

Remarks for Michael K. Powell  
Chairman, Federal Communications Commission  
at WISPCON  
October 27, 2004  
Las Vegas, Nevada  
(As prepared for delivery)

“WISPs: Bringing the Benefits of Broadband to Rural America”

Thank you for the kind introduction. It is a great pleasure and privilege for me to have the opportunity to address this audience of Wireless Internet Service Providers.

Adopting policies that foster increased availability of broadband alternatives and competition is one of the most important goals of the FCC. You have helped to transform our policy goals into a bandwidth-rich reality in the unlicensed spectrum bands. I have tried to be an advocate for the transformative impact of unlicensed services – in short, “I believe!”

Historically, these unlicensed bands were dubbed “junk” bands because of the plethora of devices and manufacturing equipment occupying them – devices and equipment not used for communications purposes, but occupying spectrum only because RF energy was a byproduct of their operations. Now, spectrum that was formerly the exclusive province of microwave ovens and industrial equipment also plays host to wireless broadband networks that provide not only last-mile connectivity, but last-30-50-mile connectivity. In fact, and impressive by all accounts, some of your networks span large geographic regions, even covering several states. And, perhaps most importantly, many of you provide service in rural and remote communities that have no other broadband option -- demonstrating that, with relatively small investments, hard work, and ingenuity, broadband services are possible for everyone.

You are among my broadband heroes – spinning wheat into gold -- turning the spectrum “junk” bands into venues for providing increasingly important services to businesses and consumers. You are leading a grassroots broadband movement that is growing throughout the country in communities across America – in places like Colusa, California; Helena, Montana; Scotts Bluff, Nebraska; Flora, Illinois; and Holbrook, New York.

I know I don’t need to tell this audience that it’s what’s behind the FCC’s drive to facilitate broadband deployment that excites me about all of this.

- Access to broadband translates into improved access to education – enabling people in rural or remote areas to take classes at far away universities and schoolchildren to be home schooled.

- Access to broadband translates into improved access to medical services, through telemedicine applications – enabling communities everywhere to have virtual communications to the top doctors and medical facilities.
- Access to broadband translates into economic development – enabling new jobs so that people can stay and find work in the communities in which they live.
- Access to broadband translates into closer community ties – enabling communities to stay in touch through e-mail and web sites.

You have helped bring your communities all of these benefits.

Self-empowerment – that’s the idea I most associate with our unlicensed rules – and an idea that’s so much a part of the fabric of the American way. Low equipment costs, free access to spectrum, and regulatory flexibility empower anyone who wants to provide broadband services. It’s the “democratization of communications”. We help to give you the tools and provide the freedom to build, and observe, with delight, the results.

I have been fortunate to see some of these results firsthand. Recently, I had the opportunity to visit a studio called the Manhattan Neighborhood Network (MNN), which makes use of WiFi technology in a novel way. MNN provides facilities that allow average citizens to produce their own programs for airing on public access channels. Members of the community can check out top quality video cameras and produce and edit their own programs, using off-the-shelf equipment. Partnering with WISPs and others throughout the city, MNN can transmit live video to its studio for broadcast. I was interviewed by some kids who were running their own Youth Channel. They conducted the interview offsite and transmitted it wirelessly from a WiFi hotspot. Now, any WiFi hotspot in New York can be a studio for MNN. The Manhattan Neighborhood Network demonstrates all the good that can come from hard work and creativity – it’s a very real American success story using the unlicensed bands.

Our unlicensed rules have been a hotbed for wireless broadband innovation – spawning new industries like your own and encouraging significant capital investment. It is estimated that by next year, sales of wireless networking equipment will exceed \$5 billion. Our regulatory flexibility in this area has helped to enable this thriving industry.

We continue to look for more ways to encourage growth of unlicensed wireless broadband services. Last year, we made an additional 255 MHz of spectrum available in the 5 GHz region of the spectrum – adding a sizable chunk of spectrum to that already available for unlicensed devices. We also made spectrum available in the upper reaches of the spectrum – above 70 GHz – on an unlicensed and very lightly licensed basis. Technologies that use this new spectrum frontier are rapidly maturing and new services are on the horizon. We are also in the process of considering additional spectrum bands for use by unlicensed devices – the so-called spectrum “white spaces” between the

channels assigned for TV broadcast services and 50 MHz of spectrum in the 3650 MHz band.

In addition to looking at how we can provide more spectrum for additional capacity of wireless networks, we have also looked at ways in which we can provide more operational flexibility. We have looked at this issue of flexibility with particular focus on what we can do to facilitate additional spectrum-based services in rural areas – including more technical and operational flexibility to make deployments more economical.

New wireless technologies show considerable promise for wireless broadband services. We recently concluded a proceeding that enabled “smart” antennas to be used in some of our unlicensed bands. “Smart” radios are another new technology that enable users to use the spectrum more intensively. Smart radios can facilitate secondary markets – that is, licensed users could lease their spectrum to third parties using smart radio technologies. And, because of their frequency agility, smart radios could also act as a bridge between two different radio services – effectively translating the signals from one service to the frequency and format of another. The possible uses for “smart” radios are wide ranging. The challenge before the Commission is to determine how we can open the door for these technologies so as not to shut out any of their tremendous potential.

