

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Revisions to Rules Authorizing the Operation of Low Power Auxiliary Stations in the 698- 806 MHz Band)	WT Docket No. 08-166
)	
Public Interest Spectrum Coalition, Petition for Rulemaking Regarding Low Power Auxiliary Stations, Including Wireless Microphones, and the Digital Television Transition)	WT Docket No. 08-167
)	
Amendment of Parts 15, 74 and 90 of the Commission’s Rules Regarding Low Power Auxiliary Stations, Including Wireless Microphones)	ET Docket No. 10-24
)	

JOINT COMMENTS

Pursuant to the above-captioned Public Notice,¹ the undersigned wireless microphone interests hereby respond to the Commission’s call to “refresh the record” on, among other issues, the issue of whether the Commission should provide for a limited expansion of license eligibility to include classes of wireless microphone users currently operating in the TV broadcast band on an unlicensed basis under Part 74.² The undersigned wireless microphone interests include providers of professional audio equipment and services and the venues in which they operate. Collectively this group is representative of the nation’s top echelon of expertise in wireless audio production and engineering. For the reasons discussed below, we support the expansion of Part

¹ See The Wireless Microphones Proceeding, Comment Deadlines Established, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-124, *Public Notice*, DA 12-1763 (rel. Nov. 2, 2012); The Wireless Telecommunications Bureau and the Office of Engineering and Technology Seek to Update and Refresh the Record in the Wireless Microphones Proceeding, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24, *Public Notice*, DA 12-1570 (rel. Oct. 22, 2012) (“Public Notice”).

² “Wireless microphones” as used herein includes a variety of audio devices authorized under Part 74 of the Commission’s Rules as secondary users of locally unoccupied television channels. In addition to wireless microphones, this equipment includes in-ear monitors, wireless intercoms, wireless assist video devices (WAVDs) and wireless cueing (IFB) systems.

74 low power auxiliary service license eligibility criteria to include wireless microphone users whose spectrum needs routinely exceed the capacity available in the two UHF channels reserved under existing rules for wireless microphone operations.

I. Wireless Audio Systems Are Critical Tools Integral to Socially, Culturally, and Economically Important Productions

For decades, wireless microphone systems have successfully operated in the UHF TV bands with no reported incidences of interference. Today, wireless microphones are integral to many professionally produced cultural, artistic, social, political, spiritual, and commercial events. In addition to conventional broadcasting and moviemaking, wireless microphones are critical components of the audio infrastructure of any modern professional production in music concerts, live theater, live news, professional and college sports, houses of worship, business meetings and trade conventions, schools and universities, and government and civic gatherings.³ In those applications, experienced frequency coordinators and sound production companies -- parties with significant technical expertise and understanding of wireless audio operations and obligations -- handle frequency selections and frequency coordination before and during the events.

Consumers in all applications demand the mobility and high-quality professional sound made possible by wireless microphones. Wireless microphones give artists, performers, presenters, athletes, coaches, and clergy freedom of movement, enabling innovative productions that could

³ The record in the White Spaces proceeding, ET Docket 04-186, is replete with input from professional users across many segments, including performing artists in virtually every genre of music, live theater, sports, large and small houses of worship from virtually all denominations, educational institutions, commercial, government and business conference facilities -- all attesting to the current use and future need for interference-free wireless microphone systems.

not possibly be put on with wired products. No suitable alternative exists -- wired systems simply cannot provide the mobility needed. The demand for wireless microphone systems has soared in recent years as American consumers have required more and more sophisticated productions in all applications. We expect this increase in demand to continue.

II. The Current FCC Definition of Entities Eligible for Licensing Covers Only a Fraction of the Population Using Wireless Audio to Create Valuable Content

We strongly urge the Commission to update the Part 74 rules to expand the class of users eligible to obtain a Part 74 license. Although wireless microphone systems are a fundamental part of all modern production equipment today, the Part 74 rules, adopted over 30 years ago, have not been updated to reflect current applications. Under existing rules, large categories of important professional users including music concerts, Broadway theaters, the Kennedy Center, the theaters in the Las Vegas entertainment district, corporate productions, and large houses of worship, may not be eligible to obtain a Part 74 license. All of these professional productions require wireless microphone systems that are comparable in sophistication and quantity to (and may even exceed those of) a typical broadcast user. To our knowledge, no other country limits wireless microphone licensing to narrow categories of users similar to the Commission's Rules.

