

**Keynote Remarks of FCC  
Commissioner Kathleen Q. Abernathy  
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**The Harvest**

First, I would like to thank you for inviting me to join you today to say a few words. Preparing for today's speech has required me to take a hard look back at what we at the Commission have done recently to improve our spectrum management and what still remains to be accomplished. Overall this Commission has devoted significant time and resources to spectrum management issues such as creating a regulatory framework that encourages technological innovation and competition.

Why is this important? Because spectrum is a finite natural resource with immense potential value to the American people. Fallow spectrum, in general, has little value and government must depend on private parties to develop the potential value of commercial spectrum. I believe the FCC's goal should be to implement regulatory policies that foster effective investment and stimulate the delivery of services to the American people. If private parties don't invest – any theoretical spectrum policy is meaningless.

But when the private sector invests, new and innovative services are offered to consumers. For example, the mobile phone industry is transforming Americans lives, increasing penetration rates, continuing their build out, improving service quality, and driving innovation. Our DBS satellite licensees have broken the monopoly hold of cable. The unlicensed service bands are creating a vast series of wireless local area networks that are solving the "last hundred feet" problem. And that is simply what is happening today; there is much more on the horizon for tomorrow.

There are a number of examples of how the FCC has focused its efforts on better spectrum management. In the unlicensed area, we adopted an order making unlicensed spectrum available for ultra-wideband devices and allocated a significant amount of spectrum for wi-fi devices on an unlicensed basis. Not too long ago we initiated a proceeding to craft technical rules for the provision of broadband services over power line in our efforts to encourage broadband deployment. In each instance, we focused on how to better utilize the spectrum resource while protecting existing licensees from harmful interference.

But these spectrum management efforts are just beginning. We must continue to harvest the fruits of the seeds we have sown and look ahead to fostering the next season's crops. We must continue to ask how we can improve the results of our harvest. The answer is three pronged. We must promote and reward the efficient use of the spectrum resource. Second, the Commission must look for ways to provide additional flexibility for service providers. And finally we need to build on our recent decisions and make

additional spectrum available for licensed and unlicensed uses. I would like to spend a few minutes discussing each of these interrelated areas with you today.

### **Efficiency**

A major focus of mine while at the Commission has been to ensure that we are making the most intensive and efficient use of the spectrum resource. Consistent with this approach late last year we instituted two new proceedings – one to examine the possible use of cognitive or “smart” radios and one to examine temperature interference metrics. With regard to the smart radio proceeding, the FCC sought comment on the use and applications of smart radio systems. These radios have programmable software that enables them to operate in multiple bands. We are proposing rules that allow technical and operational flexibility for service providers, particularly in rural and underserved areas, and that offer the potential for interoperability with public safety first responders. Recent advances in smart radio technologies have the potential to provide more innovative and comprehensive use of the spectrum while at the same time minimizing the risk of harmful interference.

We also recently initiated a proceeding on a possible new way to quantify and manage interference among different radio services. Termed “interference temperature” this model for addressing interference takes into account the actual cumulative radiofrequency energy from wireless devices, and would set a maximum cap on the aggregate of these transmissions. This is in contrast to our current approach for managing interference which focuses on specifying and limiting the transmit powers of individual wireless devices as the chief way to prevent interference. We want to find out if the interference temperature approach may facilitate more intensive use of radio spectrum, thus creating the opportunities for new services and improving the predictability of any interference to existing services.

Although not without controversy, I believe that these proceedings are worthy of debate, will better inform us, and may dramatically improve our management of spectrum and deliver greater value to consumers. Therefore, I look forward to carefully reviewing the records in these proceedings. I also welcome the opportunity to examine other ways in which we can improve our efficient use of the spectrum resource.

### **Flexibility**

Another on-going effort by the FCC is increasing flexibility in the use of the spectrum. If you look back to the olden days, as my daughter calls it, the FCC’s primary approach to spectrum management was command and control. We would mandate specifically what service could be provided in specific spectrum and adopt tightly constrained rules to ensure compliance by all licensees. As technological innovation increased, and as competition took further hold in the telecommunications market it became readily apparent that this approach deterred innovation and significantly delayed the introduction of new service offerings.

Accordingly, in an effort to stimulate investment and innovation, the Commission has revisited this approach. We are now allowing licensees to make their own operational decisions by creating flexible service and, where appropriate, technical rules. For instance, just last year we adopted our secondary markets order. In that decision, we sought to encourage better spectrum use by clarifying when and how spectrum can be leased without triggering a license transfer. We in essence created a secondary market for spectrum thereby promoting innovation.

