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

In the matter of

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	)	
Facilitating the Provision of Spectrum-Based	)	
Services to Rural Areas and Promoting	)	WT Docket No. 02-381
Opportunities for Rural Telephone Companies	)	
To Provide Spectrum-Based Services	)	

COMMENT

WaveRider Communications Inc. (WaveRider) hereby submits its Comments in the above-captioned proceeding. WaveRider is a leading global developer and manufacturer or license-exempt equipment for the 900MHz and 2.4 GHz bands. In its submission, WaveRider would like to focus on how license-exempt spectrum is being used to provide broadband service to rural communities.

WaveRider's fixed wireless solutions in the 902-928 MHz band support a key initiative of the Commission, namely that of providing high-speed Internet services to rural communities. The success of WaveRider's Last Mile Solution® product family lies in its quality, speed, ease of deployment and its ability to support a cost-effective business model for all types of operators. In particular, the company's non-line-of-sight (NLOS), self-installable solutions operating in the license-free 902-928 MHz spectrum are gaining increasing acceptance in the market place. In January 2002, WaveRider's technology, which operates in the 902-928 MHz band, was the recipient of two awards from the Wireless Communications Association. These WCA annual advanced technology or community service awards, known as "The Wemmies", are selected by WCA's jury of distinguished carriers and diversified engineering consultants. WaveRider won awards for its 900 MHz product's non-line-of-sight performance and "Plug & Play" capability.

WaveRider's 900MHz system enables service providers to establish non-line-of-sight wireless connections, which is an essential feature for WISPs in rural areas which tend to have heavy tree canopies that prohibit line-of-sight connections. In addition, WaveRider's 900 MHz product is unique in the industry because it does not require a large outdoor antenna for most installations, which has enabled service providers to install these systems and quickly connect subscribers in their area to their wireless broadband service.

To date, WaveRider's 902-928 MHz band products have been deployed by service providers in 43 states. WaveRider's Last Mile Solution® products are helping rural telephone companies, Internet Service Providers, municipal governments, utility companies, and other operators to bring immediate broadband access to their region, and realize a rapid return on their investments. The number of deployments of WaveRider's fixed wireless systems increases by several systems each month as service providers in these markets strive to meet the need for broadband services in rural and underserved areas.

These networks in the United States operate in the 902-928 MHz band utilizing equipment regulated by Part 15 Rules, providing high-speed Internet access to communities where there is little or no cable modem or DSL service. Network operators have been able to provide their customers with the type of broadband service usually available only in the larger cities, and they are doing so at an affordable price. They also are providing broadband service to schools, hospitals, and local governments, giving those entities the ability to use broadband to deliver better and more cost-efficient services to their constituents and enhance the quality of life in their communities.

CASE STUDIES

In recent years, independent wireless ISPs, electrical cooperatives, public power utilities, and small private telephone companies have started to provide broadband Internet services to their communities using fixed wireless technologies. Regional cellular operators have also complemented their tower assets by adding fixed wireless capability to their networks. The following provides examples of operators that are using license-exempt 900 MHz systems to deliver broadband access to their communities.

IlliCom Telecommunications: Paxton, Illinois

IlliCom Telecommunications (www.illicom.net) provisioned its first dial-up customers in 1998. IlliCom began wireless services with 2.4 GHz gear from both WaveRider and Cisco. In 2001, it added a system operating in the license-exempt 900 MHz spectrum in Paxton, Illinois, a community of 4,500 people.

In Paxton, the tree coverage only allowed provisioning of 20 to 30 percent of the community with equipment operating in the 2.4 GHz band. With WaveRider's 900 MHz system, IlliCom has been able to overcome line-of-sight barriers such as tree coverage, to make broadband access available to a much greater percentage of the community. IlliCom has been able to expand its network quickly by using WaveRider's indoor antenna for subscribers within 1.5 miles of its base stations, which has helped to maintain the attractiveness of the community. Above one-and-a-half miles, IlliCom uses outdoor antennas. LOS service is successful with outdoor antennas up to five-and- a-half miles. IlliCom finds that indoor antenna installs are considerably quicker and cheaper with 900 MHz radios. In the last year, IlliCom has used WaveRider's 900 MHz equipment to make broadband accessible to hundreds of homes and businesses in Paxton.

REA-ALP: Alexandria, Minnesota

REA-ALP (www. rea-alp.net) is a utility cooperative that began providing dial-up Internet services. Today the utility serves more than 7,000 homes and businesses, and competes with eight ISPs, Charter cable and Sprint DSL.

