



May 18, 2010

VIA ELECTRONIC DELIVERY

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Room TWA325
Washington, DC 20554

**Re: Written *Ex Parte* Presentation
ET Docket Nos. 04-186, 02-380; GN Docket No. 09-51**

Dear Ms. Dortch:

FiberTower Corporation ("FiberTower"), Sprint Nextel Corporation ("Sprint Nextel"), the Rural Telecommunications Group, Inc. ("RTG"), and COMPTTEL (collectively, the "Coalition") reiterate their support for fixed licensed point-to-point use of a portion of the vacant TV Bands White Spaces ("White Spaces") channels to provide dramatically more cost-effective backhaul options. Specifically, the Coalition continues to encourage the Federal Communications Commission ("Commission") to allow licensing for fixed use on UHF TV Channels 21-35 and 39-51 of: (1) up to six vacant White Spaces channels second or greater adjacent to a TV broadcast station in rural counties; and (2) any vacant White Spaces channels third or greater adjacent to a TV broadcast station in all counties.

The Coalition submits this *ex parte* filing to correct and address erroneous claims and mischaracterizations made by the Wireless Internet Service Providers Association ("WISPA") regarding technical elements of the Coalition's proposal.¹ The Coalition also responds again to previous WISPA arguments that the Coalition has already addressed in this proceeding. In sum, the

¹ *Ex Parte* filing by the Wireless Internet Service Providers Association, GN Docket No. 09-51 and ET Docket Nos. 04-186, 02-380 (filed Mar. 5, 2010) ("WISPA *Ex Parte*").

Commission should reject WISPA's attempts to limit broadband deployment options in unserved and underserved rural areas to its own narrow unlicensed or "licensed lite" approach. Instead, the Commission should adopt the Coalition's broader proposal to permit use of vacant White Spaces for cost-effective middle mile facilities on a fixed licensed basis expeditiously,² while also permitting the unlicensed or "licensed lite" last-mile, point-to-multipoint and other uses that WISPA proposes.

The Coalition's Proposed Power Limits and Antenna Beamwidth are Consistent with Existing TV Bands Operations. WISPA states that the Coalition's proposed EIRP limit of 35 dBW/6 MHz for fixed licensed point-to-point services will allow transmissions for those services to "travel hundreds of miles" beyond the link endpoints.³ It also asserts that the Coalition's proposed 25° half-power antenna beamwidth is "exceedingly wide" and will limit fixed wireless deployments to the sides of each link.⁴

As an initial matter, the Coalition's proposed power limits and antenna beamwidth requirements are based on *existing* broadcast auxiliary service ("BAS") rules. For example, the proposed maximum power level of 35 dBW EIRP/6 MHz in rural counties is the same power permitted under Section 74.602(h) for all markets. And the proposed interference protection to fixed licensed point-to-point users from later-filed secondary operations and unlicensed White Spaces devices are based on the already-adopted Commission rules for BAS. More than 300 fixed links (including for TV studio transmitter links, TV relay stations, and TV translator relay stations) have already been licensed and installed in the TV Bands and currently operate under the existing BAS rules. Although some of these links are 50-80 miles long or more (underscoring the suitability of the White Spaces spectrum for wireless backhaul), due to propagation characteristics, the existence of natural terrain and related barriers, and the lack of high-gain receiving antennas that would be used by WISPs in the band, the transmissions simply would not travel "hundreds" of miles – and certainly would not impact communications by other White Spaces users hundreds of miles *beyond* the link endpoints.⁵

Moreover, the Coalition notes that its proposal would require fixed point-to-point licensees in the White Spaces to *minimize* their power output. Under the Coalition's proposed technical rules, the average power delivered to an antenna "will be the minimum amount of power necessary to carry out the communications desired." The average EIRP on any authorized frequency would be limited to 24 dBW/6 MHz in urban counties and 35 dBW/6 MHz in rural counties.⁶

² Even though the deadline for second-round Broadband Technology Opportunities Program and Broadband Investment Program applications has passed, there remains an urgent need for more cost-effective middle mile infrastructure, especially in unserved and underserved rural areas.

³ WISPA *Ex Parte* at 3.

