

**STATEMENT OF
COMMISSIONER DEBORAH TAYLOR TATE
APPROVING IN PART AND DISSENTING IN PART**

Re: Unlicensed Operation in the TV Broadcast Bands, ET Docket No. 04-186, Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band, ET Docket No. 02-380

In the midst of the present economic downturn gripping our nation and the world, there is one bright spot on the horizon – American technology and the American entrepreneurial spirit, especially in the communications and technology sector, which hold the promise of future innovation, investment, jobs and economic growth. One of the more promising areas of innovation cannot even be seen – the “white spaces” that represent the unused portions of spectrum in the bands presently allocated to TV broadcast operations. Today’s item advances us on a path to facilitate use of the white spaces for new wireless services, including broadband services, for all Americans.

These are first steps only, ones that hopefully will move us towards modernization and more effective use of the unused portions of this spectrum. Indeed, these are revolutionary times in an evolutionary industry, with the promise of even yet unseen innovative devices on the horizon. Many visions exist for how unlicensed use of the white spaces will evolve, but evolve they certainly will. Hopefully, this item will help facilitate the deployment of unlicensed devices and services that enable consumers to enjoy more television programming and video than ever before, and that will allow families to transfer and network information, photos, and much more across multiple devices, technologies and platforms in their homes. Similarly, communities of users may find they are able to communicate seamlessly through mesh networks rather than traditional phone lines. Finally, as someone who has championed rural America, I hope that this item will facilitate services, including broadband, to rural areas and thus help reduce the digital divide that is far too prevalent in rural communities across our nation.

In considering this order, I have listened to and weighed seriously the concerns of an amazingly broad array of interests. In the end, I have tried to reach a reasonable position that takes into account all interests, including, most especially, the interests of the American consumer. The order is not perfect – it precludes licensed services and lacks needed language regarding a specific and expedited complaint process for broadcasters, cable providers, wireless microphones and individual users in the case of interference. Nonetheless, the order ultimately may help promote the innovation and investment in advanced services that consumers have come to expect from the communications and technology sector. Accordingly, I would like to address several important public policy goals, as well as some of my concerns regarding how this item falls short of our mandate to advance the interests of the American public.

Measures to Address Interference

In crafting public policy, one must weigh the benefits and costs of various options. In this case, the potential costs of enabling unlicensed use of the white spaces are substantial. Specifically, this order enables a vision for entirely new services and devices but ones that also hold a real risk of causing interference with existing services, including broadcasting, cable television, and wireless microphones, among others.

Addressing interference in the use of the spectrum has always been one of the primary roles of the Federal Communications Commission since its creation by Congress in 1934. Our predecessor agency, the Federal Radio Commission, also assumed this important responsibility starting as early as 1927. Clearly, addressing interference is one of the crucial tasks this agency takes most seriously and performs most effectively.

Within the Commission, the Office of Engineering and Technology (OET) is the team responsible for conducting the research, analysis, and evaluation of devices that use the airwaves in this country. This group of talented staff has spent the past four years carefully considering whether and to what extent unlicensed devices may utilize the white spaces in the broadcast spectrum without causing undue harm to incumbent users. I have placed much faith in the Chief of OET, Julie Knapp, and his entire staff of engineers. Their recommendations, while always useful in any rulemaking, played an especially persuasive role in my final decision to support this item.

I have been assured by Chief Knapp and our top engineers that the risks of interference have been appropriately considered. Ultimately, as the Commission's most recent report states, the extensive testing by OET has provided "proof of concept" for some types of unlicensed devices to use the white spaces. Further, as this order makes very clear, all devices that in the future will be used in the U.S. market must first be tested and approved by the Commission, in effect demonstrating not only that there is "proof of concept" but also "proof in practice." While some commenters have criticized our testing process, both our 2007 and 2008 reports on the test results were peer reviewed by other expert staff within the Commission. In addition, these tests were open to the public, and at various points during this long process the work of our OET engineers was observed by members of the press, Congressional staff, broadcasters and other industry representatives, as well as other interested parties. I am proud of this transparent and open process and encourage OET to continue this commitment going forward.