The company provisioned its first wireless customers three years ago, using Alvarion products. That network is still in use and growing. However, the Alexandria area boasts a 40 to 60 foot tree canopy as well as many lakes, which have limited the availability of its 2.4 GHz broadband service. To deal with these obstacles and extend its high-speed wireless services, REA-ALP deployed WaveRider's 900 MHz solution.

The NLOS capability of the WaveRider system has enabled REA-ALP to expand its coverage area and bring broadband access to a larger percentage of the population.

The City of Buffalo, Minnesota

The City of Buffalo in Minnesota, a community of 10,000 people located 26 miles southwest of Minneapolis-St. Paul is one of the first municipal governments in North America to establish and operate its own high-speed wireless network using WaveRider's Last Mile Solution products. The municipal government decided to embark on this broadband initiative after being informed by Qwest and the local cable company that neither planned to deploy broadband services in their community. By installing and operating its wireless system, the City's Council has enhanced the quality of life in its community by delivering the broadband services its businesses and residents need.

The community response to the City of Buffalo's broadband service has been positive, resulting in the rapid expansion of the 900 MHz network throughout the community. The network currently supports hundreds of users, with more subscribers being added each week.

Wireless Internet Service Providers/Systems Integrators

WaveRider has worked closely with a number of independent Wireless Internet Service Providers (WISPs) to bring broadband Internet access services in over 43 states. These WISPs have been serving the needs of rural businesses for broadband services for many years using wireless systems, and are now expanding their networks to address the communities' needs for broadband by connecting homes, schools, and community buildings to the Internet via WaveRider's 900 MHz systems.

Among the newest WISPs to emerge in the United States is Suburban Broadband of Colorado (www.suburbanbroadband.net), which has developed an aggressive, multi-year deployment plan to bring wireless broadband to communities across fourteen counties in Colorado. Other new 900 MHz broadband wireless operators that are rapidly expanding their NLOS services include Infobahn Outfitters of Macomb, Illinois

(www.outfitters.com); Joink.com of Terre Haute, Indiana (www.joink.com); and Mutual Data Services of St. Johns Michigan (www.mutualdata.com).

A large number of systems integrators, which assist companies and communities in the planning and deployment of wireless broadband systems, are now incorporating 900 MHz non-line-of-sight systems into their deployment plans to enable their customers to make broadband access available over larger or more diverse geographic areas. Systems integrators that have incorporated non-line-of-sight 900 MHz equipment in their customers' networks include NetStar Communications (www.netstarcomm.net) and Tri-State Broadband (www.trisbb.com).

RECOMMENDATIONS

Regarding actions the Commission could take to encourage or facilitate the use of unlicensed spectrum, WaveRider submits the following comments.

1. The success of wireless operators using 900 MHz equipment to deliver broadband services in rural environments demonstrates the importance of the availability of spectrum below 1 GHz. The unique propagation features of these bands make them ideal for rural environments because of the non-line-of-sight capabilities afforded by the low frequencies. It is WaveRider's opinion that the Commission should examine the potential for making more of these bands available for rural deployments of broadband systems.

2. If the FCC decides to approve higher output levels for license-exempt wireless products in rural environments, WaveRider recommends that any power increases should be applied equally to all license-exempt bands in 900 MHz, 2.4 GHz and 5.7 GHz.

   WaveRider believes the FCC should proceed cautiously with any changes to power levels for license-exempt spectrum as there are a number of factors that must be considered. Increasing output levels in rural environments would enable operators to increase their broadband coverage areas, the capacity of their wireless systems, and increase the availability of broadband access in rural environments, however such a rule would be difficult to monitor and enforce. First, there is no clear definition of a rural environment, as it applies to the wireless broadband industry. Second, it would be extremely difficult to monitor and enforce the use of different power levels for different environments, which would undoubtedly result in the use of higher power levels in non-rural environments, potentially creating more interference in the band.

3. With regards to the Safe Harbor provisions for Part 15 devices in the 902 – 928 MHz bands, WaveRider recommends that no changes be made to the existing rules. As demonstrated by the more than 150 operators of WaveRider's 900 MHz broadband systems across 43 states in the United

States, as well as the millions of SCADA and consumer devices that operate in the band, the existing provision enable Part 15 devices to easily co-exist and to deliver much needed services to communities, businesses and citizens across the country.

The availability of unlicensed spectrum has enabled service providers around the world to bring broadband access to communities that had little or no access. The technology that is now available to these operators is enabling them to develop profitable business models, and to offer broadband connections to local businesses, schools, public offices, and citizens at an affordable price. Without the use of license-exempt spectrum, many of these service providers would be unable to fulfill their communities' broadband needs, or to succeed as a telecommunications service provider.

WaveRider continues to support the growth of the broadband industry and encourages the Commission to facilitate the use of license-exempt spectrum.

Respectfully submitted,

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