



advocate for rural wireless telecommunications providers

Washington, DC

September 14, 2010

VIA ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554

**RE: Notice of Ex Parte
ET Docket Nos. 04-186 and 02-380**

Dear Ms. Dortch:

The Rural Telecommunications Group, Inc. (“RTG”) submits this *ex parte* letter to remind the Commission of the urgent need for affordable backhaul options in rural areas, and to urge the Commission to promptly allow fixed, licensed use of a small portion of the TV White Spaces in rural areas to address this critical issue. Specifically, as has long been suggested in this proceeding, fixed wireless backhaul operations should be permitted on up to six vacant channels, within the range of UHF TV Channels 14-35 and 39-51, that are second or greater adjacent to a TV broadcast station in rural counties.¹

Over 60 million Americans – about one-fifth of the population – live in rural counties.² These counties represent about 86% of the geographic area of the United States, comprising some 3.1 million square miles.³ The provisioning of backhaul to wireless transmitter sites in these vast areas is no easy task given the low population densities, low subscriber revenue levels, difficult terrain, and lack of existing infrastructure. The challenges facing rural service providers are well documented. The Commission, the U.S. Government Accountability Office (“GAO”), and the Administration have all recognized the lack of affordable backhaul solutions in rural areas and the resulting negative impact on the expansion of broadband services to consumers in these areas:

¹ See, e.g., Petition for Reconsideration of FiberTower Corporation, *et al.*, ET Docket Nos. 04-186 and 02-380 (filed March 19, 2009); see also *Ex Parte* Notice of FiberTower Corporation, *et al.*, ET Docket Nos. 04-186 and 02-380 (filed July 10, 2010) (noting the potential use of Channels 14-20 in addition to Channels 21-35 and 39-51 advocated in previous filings).

² *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Fourteenth Report, WT Docket No. 09-66, FCC 10-81 at ¶ 161 (rel. May 20, 2010) (“14th Annual Wireless Competition Report”). Rural counties have a population density of 100 persons or fewer per square mile. *Id.*

³ See *id.*

- The U.S. Department of Commerce recognized “the significant importance of Middle Mile infrastructure to improving broadband capabilities for consumers residing in unserved and underserved areas of the nation,” and focused a significant portion of the Broadband Technology Opportunities Program (“BTOP”) awards on such projects.⁴
- The GAO recently reported to Congress on the “notable lack of competition for special access in rural areas.”⁵
- The Commission’s 2009 Report on a Rural Broadband Strategy correctly explained that “backhaul transportation costs in rural areas can be significantly higher than for networks in other areas,” and that the lack of suitable facilities “can deter last-mile broadband investments” in rural areas.⁶
- The National Broadband Plan (“NBP”) noted that backhaul costs “constitute a significant portion of a cellular operator’s network operating expenses,” and that in remote geographic areas, wireless backhaul is the only practical solution.⁷ The NBP concluded that the “FCC should take further actions to enhance the flexibility and speed with which companies can obtain access to spectrum for use as wireless backhaul, which is critical to the deployment of wireless broadband and other wireless services.”⁸
- The Commission’s *14th Annual Wireless Competition Report* concluded that “cost-efficient access to adequate backhaul will be a key factor in promoting robust competition in the wireless marketplace.”⁹ In addition, the Commission’s recent NPRM and NOI proposing changes to the Part 101 microwave rules to facilitate additional wireless backhaul noted that the changes could be “particularly beneficial to rural areas, where wireline alternatives may not exist.”¹⁰

As the sources above make clear, there are few cost-effective solutions for providing backhaul in rural areas. This is true even for satellite, which is often looked to as a means of providing last mile services to very remote locations. For example, based on typical costs of leasing

⁴ Notice of Funds Availability, National Telecommunications and Information Administration, 75 Fed. Reg. 3792, 3794 (Jan. 22, 2010).

⁵ *Enhanced Data Collection Could Help FCC Better Monitor Competition in the Wireless Industry*, Government Accountability Office Report to Congressional Requesters, 32 (July 2010).

⁶ *Bringing Broadband to Rural America: Report on a Rural Broadband Strategy*, Federal Communications Commission, at ¶ 114 (May 22, 2009) (noting that existing middle mile facilities “may have insufficient capacity, causing the transmission speed on otherwise adequate last-mile broadband facilities to come to a crawl or stall before the data reach the Internet backbone”).

⁷ See “Connecting America: The National Broadband Plan,” Federal Communications Commission, 93 (March 2010) (“NBP”).

⁸ *Id.*

⁹ *14th Annual Wireless Competition Report* at ¶ 296.

¹⁰ *Amendment of Part 101 of the Commission’s Rules to Facilitate the Use of Microwave for Wireless Backhaul*, Notice of Proposed Rulemaking and Notice of Inquiry, WT Docket No. 10-153, FCC 10-146 at ¶ 1 (rel. Aug. 5, 2010) (“*Microwave Backhaul NPRM*”). See also Separate Statement of Commissioner Mignon L. Clyburn (noting that findings in the *14th Annual Wireless Competition Report* “suggest that we should look for ways to lower the costs of providing wireless services, including backhaul transport, in order to promote those services in rural areas”).

C-Band capacity, a backhaul link that is capable of 25 Mbps downlink and 6 Mbps uplink would cost around \$125,550 per month per site, making this option cost prohibitive.¹¹ Even a much smaller “pipe,” with 2 Mbps downlink and 1 Mbps uplink (which would defeat the purpose of LTE spectrum efficiencies), could cost as much as \$12,000 per month.

In contrast to all of the currently available options, the TV White Spaces are ideally suited as a solution that could dramatically lower the cost of providing mobile broadband and other wireless services in rural areas. Significantly, because suitable off-the-shelf equipment already exists, equipment costs will be much lower than other alternatives.¹² Moreover, the excellent propagation characteristics of the TV Bands spectrum means that longer distances can be covered with less infrastructure, thereby lowering costs even further. Although RTG applauds the Commission’s recent *Microwave Backhaul NPRM*, the propagation of the TV White Spaces spectrum offers substantial advantages over the microwave spectrum involved in that proceeding.

It is worth emphasizing that the number of channels proposed – only up to a maximum of six – that could be used for fixed, licensed operations under this proposal represents a small fraction of the TV White Spaces channels in most rural areas, and these could be further limited to a percentage of vacant available channels in rural areas. Given the small number of broadcast stations in rural areas, such limited use would not preclude any future “repacking” of the TV Bands.

As described above, the record is clear that more affordable backhaul options are required in order to rapidly expand fixed and mobile broadband services to the many Americans living in rural areas. The TV White Spaces offer an economical solution to this need, while at the same time making productive use of spectrum that currently lies fallow. RTG urges the Commission to act promptly in the TV White Spaces proceeding so that this spectrum can be deployed for backhaul to support the many upcoming build-out deadlines for wireless spectrum in rural areas.

Respectfully submitted,

/s/ *Caressa D. Bennet*

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¹¹ This assumes a leasing cost based on \$2-3 per month per kHz.

¹² For example, Kathrein Scala offers a PR-TV series Parareflector antenna designed to operate on 6 MHz channels in the 470-862 MHz band. See <http://www.kathrein-scala.com/catalog/PR-TV.pdf>.