⁴ *Id.*

⁵ Fixed licensed point-to-point links would use high-gain antennas both to transmit and to receive the signal. This would enable such long propagation paths. However, WISPs and other White Spaces users are unlikely to use similar high-gain antennas due to their cost and physical size.

⁶ *Ex Parte* filing by FiberTower, Sprint Nextel, and RTG, ET Docket Nos. 04-186, 02-380, Proposed Technical Rules for Licensed, Fixed Use of TV White Spaces at 1 (filed Oct. 28, 2009) ("October 28 *Ex Parte*").

Other elements of the Coalition's proposal, including the proposed lower maximum power level of 24 dBW EIRP/6 MHz in urban (non-rural) counties and the proposed use of high gain directional antennas, are also designed to minimize further the potential for interference and to reduce any impact on other White Spaces users. For example, the use of high-gain directional antennas will make it more difficult for other users deploying lower gain or more distributed antennas to experience interference.⁷ In addition, the Coalition's proposal only protects fixed licensed point-to-point operations against interference from TV bands devices ("TVBDs") within an arc of +/- 30 degrees from a line between the licensed, fixed use receive site and its associated permanent transmitter within a distance of 80 km from the receive site for co-channel operation and 20 km for adjacent channel operation.⁸ Despite WISPA's suggestions to the contrary, WISPs will still be able to engineer last-mile fixed deployments on the sides of each link even with these reasonable protections in place for fixed licensed point-to-point operations, and even if a WISP chooses to operate on the same channel as a fixed point-to-point licensee.

The Coalition has also proposed out-of-band emissions ("OOBE") limits to protect users operating on channels that are adjacent to a channel used by a fixed point-to-point licensee. Specifically, the Coalition has proposed that the FCC license fixed point-to-point operations under Part 101 of its rules, and Section 101.111(a)(2)(i) sets forth the OOBE limits that would apply. These provisions are sufficient to ensure that fixed licensed point-to-point operations in the White Spaces do not "negatively affect" users outside those channels, despite WISPA's allegations to the contrary.⁹

To the extent interference may occur at all given the large number of White Spaces channels widely available in rural unserved and underserved areas (see below), it would occur over much shorter distances than the interference caused by thousands of existing TV stations using the spectrum – the Coalition's proposed power limits pale in comparison to those applicable to existing TV operations. For example, 1,302 existing DTV stations are permitted to operate with 62.1 dBW EIRP/6 MHz, a level 22.7 times greater than that proposed for fixed licensed links, and 451 UHF Class A stations and 1,862 UHF Low Power TV stations are operating with digital power limits of 43.9 dBW/6 MHz (or analog power limits of 53.9 dBW/6 MHz).

WISPA also claims that the antennas proposed for fixed licensed point-to-point use in the White Spaces "do not possess the 'high power' transmit capabilities" that the Coalition proposes.¹⁰ Again, WISPA is wrong. The existing BAS UHF antennas that could be used for fixed licensed

⁷ As discussed below, WISPA criticizes the use of the high-gain antennas already used by BAS operations in the band, preferring instead to have fixed licensed point-to-point operations use even higher gain antennas. If the Coalition were to deploy antennas of the type suggested by WISPA, interference to WISP systems could occur at greater distances.

⁸ October 28 *Ex Parte* at 5. Outside this +/-30 degree arc, fixed licensed point-to-point operations are only protected against interference from TVBDs up to a maximum of 8 kilometers (less than 5 miles) from the receive site for co-channel operation and 2 kilometers from the receive site for adjacent channel operation. *Id.*

⁹ WISPA *Ex Parte* at 4.

¹⁰ *Id.* at 3-4.

point-to-point use are rated for 100 watts transmitter power (or 20 dBW). With the gain of 15.5-17 dBi that is achievable using those antennas, they would be capable of providing EIRP power levels of up to 37 dBW. Contrary to WISPA's assertions, these antennas are not only well-suited for fixed licensed point-to-point use in the White Spaces, but they are the very same antennas already in use for BAS operations in the TV Bands – which is why they have a beamwidth and radiation pattern similar to existing BAS operations instead of traditional point-to-point microwave transmitters. As the Coalition has stated on many occasions, the longstanding use of the TV Bands for BAS point-to-point links illustrates the off-the-shelf availability of point-to-point equipment for wireless backhaul use in UHF TV Channels 21-35 and 39-51.¹¹ Thus, adopting the Coalition's proposal would enable fixed point-to-point licensees in the White Spaces to use existing, relatively low-cost BAS-style equipment for new long-range point-to-point links. Although WISPA implies that fixed licensed point-to-point operations should instead utilize high-gain, narrow beamwidth antennas that use lower transmitter power, those antennas are only available at much higher costs that reduce significantly the viability of wireless backhaul deployment in the White Spaces.

