



PUBLIC NOTICE

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**Office of Engineering and Technology and Wireless Telecommunications Bureau
Announce Nationwide Launch of Unlicensed Wireless Microphone Registration System**

ET Docket No. 04-186

The Commission's Office of Engineering and Technology (OET) and Wireless Telecommunications Bureau (WTB) announce the nationwide launch of the Commission's unlicensed wireless microphone registration system. This registration system will enable qualifying major event/production venues across the nation to register with the TV bands white space database systems so that their operations of unlicensed wireless microphones and other low power auxiliary station devices at specified times will be protected from potential interference caused by other unlicensed devices (referenced herein as "TV white space devices") that also may operate on unused broadcast TV channels.

On September 19, 2012, we initially launched the registration system for use only by venues in the East Coast region, specifically New York, New Jersey, Pennsylvania, Delaware, Maryland, Washington DC, Virginia, and North Carolina.¹ At this time, we are expanding the operation of the registration system to accept applications for venues nationwide. The registration system is available online at <http://www.fcc.gov/uls/login>.

In this Public Notice we reiterate important information and guidance previously provided in the Public Notice for the regional launch of the registration system – including general information on the registration system, guidance regarding registration of unlicensed wireless microphones (and other low power auxiliary station devices), and other more detailed guidance on several aspects of the system. In a companion public notice, the Office of Engineering and Technology is authorizing the TV white space database systems to provide service to TV white space devices in the East Coast region where major event/production venues have now had opportunity to register.²

¹ See Office of Engineering and Technology and Wireless Telecommunications Bureau Announce the Initial Launch of Unlicensed Wireless Microphone Registration System, *Public Notice*, DA 12-1514 (rel. Sept. 19, 2012).

² See Office of Engineering and Technology Authorizes TV Whitespace Database Administrators to Provide Service to Unlicensed Devices on Unused TV Spectrum in the East Coast Region, *Public Notice*, DA 12-1956 (rel. Dec. 6, 2012). As noted in that public notice, we anticipate authorizing nationwide operations of TV white space databases by mid-January 2013, after we have validated that our nationwide unlicensed wireless microphone registration system is functioning properly. *Id.* at n.1.

Background

Wireless microphones and other low power auxiliary devices are allowed to operate on unused channels in the UHF and VHF frequency bands used by broadcast television (TV Channels 2-51, except Channel 37) on both a licensed and an unlicensed basis.³ The Commission has long allowed operation of low power auxiliary stations on a licensed basis, viewing use of these devices as necessary and beneficial to broadcast productions and similar movie and cable program productions.⁴ Since 2010, the Commission has permitted unlicensed operations of wireless microphones in the TV bands pursuant to certain Part 15 rules and specified technical requirements.⁵ The Commission also permits unlicensed white space devices to operate on many (but not all) of the unused channels in the TV bands.⁶

The Commission established different policies and rules for registering licensed and unlicensed wireless microphone operations or other low power auxiliary stations in the TV bands white space databases.⁷ Licensed operations may be registered directly with one of the TV white space database administrators⁸ for protection from interference from unlicensed operations by TV white space devices.⁹ Registration of unlicensed wireless microphones – the subject of this Public Notice – is available only in certain limited cases, such as “major sporting events,” “live theatrical productions/shows,” and other

³ Whereas licensed wireless microphone operations are limited to licensees of broadcast stations and certain others in related industries, unlicensed wireless microphone operations are available to anyone that otherwise complies with the rules for use of these devices.

⁴ See Revisions to Rules Authorizing the Operation of Low Power Auxiliary Stations in the 698-806 MHz Band, WT Docket No. 08-166, WT Docket No. 08-167, ET Docket No. 10-24, *Report and Order and Further Notice of Proposed Rulemaking*, 25 FCC Rcd 643, 696 ¶ 125 (2010) (“*Wireless Microphones Order and Further Notice*”).

⁵ See *Wireless Microphones Order and Further Notice*, 25 FCC Rcd at 682-684 ¶¶ 81-84 (unlicensed operations cannot operate at the power output levels permitted licensed operations, and are limited to power levels of no more than 50 milliwatts). With regard to unlicensed wireless microphones, the Commission stated that “unlicensed wireless microphones operate under the same general conditions of operation in Section 15.5 of the rules as TV [white space] devices, meaning they may not cause interference to authorized services and must accept any interference received, including interference from other non-licensed devices.” *TV White Spaces Second MO&O*, 25 FCC Rcd at 18674 ¶ 31.

⁶ See generally *Unlicensed Operation in the TV Broadcast Bands*, ET Docket No. 04-186, *Second Memorandum Opinion and Order*, 25 FCC Rcd 18661 (2010) (“*TV White Spaces Second MO&O*”). In this order, the Commission termed these unlicensed devices as “TV bands devices.” We reference them herein as TV white space devices.