New technologies are simply better tools for you – the service providers – to use. Technology can’t substitute for human creativity and ingenuity. From what I’ve seen, it’s no accident that the term engineer and ingenuity derive from the same Latin root. One shining example of creativity and ingenuity that I have seen using unlicensed wireless broadband technologies is in the Tribal Digital Village of Southern California. Using a network of WiFi devices, eighteen Native American reservations located in a remote region -- spanning more than 150 miles -- now have broadband connectivity. The project had many technical challenges -- the terrain is rocky, mountainous, and has deep valleys – making it hard to achieve line of sight. Creative solutions for supplying power to the network access points were also needed – so, the Native Americans used solar power and, in one location, even used a car battery. The fruits of their efforts have been substantial – among many other benefits, the 12,000 Native Americans in that area can now take classes at a distant university and their youth can now access the Internet and listen to archived recordings of elders speaking Native languages – helping them to preserve their rich culture. As I said, there is no technical substitute for the human spirit.

While today I have focused primarily on what the FCC has done in the area of unlicensed wireless broadband services, there have been similar parallel, positive developments in the area of licensed wireless broadband services as well. For example, we have facilitated spectrum leasing for licensees and streamlined our process for license assignments and transfers. This flexibility allows spectrum users to make choices as to how they will use spectrum, taking into account market factors, including customer demand and availability of technology.

I understand that many of you are considering how you can make use of licensed spectrum for network backhaul or other applications. This is the beginning of a new

wireless broadband future. We are moving to a future of fully integrated wireless networks. That is, the real issue is not whether you use licensed spectrum or unlicensed devices, or both. Or even whether you use one type of broadband platform or another. It's an issue of what fits and where. At the FCC, we want service providers to have the flexibility to optimize their own networks based on factors like geography, types of applications, and the number of subscribers – not as a function of non-market based regulations. We've already begun to see providers mixing and matching technologies – major cellular carriers are integrating their networks with WiFi hotspots and some broadband over power line providers are using WiFi to get from the power lines at the curb to inside the home.

We'd like to do more to facilitate the provisioning of wireless broadband services. Last May, I created the Wireless Broadband Access Task Force to conduct a comprehensive review of our wireless broadband policies to determine whether we can do more, especially to see what policies might further encourage WISPs. We'd like to see how we can add more tools to the broadband tool box to enable service providers like yourselves to better serve your communities.

There are a few issues that the Task Force has identified as particularly important to the license-exempt community that I would like to talk about.

As license-exempt spectrum is used more and more intensively, interference mitigation among unlicensed users is an increasingly important issue. Recognizing this, in communities as diverse as San Francisco and rural West Texas, private industry has formed frequency coordination groups. These efforts help to optimize the operation of everyone's networks and, in turn, consumers benefit through enhanced and more reliable services. I applaud these private initiatives. They enable communities of service providers to self-monitor their deployments and manage interference on a real-time basis. To the extent they fit local needs, I would like to see more of these initiatives taking hold throughout the country.

Another way to better leverage the amount of spectrum to which WISPs already have access is through the adoption of voluntary industry Best Practices. I like to think of Best Practices as reference manuals for being a good spectrum neighbor. I understand that the License Exempt Alliance has formed a working group to develop model Best Practices industry-wide and I look forward to seeing the final results of this effort. Of course, as I've indicated, the best practice for the FCC in this is a deregulatory one and I want to emphasize that any industry Best Practices would only be voluntary.

I also want you to know that we are there for you – to back you up – to enforce our rules as the need arises. I hear concerns from the WISP community that – while it's not a significant number -- not everyone is playing by the rules – that a few folks out there are using non-FCC certified equipment or are installing power amplifiers to boost their signals beyond allowable limits. Understand this directly from me – we are fully committed to enforcing our technical rules. Indeed, over the last two years, we have investigated approximately one dozen complaints related to WISPs for non-compliance

with our rules. Moreover, during my tenure as Chairman, we have significantly ramped up the resources in our enforcement field offices – increasing the total investment by more than 5 times. Also, our investment in the FCC’s engineering laboratory has increased by more than 20 times – providing us with much more sophisticated tools for technical analyses. So, in an era of increasingly more intensive spectrum use, we now have the improved tools to do our jobs policing the airwaves.

The reason the unlicensed bands have been a model of success is that we set up a framework of flexible, non-prescriptive rules for operation – rules that have spawned considerable innovation and economic benefits. But these rules are the result of a careful balance between protecting existing authorized services from interference and providing the maximum opportunities for many different types of unlicensed operations. Let’s not let a few wayward operators spoil a good thing.

I wanted to take this opportunity to stress that we need to hear from you. Be proactive, weigh in, and make your needs known. I am very enthusiastic about all of the possibilities of “smart” antennas and “smart” radios, but technology can’t do everything. We need your input to help the FCC to make “smart” policy decisions. Right now, we have several ongoing FCC proceedings that have potentially significant impact on the WISP community -- the 3650 MHz proceeding, the cognitive radio proceeding, and the TV White space proceeding, to name a few.

One of the most important roles of the Wireless Broadband Access Task Force has been to conduct outreach – in part to spread the good-news story of the fruits of all of your labors and entice others to follow in your footsteps, and in part to go to different parts of the country to let folks know what’s going on at the FCC and how it might affect your industry (hopefully in a positive way). Through these events, I have had the opportunity to meet with some of you to see demonstrations of your products and services. I have appreciated the opportunity to learn more about your industry, how it works, and how we can help. I look forward to hearing more from you today.

One day, broadband services will know no boundary. Because of your efforts, that day is fast approaching.