposals, it should at a minimum make changes to its auction structure. As WISPA previously explained, even CMAs – the smallest geographic areas that the Commission auctions – often are too large. Requiring bidders to bid on 10 counties when they only desire to serve one county is like requiring a farmer to have a 400-acre farm when he only wants to raise crops on 40 acres. Moreover, bidders that desire to serve multiple counties can aggregate licenses more readily than bidders can partition or disaggregate auctioned spectrum in the secondary market.

In addition, the Commission should consider whether the private sector can more effectively auction spectrum than the Commission can. As Spectrum Bridge pointed out, “the marketplace is the mechanism by which the Commission should provide access to ‘orphaned’ spectrum, leftover spectrum from primary auctions, or spectrum that has been

returned to the FCC.”⁴⁰ In other words, private spectrum exchanges can effectively package smaller pieces of spectrum with other auctioned or licensed “secondary market” spectrum, and then make it available for purchase in response to market conditions. The Commission historically has auctioned large chunks of spectrum when it is ready to do so, not necessarily when there is demand and not always in ways that can enhance spectrum value. Moreover, forfeited spectrum lies unused in the Commission’s inventory, often for years;⁴¹ if subject to a private auction, that spectrum could be put to use.

As an additional measure, the Commission should reconsider its “substantial service” rules for wireless services.⁴² Although the “safe harbors” vary among the services, licensees typically have ten years to meet a relatively low standard of build-out.⁴³ No doubt, this is intended to encourage bidders to pay more for spectrum – if the build-out rules are easy to meet over a long period of time, the spectrum becomes more valuable because the risk of forfeiting it is reduced. As a result, billions of dollars in auction revenues that could have been used to fund wireless deployments have instead been pulled from the marketplace while actual build-outs in rural areas lag.

If broadband deployment is to occur in a meaningful way, this policy of enhancing spectrum value must be reversed in favor of a policy of enhancing spectrum

⁴⁰ Spectrum Bridge Comments at 7.

⁴¹ For instance, many of the licenses in the 218-219 MHz Service were not renewed in the 2004-2005 time period when initial license terms expired, and the Commission has not determined when or how it plans to make that spectrum available for public use. Meanwhile, other 218-219 MHz Service licensees are developing business models predicated on combining their licenses with licenses in neighboring spectrum blocks to create a contiguous block of more valuable spectrum.

⁴² See Section 27.14.

⁴³ For the 700 MHz auction (Auction No. 73), the Commission adopted “use it or lose it” rules and interim build-out milestones. While better than previous definitions of “substantial service,” rural areas likely will be on the “lose it” end and will then be subject to reclamation by the Commission before being made available for reallocation.

deployment. Licensees should be encouraged to spend money on building out networks to serve the public interest. If auction revenues suffer, then that is an appropriate trade-off for expediting investment in broadband infrastructure and in rural economic development. As WISPA stated, “auction revenues do not stimulate the economy in the direct way that investing money in local infrastructure, local workforces and local build-outs do.”⁴⁴

Conclusion

The Commission has a significant opportunity to materially alter spectrum policy in ways that will enable millions of Americans living in rural, unserved and underserved areas to have much-needed access to broadband services. By adopting WISPA’s recommendations, more spectrum will become available, congestion will be alleviated, investment will be stimulated and unserved and underserved communities will finally be served. WISPA urges the Commission to incorporate WISPA’s suggestions into the National Broadband Plan.

Respectfully submitted,

**THE WIRELESS INTERNET
SERVICE PROVIDERS ASSOCIATION**

January 27, 2010

By: */s/ Richard Harnish, President*
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⁴⁴ WISPA NBP #28 Comments at 10.

Exhibit 1
Wireless Internet Service Providers Association
National Broadband Plan Filings

Date	Proceeding	Summary of Recommendations
6/8/09	National Broadband Plan NOI Comments	Enable affordable access to backhaul facilities Improve access to towers Incorporate “licensed” lite and “spectrum homesteading” allocation schemes Identify need for Congress to make broadband funding available Increase transparency in development of Plan
9/4/09	Section 706 Comments	Harmonize definitions of key terms like “broadband,” but recognize technological differences Require middle mile providers to make facilities available on non-discriminatory basis Improve Form 477 data collection
9/30/09	Wireless Innovation NOI Comments	Act on WISPA’s TV white spaces petition for reconsideration Adopt “licensed lite” allocation approach
10/30/09 11/13/09	NBP #6 – Spectrum for Broadband Comments Reply Comments	Change service rules for existing allocations to promote efficiency and investment (e.g., TV white spaces and 3650 MHz Service) Expand use of “licensed lite” and adopt “spectrum homesteading” as alternatives to unlicensed and auctioned spectrum Conduct spectrum audit to identify new spectrum sources
11/4/09	NBP #11 – Middle Mile/Second Mile Comments	Re-examine tariff structure Adopt programs to subsidize middle mile and second mile transport in high-cost rural areas Identify and allocate additional microwave spectrum in 3-10 GHz range Streamline access to government-owned towers and poles
11/5/09	NBP #7 – Government Assets Comments	Establish single agency to lease all federal tower and infrastructure assets Adopt uniform process for leasing government assets Improve Antenna Survey Branch database Ask Congress to extend Section 224 to broadband providers

12/1/09	NBP #14 – Public Safety Comments	Adopt recommendations in WISPA’s TV white spaces petition for reconsideration Amend 3650 MHz Service rules to allow increased power
12/4/09	NBP #18 – Broadband and Economic Opportunities Comments	Mobile broadband not a substitute for fixed wireless broadband Promote investment in rural infrastructure to stem “rural brain drain”
12/7/09	NBP #19 – USF Comments	Transition high-cost USF subsidies from legacy voice to broadband Direct subsidies to last-mile providers serving unserved or underserved areas Commission, not states, should determine eligibility Reduce paperwork burdens but allow government audits of subsidized companies
12/22/09	NBP #26 – Uses of Spectrum Comments	Allocate a sufficient quality and quantity of spectrum for rural deployment Any re-packing of broadcast spectrum should not reduce amount of spectrum for fixed use of TV white space spectrum
1/8/10	NBP #28 – Broadband Financing Comments	Relax grant/loan funding requirements and compliance burdens Support loans, grants, loan guarantees and universal support funding for broadband Adopt alternatives to auctions such as “licensed lite” and “spectrum homesteading”