Authorizing Fixed Licensed Point-to-Point Wireless Services in a Limited Portion of the White Spaces Would Enable an Efficient and Much-Needed Use of the Spectrum. WISPA opposes exclusive licensing of a limited portion of the vacant White Spaces for fixed point-to-point uses (including wireless backhaul), repeating that such operations are not an efficient use of the White Spaces and are contrary to the purposes of the White Spaces proceeding, will “tie up” a significant amount of spectrum and “deny access” to that spectrum for fixed last-mile use, and will limit “severely” the use of the White Spaces channels for fixed point-to-multipoint use.

As the Coalition has explained on multiple occasions, in unserved and underserved areas, fixed licensed point-to-point wireless services are the most efficient and most needed use for the White Spaces.¹² Backhaul infrastructure must be built before consumers can benefit from innovative new unlicensed and licensed broadband networks and devices, and the Coalition's narrow proposal can provide for urgently needed, cost-effective “middle mile” backhaul.¹³ The proposed backhaul and other fixed wireless systems can literally “light” an unserved or underserved community by connecting its mobile, wireline, commercial, public safety, educational, medical, and government broadband needs back to switches or the Internet, on a more cost-effective basis than anything else currently available.¹⁴ The need for additional “middle mile” backhaul and wireless backhaul options

¹¹ See, e.g., *Ex Parte* filing by FiberTower, Sprint Nextel, RTG, COMPTTEL, and the Wireless Communications Association International, GN Docket No. 09-51 and ET Docket Nos. 04-186, 02-380, Proposal for Limited Fixed Licensed Point-to-Point Use of the TV White Spaces for Backhaul to Rural Areas (filed Mar. 1, 2010) (“March 1 *Ex Parte*”); Reply Comments of FiberTower, RTG, COMPTTEL, and Sprint Nextel – NBP Public Notice # 6, GN Docket Nos. 09-47, 09-51, and 09-137, 3 (filed Nov. 13, 2009) (“NBP PN #6 Reply Comments”); *Ex Parte* filing by FiberTower, Sprint Nextel, COMPTTEL, and RTG, ET Docket Nos. 04-186, 02-380, 1 (filed Aug. 7, 2009).

¹² See, e.g., NBP PN #6 Reply Comments at 5-7; Reply to Oppositions filed by FiberTower, RTG, COMPTTEL, and Sprint Nextel, ET Docket Nos. 04-186, 02-380, 3 (filed May 18, 2009) (“Reply to Oppositions”).

¹³ March 1 *Ex Parte*.

¹⁴ See NBP PN #6 Reply Comments at 5; see also Comments of the Association for Maximum Service Television, Inc. and the National Association of Broadcasters – NBP Public Notice # 6, GN Docket Nos.

has been underscored by the American Recovery and Reinvestment Act of 2009 (“ARRA”)¹⁵ and ARRA’s Broadband Technology Opportunities Program (“BTOP”), as several billion dollars in ARRA funds have been allocated for broadband infrastructure and comprehensive community infrastructure (“CCI”) projects, and funding priority is being given to certain CCI applications that include a middle mile component.¹⁶

Moreover, as the Commission recognized in the National Broadband Plan, wireless backhaul is “critical to the deployment of wireless broadband and other wireless services.”¹⁷ Consistent with the recommendations in the NBP, therefore, the Commission should “enhance the flexibility and speed with which companies can obtain access to spectrum for use as wireless backhaul” and make the TV White Spaces spectrum available for wireless backhaul “where it otherwise may go unused.”¹⁸ Even with significant “repacking” of the TV Bands, the many vacant channels or White Spaces in rural areas will continue to be unused and available for non-broadcast uses.