III. As Availability of UHF Spectrum is Reduced, Licensing is Even More Important to Protect Wireless Microphones From Interference From White Space Devices

Licensing is particularly important given the Commission's recent decision to permit unlicensed White Space devices to operate in UHF TV spectrum.⁴ Licensed users may register for

⁴ See 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, *Second Memorandum Opinion and Order*, 25 FCC Rcd 18661 (2010) ("White Spaces Second MO&O").

interference protection from White Space devices in the geolocation database and may operate at increased output powers.⁵ Under current Commission rules, unlicensed wireless microphone users can seek permission to register in the database for interference protection by submitting a request at least 30 days in advance of the event. (The request portal contains multiple data entry fields seeking much of the same information that is required to make a database reservation.) Requests are subject to public notice and comment.⁶ The rules also allow unlicensed wireless microphone users to operate beyond the specified 50 mW if the user seeks and is granted special temporary authority in advance of the event.⁷ Professional use of wireless microphones outside the outdated narrow eligibility categories in Part 74 requires both flexibility to access the geolocation database within the 30-day-window and the flexibility to operate at increased power when necessary.

The rules that permit unlicensed users to apply for permission to register frequencies 30-days in advance, subject to public notice and comment, are not a viable option for many professional users. Frequency planning is a complex and dynamic task that often requires flexibility leading up to the event or even at the event. Many events are not planned or planned with sufficient finality 30-days in advance and professional frequency coordinators often discover unforeseen changes at the time of the event. Examples include added performance dates, location changes within large venue complexes, size and scale increases to accommodate program changes, and

⁵ See *id.* at ¶¶ 94-125; Revisions to Rules Authorizing the Operation of Low Power Auxiliary Stations in the 698-806 MHz Band, WT Docket No. 08-166; Public Interest Spectrum Coalition, Petition for Rulemaking Regarding Low Power Auxiliary Stations, Including Wireless Microphones, and the Digital Television Transition, WT Docket No. 08-167; Amendment of Parts 15, 74 and 90 of the Commission's Rules Regarding Low Power Auxiliary Stations, Including Wireless Microphones, ET Docket No. 10-24, *Report and Order and Further Notice of Proposed Rulemaking*, 25 FCC Rcd 643 (2010) (“*Wireless Microphones Report and Order*,” at ¶ 84.

⁶ *White Spaces Second MO&O* at ¶ 33.

⁷ The rules provide that unlicensed wireless microphones that need to operate at higher than 50 mW may submit a request for special temporary authority in advance of the event. See *Wireless Microphones Report and Order* at ¶ 85.

overlapping events within close proximity – all of which would require revision to a registration well within the 30-day advance request period. In these situations, unlicensed professional wireless microphone users cannot obtain adequate protection through the Commission’s 30-day advance request requirement and such requirement stands as an unreasonable barrier to the successful production of many professional events. The nation’s largest productions and equipment providers also have on a daily basis the most complex planning requirements with regard to equipment and staging and therefore should not be burdened by a “pre-registration” process.

Licensing becomes even more critical if the Commission implements any of the further changes to the UHF TV band proposed in the Incentive Auction NPRM.⁸ Modifications to the wireless microphone reserve channel allocations and any DTV repacking would severely limit options for professional wireless microphone users in the United States to identify clear, interference-free useable UHF spectrum -- particularly in the largest cities where the preponderance of high profile audio productions take place.

Interference to professional wireless microphone operations is unacceptable to users and the consuming public. Known, clear spectrum at the event location and in the amount required for the production is imperative. Wireless microphones must work perfectly or content will be damaged, destroyed, or, in the case of live events, lost forever. There is no “second take” in a live event. For these reasons, we believe that the public interest would be greatly served by extending Part 74 licensing eligibility to professional users who can demonstrate that their

⁸ Expanding the Economics and Innovation Opportunities of Spectrum Through Incentive Auctions, Docket No. 12-268, *Notice of Proposed Rulemaking*, FCC 12-118 (rel. Oct. 2, 2012).

productions routinely require the use of more wireless microphones than can operate in the two reserved channels identified in the White Spaces rules.⁹ We recommend that the Commission's Rules incorporate adequate flexibility regarding the specific entity that must hold a Part 74 license. The licensed entity for an event should be the venue owner or operator, but it could also be the event producer, the responsible technical engineer, the performing entity, or the company supplying the rented sound equipment for the event. Finally, we request that the license application process be streamlined and simplified to more closely correspond to actual terminology and usage scenarios for professional audio applications.¹⁰

Respectfully Submitted,

⁹ Recreational and nonprofessional users of wireless microphones need not and should not be included in the licensing rules because their audio needs do not require the use of large numbers of wireless microphones and they are able to satisfy their wireless audio requirements with relatively minimal equipment and spectrum. Recreational and nonprofessional users generally do not make a comparable level of investment in sophisticated sound systems and do not have an expectation, or an audience expectation, of flawless operation. Further, recreational and nonprofessional users typically do not engage professional, skilled frequency coordinators to handle wireless microphone operations who would likely be responsible for frequency selection and registration in the geolocation database.

¹⁰ We note that nowhere in the FCC Form 601 instructions, main application form, or pertinent schedule is the term "wireless microphone" used.

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