⁷ *TV White Spaces Second MO&O*, 25 FCC Rcd at 18674-18676 ¶¶ 31-33; 47 C.F.R. § 15.713(h)(8) (licensed low power auxiliary stations, including wireless microphones); 47 C.F.R. § 15.713(h)(9) (unlicensed wireless microphones).

⁸ The TV bands white spacedatabase administrators each operate a database system that include records for all licensed facilities and certain additional facilities (including registered venues where licensed and unlicensed wireless microphones are operated) in the TV bands that are to be protected from interference. TV white space devices contact a database system for a lists of channels that are available for their use at their individual locations. There are currently 10 authorized TV bands white space database administrators, two of which are currently approved to provide service to white space devices. See *Unlicensed Operation in the TV Broadcast Bands, Order*, ET Docket No. 04,186, DA 11-131, Order (OET, released Jan. 26, 2011); *Unlicensed Operation in the TV Broadcast Bands, Order*, ET Docket No. 04-186, DA 11-1291 (OET, released July 29, 2011).

⁹ *TV White Spaces Second MO&O*, 25 FCC Rcd at 18675 ¶ 33.

“major events where large numbers of wireless microphones will be used and cannot be accommodated in the available channels.”¹⁰ To be able to register for TV bands database protection, operators of unlicensed wireless microphones must first file with the Commission to request registration and establish that they have met the necessary requirements to qualify for registration.¹¹

General Registration Process

Requests for registration are to be made in accordance with Section 15.713(h)(9) of the Commission’s rules, 47 C.F.R. § 15.713(h)(9). Applications for registration must be filed using the FCC’s online system at <http://www.fcc.gov/uls/login>. Applications for registration may be filed by the venue, an event coordinator, or the microphone users. Parties seeking to register eligible event venues are required to certify that they are using the two “reserved” channels¹² and other channels that are not available for use by TV white space devices on which wireless microphones can be used, at the location of the venue.¹³ The Commission will make registration requests available for public comment online.¹⁴ Additional information about the registration process is available online at <http://www.fcc.gov/help/unlicensed-wireless-microphone-registrations>.

If the Commission approves a registration, the registrant will then need to use the FCC file number for the accepted application to access one of the TV bands white space database systems to enter final scheduling and channel information for the venue. A list of the websites for the TV bands database system is available at <http://www.fcc.gov/help/database-administrators-unlicensed-wireless-microphones>.

Guidance on Specific Issues

In the following sections, we provide more detailed guidance on the requirements relating to the FCC’s registration of unlicensed wireless microphone operations so that operators may register with the TV bands white space database administrators. Registration requests that do not meet these criteria set forth in relevant Commission Orders, the applicable rules, and this Public Notice will not qualify for registration in the TV bands databases. In addition, we note that the Commission will take actions against parties that file inaccurate or incomplete information -- actions that may include but are not limited to denial of registration in the database, removal of information from the database pursuant to Section 15.713(i), or other sanctions as appropriate to ensure compliance with the rules.¹⁵ The FCC will periodically survey usage to see if entities are making excessive claims about need, or abusing the

¹⁰ *TV White Spaces Second MO&O*, 25 FCC Rcd at 18674-18675 ¶¶ 31-32.

¹¹ *TV White Spaces Second MO&O*, 25 FCC Rcd at 18674-18676 ¶¶ 31-33; 47 C.F.R. § 15.713(h)(9) (unlicensed wireless microphones).

¹² In the *TV White Spaces Second MO&O*, the Commission excluded white space devices from two of the unused channels in the UHF band near channel 37 so that they could be used for wireless microphones, and it termed these channels as “reserved” for wireless microphones. *TV White Spaces Second MO&O*, 25 FCC Rcd at 18673-18676 ¶¶ 29-33.

¹³ It is possible that at some locations there will be no channels available for wireless microphone use (reserved or otherwise).

¹⁴ www.fcc.gov/unlicensedwirelessmics/report.

¹⁵ *TV White Spaces Second MO&O*, 25 FCC Rcd at 18675-18676 ¶ 33.

process, and will modify registrations if needed. The FCC will continue to revise registration forms to improve process and prevent abuses.