Contrary to WISPA’s assertions, authorizing fixed licensed point-to-point services in a portion of the White Spaces encourages efficient spectrum use. Licensees of the fixed links would have an obligation to construct and begin using the spectrum within 18 months of licensing.¹⁹ The substantial fees that applicants must pay to the FCC to license the spectrum provide ample incentive to deploy the spectrum efficiently within the 18-month deadline, and no incentive to “hoard” such frequencies as WISPA alleges.²⁰ On the other hand, it is not clear when or even if unlicensed devices will be available in this spectrum in rural America, and it may take years just to complete the development, equipment certification, and manufacturing process to begin introducing such products in urban markets.

Indeed, it is far more likely that prohibiting fixed licensed point-to-point operations in rural areas – and allowing the spectrum to continue to lie fallow for many years – would be significantly less spectrally efficient than permitting such use.²¹ Although the TV Bands are congested, multipurpose bands (especially compared to the relatively clear bands that the Commission auctions

09-47, 09-51, and 09-137, 13-14 (filed Oct. 23, 2009) (stating that “one way to improve broadband access in rural areas is through use of ‘white spaces’ spectrum between television channels for fixed broadband access”).

¹⁵ American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009) (“ARRA”).

¹⁶ Notice of Funds Availability, Rural Utilities Service and National Telecommunications and Information Administration, 74 Fed. Reg. 32545 (July 8, 2009); Notice of Funds Availability, National Telecommunications and Information Administration, 75 Fed. Reg. 3792, 3793-95 (Jan. 22, 2010).

¹⁷ See “Connecting America: The National Broadband Plan,” Federal Communications Commission, 93 (March 2010).

¹⁸ *Id.*

¹⁹ This assumes that the Commission extends the Part 101 rules to new licensed, fixed point-to-point operations, as the Coalition has proposed.

²⁰ WISPA *Ex Parte* at 5.

²¹ NBP PN #6 Reply Comments at 5-6.

for exclusive use), they are far less utilized in rural areas. Thus, providing for limited fixed licensed point-to-point use greatly improves spectrum efficiency by increasing the chance that there will be some utilization of the White Spaces in rural areas, especially given that off-the-shelf equipment is already available today and the need for cost-effective backhaul is particularly urgent to provide broadband service to rural areas (by licensed as well as unlicensed providers).

Furthermore, the Coalition's proposal would not preclude or deny access to other fixed or last-mile uses of the spectrum. The White Spaces channels are widely available in rural unserved and underserved areas (with anywhere from 15-to-45 or more vacant channels – up to 270 MHz – available in a given rural area)²² because there are fewer TV stations and other TV Band transmitters operating there. The number of available channels, coupled with the low density of consumers in rural areas and the limited power and transmission range of the proposed unlicensed TVBDs, makes it highly improbable that a full 15 to 45 channels of White Space could possibly be needed or used by WISPs or the proposed TVBDs in any given market.

Likewise, the Coalition's proposal would not preclude point-to-multipoint or other operations. Instead, it would permit fixed licensed point-to-point use on no more than six UHF White Spaces channels in rural areas, all of which must be second or greater adjacent to a TV broadcast station. In all counties, fixed licensed point-to-point use would be permitted on channels third or greater adjacent to a TV broadcast station. Consequently, by limiting the number of channels available for fixed licensed point-to-point use, the proposal ensures that many channels – up to 39 channels or 234 MHz – are available for other White Spaces users, including WISPs. Given this limit, WISPA's fear that the White Spaces channels will be "hoarded by mobile wireless interests" is simply unfounded.²³

In addition, because the Coalition is not seeking to "reserve" or set-aside certain channels in any market, point-to-point or point-to-multipoint operations under the "licensed-lite" regime proposed by WISPA could be authorized on White Spaces channels, subject to the normal non-interference protections afforded to licensed users when they are present and operational. And many secondary or other operations could be engineered to use the same White Spaces channel as existing fixed licensed point-to-point operations without causing interference. Fixed licensed point-to-point use would not be exclusive on the White Spaces channels; instead, fixed licensed point-to-point stations would have to protect primary TV broadcast stations and other pre-existing secondary users. Thus, from a practical perspective, point-to-multipoint services and unlicensed TVBDs would see absolutely no reduction in the amount of usable spectrum anywhere, unless and until a fixed

²² See, e.g., March 1 *Ex Parte*; Request for Expedited Consideration filed by FiberTower, RTG, COMPTTEL, and Sprint Nextel, ET Docket Nos. 04-186, 02-380, 5 (filed July 14, 2009) ("Request for Expedited Consideration"); Reply to Oppositions at 2.