Taken as a whole, I believe that the impact of the secondary markets docket will be significant. This order opens the door for licensees to lease excess spectrum to third parties who will offer competitive new services. It encourages experimentation and innovation. I am sure that there are many uses that we can't even envision but all of you are contemplating. At the end of the day we hope to see improved service offerings for consumers.

In addition, to the basic secondary markets order we also adopted a further notice of proposed rulemaking to examine issues affecting the future development of secondary markets. In that further notice we are examining whether other services, such as broadcast and public safety, might be appropriate candidates for spectrum leasing. Granted, this is a controversial proposal but we should at least consider whether it may be appropriate to extend our secondary market rules to other wireless services.

This Commission has also sought to provide greater flexibility to wireless licensees through our service rules and licensing process. We want to create an environment that encourages companies to choose technologies and services that best serve consumers. For example, last April the FCC adopted an order providing flexibility to public safety licensees in using the 4.9 GHz band for mobile and fixed broadband applications. Such flexibility allows each public safety licensee to deploy systems in a manner that best serves the service and technological needs of their community. In addition, the FCC also adopted a regulatory framework that promotes interoperability by allowing traditional public safety entities to pursue strategic partnerships with both other public safety entities, such as the Federal Government, and with non-traditional public safety entities, such as utilities and commercial entities. If such partnerships support their underlying missions regarding homeland security and protection of life and property they are to be encouraged.

Another key action by the FCC last year, was issuing an NPRM governing the service rules for MMDS and ITFS licenses. The WCAI was very instrumental in the proceeding. As you are aware, in the NPRM we issued we sought comment on the creation of a regulatory regime that allows licensees even greater flexibility in creating service choices and should permit more efficient use of the 2.5 GHz band. Ultimately, by affording such flexibility, we hope to see new services and product offerings flourish. As I am sure all of you know, we are actively working on an order in this proceeding and are hope to have it adopted at the open meeting this month.

## **Access to Increased Spectrum**

The final prong I mentioned was increased access to spectrum and we have also been active in this area. We have recently opened additional spectrum for use by licensed and unlicensed providers and are looking for more.

In the area of unlicensed spectrum it is evident that American consumers increasingly rely on unlicensed devices in their day to day work and home environments. For example, your cordless telephone, garage door opener and computer all operate on an unlicensed basis under the FCC's rules. In addition, many more innovative devices operating in the unlicensed bands are becoming commercially available. These include Wi-Fi which allows you to have wireless access from your computer to your ISP, and blue tooth which provides wireless connections between your mobile phone, PDA, and other devices, such as keyboards and earphones.

Why do I support unlicensed spectrum use – because it encourages capital investment and the introduction of new services to the American people. Unlicensed bands do not create property like rights, but rather focus on communal use and that means all users must comprehend and obey the rules of the road and the FCC, as the regulator, must ensure its rules are clear.

So we are continuing to examine our current spectrum allocations to see if additional spectrum can be made available for unlicensed use. And just last year, the FCC affirmed its decision to allow ultra-wide band devices on an unlicensed basis to be deployed in a large portion of the lower frequency bands. Fundamentally we believe ultra-wide band technology holds great promise for many applications including public safety.

We have also allocated additional spectrum for unlicensed uses at the 5 GHz band and we are currently considering additional allocations for unlicensed uses in the unused portions of the broadcast bands and in the extended C band. Of course, in each instance where we examine an allocation for unlicensed uses, we must make sure that our rules protect our incumbent licensees from harmful interference.

But unlicensed spectrum alone is not enough. We are also continuing to open up more to spectrum for licensed uses. Late last year, the Commission adopted 3G rules making 90 MHz of spectrum available for broadband and wireless services in the 1.7 and 2.1 GHz bands. In addition, the Commission adopted service rules for the commercial use of the spectrum in the 70, 80 and 90 GHz bands. I am hopeful that these bands will be utilized by licensees for a broad range of innovative products and services, including broadband access. And I am also committed to making additional licensed spectrum available in the future.

## **Conclusion**

So where do we go from here. The FCC must continue to harvest the seeds it has sown to improve on our spectrum management. We must create an environment that encourages innovators to invest in the services that consumers demand. To do so, the FCC, as a regulator, needs to continue down this path of letting go and having faith in the marketplace. Such faith requires us to refrain from regulating where the market can do a better job and to afford sufficient flexibility to licensees. In the long run, this approach will best serve the public interest by ensuring consumers have access to the largest selection of technologies and services.

Once again, I thank you for the opportunity to speak with you today.