Based on the results of these tests, this order establishes a number of significant technical rules related to unlicensed use of the white spaces in the broadcast bands. Power limits are more restricted – to 40 milliwatts, or a fraction of what wireless microphones are authorized to employ in these frequencies – when operated in a channel immediately adjacent to a broadcast service, while a higher power limit applies in non-adjacent channels.

In addition, and of critical importance to incumbent providers, the item will create a database of existing operations in specific channels and entire geographic areas that will remain unavailable to all unlicensed operations. Incumbent providers may register their locations and unlicensed devices will be required to first verify that channels are available prior to accessing them. This requirement to use this database will ensure that broadcast operations, broadcast auxiliary services (BAS), cable head-ins, public safety operations, and venues such as sports stadiums and theatres may register their locations and receive complete protection.

The Commission, through our Enforcement Bureau and in consultation with the Office of Engineering and Technology, will investigate complaints of interference and take appropriate action, as we do with all cases of interference. I regret that my colleagues were unwilling to set forth in this item a more specific and swift process to deal with complaints of interference. I remain concerned that the item is too vague and does not provide necessary protections after the interference has occurred.

I also would like to acknowledge the legitimate concerns of the many industries that already provide valuable services using the core TV bands. Regarding the concerns of my friends in the broadcasting industry, I want to recognize the important service they provide, especially all they currently are doing to make the DTV transition as smooth as possible. Over 90 percent of Americans are now aware of the DTV transition, thanks in large part to the more than \$1 billion invested by the broadcasters and the cable industry in PSAs and other public education efforts. The DTV transition is an extraordinary opportunity for consumers to receive revolutionary TV picture quality and additional programming, as well as new wireless services that will be available in the 700 MHz band when those channels are vacated. In addition, broadcasters play a key role in providing emergency alerts to the public. It is, therefore, imperative that TV broadcasting continue to be protected from interference. The power limits and other technical rules, proposed by OET and adopted herein, are designed to do just that.

Regarding similar concerns by cable operators, I also recognize the potential for interference, both to cable head ends as well as to cable connections inside the home. The item takes steps to protect

cable head ends by restricting use of white spaces devices in the geographic areas in which head ends are located. With regard to cable systems in the home, OET has attempted to establish power limits that will lower the risk of interference between devices in the home, though this risk is not, in my mind, fully mitigated. However, the Commission does not generally focus on interference that users cause to themselves. Just as we have all learned to move devices away from each other in the office and we no longer place our cell phones next to the computer, so might consumers need to reduce interference inside their home by moving devices, at least until the next generation of cable equipment becomes more widely disseminated. I encourage device manufacturers and indeed the Commission to provide information to consumers regarding these devices as they come online, as well as establishing 800 numbers, arming call centers with tech-specific solutions, email alerts, software “fixes” that lower power and other forms of outreach to consumers.

Regarding the concerns of facilities and events managers – including Broadway, sports stadiums, churches, my friends at the Grand Ole Opry, and many others – the geographic database provides a critical line of defense. In addition, the item will make spectrum available in two channels above Channel 20 in those markets that are particularly congested due to public safety operations in Channels 14 – 20. Taken together, these measures should protect the vast majority of wireless microphones.

Remaining Concerns

While the use of white spaces by unlicensed devices holds great promise and I am excited about their potential, I also have several significant concerns that I believe we should have addressed and encourage a future Commission to re-address.