²³ WISPA *Ex Parte* at 5. WISPA's statement that fixed licensed point-to-point providers could abuse the Coalition's proposal by refusing to provide middle mile connectivity to WISPs is another hollow straw-man argument. Even assuming, *arguendo*, that members of the Coalition are interested in using the White Spaces to serve primarily mobile wireless interests, WISPs and parties that wish to serve WISPs will have the exact same opportunity to obtain White Spaces licenses for fixed point-to-point services; notably, they will also have the same ability to "abuse" the proposal, and there will be ample spectrum for both licensed and unlicensed uses in rural areas.

wireless path has actually been licensed and constructed in a given area, and the path limits operations in all or some section of that path's operating area.²⁴

WISPA's "Licensed-Lite" Approach is Not a Viable Alternative to the Coalition's Proposal. WISPA encourages the Commission to adopt a "licensed-lite" approach for licensed fixed point-to-point operations in the White Spaces, similar to the Commission's framework for the 3.65 GHz band. While the Coalition does not oppose WISPA's proposal as an optional use of the White Spaces, it does not view this proposal as an alternative for providing reliable, cost-effective wireless backhaul for rural broadband deployment. The Coalition reiterates that a non-exclusive hybrid licensing regime in the White Spaces (which provides for an unlimited number of potential licensees) with restrictive power limits would prevent the high quality of service required for effective broadband deployment, including wireless backhaul,²⁵ and would not provide sufficient interference protection.²⁶ In addition, many carrier-grade and government-grade customers simply will not accept service over non-exclusive hybrid licenses.²⁷ The Coalition notes, however, that the short-range point-to-multipoint services proposed by WISPA are well-suited for the 3.65 GHz band.

Conclusion. The Commission should reject WISPA's erroneous claims and self-serving, narrow proposals and allow limited licensed as well as broad unlicensed use of the White Spaces, including fixed licensed point-to-point use of a portion of the White Spaces in order to facilitate and expedite the deployment of broadband services and wireless backhaul in rural unserved and underserved areas. By adopting the Coalition's proposal, the Commission has a unique and practical opportunity to advance its broadband and competition policy goals and encourage the deployment of wireless broadband services in "prime" spectrum, especially in rural areas.

²⁴ Given this outcome, the Commission can act on the Coalition's Request for Expedited Consideration of its Petition for Reconsideration of the *Second Report and Order* in this proceeding without prejudicing the other petitioners and without rendering any other issues moot. See Request for Expedited Consideration at 7; Petition for Reconsideration filed by FiberTower, RTG, COMPTTEL, and Sprint Nextel, ET Docket Nos. 04-186, 02-380 (filed Mar. 19, 2009). Moreover, it can grant the Coalition's Petition for Reconsideration and help spur broadband deployment without any negative impact on the other reconsideration petitions involving more complex, controversial, and technical issues related to the White Spaces. Request for Expedited Consideration at 7. The Coalition's proposal – calling for a very specific, geographically-limited licensed regime for fixed point-to-point services that would "overlay" the predominantly unlicensed regime developed for the White Spaces – is sufficiently distinct such that no other issues raised in response to the *Second Report and Order* would be impacted. *Id.*

²⁵ Reply to Oppositions at 7-8.

²⁶ See, e.g., *World Data PR Inc. Applications for Base/Fixed Station Registrations in the 3650-3700 MHz Band under Nationwide, Non-exclusive License Call Sign WQJI716*, File Nos. 0003959230, 0003959248, 0003959251, 0003959254, 0003959257, 0003959259, 0003959260, 0003959262, 0003959264, 0003959267, 0004003606, Memorandum Opinion and Order, 24 FCC Rcd 14648 (WTB Broadband Div. 2009) (declining to resolve an interference dispute between users of the 3.65 GHz band).

²⁷ Reply to Oppositions at 8.

Pursuant to Section 1.1206 of the Commission's rules, this letter is being filed via ECFS with your office.

Sincerely,

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