With regard to the possibility of interference, I regret that the Order does not include language that would specifically state the legal responsibilities of those who provide these new unlicensed devices. In particular, I would like providers of these devices to have clear notice of what they must and must not do under the Commission’s rules. Perhaps more important still, I wanted to ensure that our rules specify that, in the event of significant interference caused by an unlicensed device, the party responsible for this device will also be responsible for rectifying the problem and assume the cost. Some companies have assured us that this will be the case; that their business reputation requires it and it is indeed “good business” for them to correct the situation. However, the potential impact of millions of devices in the marketplace calls for a prudent process for recall, provisions for mitigating interference caused by faulty equipment, and a clear exposition of fines and penalties for violations. I felt it was imperative to deal with this on the front end, but today’s item is not sufficiently clear on these matters. I hope the next Commission will address this before, rather than after, any harm occurs.

In addition, I am disappointed that this item does not take more specific steps to address higher-power fixed operations in rural areas, which could have been used to provide much needed backhaul, a key component of broadband service in rural communities. While I understand that the Commission will issue a Notice of Inquiry on this issue, this is too little and too late. Rural consumers need help now, and the record on the various options – including licensed approaches – is sufficiently developed for the Commission to take action today.

More fundamentally, and most troubling about today’s order, the Commission’s decision makes it difficult if not impossible to allow anything other than unlicensed use in the white spaces of the roughly 300 megahertz that comprise the TV broadcast spectrum. Other valuable uses, such as licensed operations, are precluded. I am not convinced that all of the white spaces in Channels 2 – 51 needed to be made available for unlicensed use. Indeed, many of the companies that have discussed with me their exciting new business models have focused only on the use of Channels 21 – 51.

As with any policy decision, we must be cognizant of the opportunity cost – that is, we must look with a clear head at that which we are giving up. This is extremely valuable spectrum – beachfront property spectrum – with estimates of the value of white spaces under a licensed approach ranging from

\$8 billion to over \$24 billion. Even if the low estimates in this range are the most accurate, we must consider this lost value to the U.S. Treasury and, ultimately, to taxpayers. Even more important than the lost auction revenues, the consumer benefits of spectrum use in a licensed regime are many times greater than what service providers pay to the U.S. Treasury. Of course, the benefits to consumers of services in unlicensed bands also may be significant. But if all white spaces spectrum in this band is set aside for unlicensed use – rather than appropriately balancing licensed and unlicensed approaches – we are likely to ignore the huge value of alternative uses. In short, we need to consider the tradeoffs, and the American consumer – in urban as well as rural areas – will suffer if we do not.

Based on my conversations with OET, independent engineers and various members of the White Spaces Coalition, it would appear that allowing unlicensed use of the white spaces only in Channels 31-51 would be sufficient to provide four channels – that is, 24 megahertz – in even the most congested markets and many, many more channels in suburban and rural markets. As an example, 24 megahertz is greater than the amount of spectrum made available in the largest block in the 700 MHz auction held this spring. In that auction, the C block sold for \$3.7 billion, despite significant use restrictions that arguably lowered the final bid. While four channels of white spaces creating 24 megahertz would not represent contiguous spectrum, this nonetheless would be sufficient for broadband services in these highly congested markets. Other urban markets would have somewhat more spectrum available, while rural markets might have as much as 100 megahertz more spectrum available.

Accordingly, I am not convinced that making Channels 21 – 51 available only for unlicensed use is necessary to create the types of exciting new services that have been predicted. I am even less convinced – and the record does not support – that we must make the entire core TV band, Channels 2 – 51, available for such use. This is more spectrum than was requested by most of the parties who argued that they could provide new and innovative services using Channels 21 – 51. Therefore, while I supported moving forward to allow a portion of the white spaces be made available for unlicensed use, I respectfully dissent from including all channels in the band plan in this order.

I thank Chief Julie Knapp, the fine staff at OET, and all those who have worked so hard on this item, including the many hours spent testing and analyzing devices. However, this was only a step on this incredible technology journey. Testing on individual devices will now commence and must be subject to the same stringent, thorough, and transparent procedures and reporting we have seen thus far in this process, consistent with the Commission's procedures for all device certifications. In addition, it is of critical importance that the Commission establishes and ensures a process that will immediately respond to and mitigate any interference experienced by incumbent users and individual consumers alike.