The overwhelming majority of unlicensed wireless microphone uses do not qualify for registration for database protection. In providing for registration of unlicensed wireless microphone operations at various venues or locations, the Commission stated that, “[a]s a general rule, we are not allowing unlicensed wireless microphones and other low power auxiliary devices operating without a license to be registered in the [TV bands white space] database.” While noting that there are a wide variety of applications for wireless microphones, the Commission concluded that the “overwhelming majority” of use does not merit registration in the database.¹⁶

Registration of unlicensed wireless microphones are available for certain “major events” or “large venues.” The Commission recognizes the need for protection of unlicensed wireless microphones at “major events where large numbers of wireless microphones will be used and cannot be accommodated in the available channels at that location,” and permits parties responsible for unlicensed wireless microphone operations at venues hosting these major events to request registration. The Commission provided two examples of such major events that might qualify for registration – “major sporting events” and “live theatrical productions/shows.”¹⁷ The rules on registration of unlicensed wireless microphones provide that “sites of large events and productions/shows” with significant wireless microphone use at well-defined times and locations may be registered in the database.¹⁸

Before seeking to register unlicensed wireless microphone operations, operators should determine whether they qualify for licensed operations. We note that oftentimes wireless microphones used at major events that are broadcast (e.g., NFL games, PGA events, NASCAR races) may already qualify for licensed use. Accordingly, to the extent database protection is sought, the wireless microphones related to broadcast should be registered under the license instead of through registration of unlicensed wireless microphones.

Use of wired microphones, where practical, is encouraged. Entities are also strongly encouraged to use wired microphones and/or other alternatives where circumstances would allow for their use.

Types of Major Events/Large Venues that Qualify for Registration

As discussed above, the Commission intended that the overwhelming majority of unlicensed wireless microphone use would not qualify for registration, while registration of unlicensed wireless microphones would be available for venues of major events and productions/shows. Major events/venues that may qualify for registration include particular events at places such as Broadway theaters (in New York City) or the Kennedy Center, FedEx Field, or the National Park for the Performing Arts at Wolf Trap (in the Washington DC area).

On the other hand, small and medium-sized venues and facilities such as libraries, courthouses, schools, meeting sites, community theaters, and convention centers would not normally qualify for

¹⁶ *TV White Spaces Second MO&O*, 25 FCC Rcd at 18674-18675 ¶¶ 31-32.

¹⁷ *Id.*

¹⁸ Section 15.713(h)(9).

protection and would not be registered. The Commission did not generally intend for registration of these types of uses, and we discourage applications of this nature.

We note that requests for registration not falling clearly within the class of major events/productions may take longer to process. Although requests for registration must be filed at least 30 days prior to operation, in these instances registrants should consider filing registrations further in advance to provide more time for review. If we determine, after further evaluation, that the venue does not qualify, it will be dismissed.

Full Use of the Reserved and Other Available Channels

Unlicensed wireless microphones and other low power auxiliary devices are allowed to operate on unused channels in the UHF and VHF frequency bands used by broadcast television (channels 2-51, except channel 37). To qualify for registration, each applicant must first maximize the use of its wireless microphone equipment on the channels available and “practicable” for use by wireless microphones at the venue’s location (but not available for TV white space devices).¹⁹ Accordingly, each applicant must establish that all of these available channels are being used by wireless microphones before seeking registration of additional channels for unlicensed wireless microphones.²⁰ To identify the reserved and the other available channels for wireless microphones (but not TV white space devices), applicants may consult any operating TV bands database system.²¹

Applicants are required to fill each reserved and other available channel with the number of wireless microphones that those channels can accommodate. The Commission has noted that each TV channel will, as a general matter, accommodate approximately 6-8 wireless microphones if using analog technologies. If more efficient digital equipment is used, one six megahertz TV channel will be able to accommodate more microphones per channel (e.g., as many as 15). Although the registration form requires that a *minimum* of at least 6 wireless devices are operating on each reserved channel and other available channel, applicants must deploy as many wireless microphones as possible on all of these channels, and must indicate how many devices will *actually* be operating on each channel.

Equipment issues. Applicants are expected to obtain wireless microphone equipment that can operate on all of the reserved and other available channels at the venue’s location. An applicant will not qualify for registration if it does not first have equipment for, and use, all channels available for wireless microphone use at the venue’s location.

Exception for VHF channels. It is our understanding at this time, through feedback from the wireless microphone industry, that as a practical matter there is very little professional quality equipment available in the VHF spectrum (Channels 2-13). Accordingly, we will not require that applicants use available VHF channels before requesting registration because such use is not generally “practicable” at this time. We therefore clarify that in order to make full use of the other available channels, operators

¹⁹ *TV White Spaces Second MO&O*, 25 FCC Rcd at 18675 ¶ 32.

²⁰ We note that it is possible that at some locations there will be no channels available for wireless microphone use (reserved or otherwise).

²¹ We note that TV band database administrators generally use the terms “reserved” and “available” channels to designate the channels available at particular location for wireless microphones.

need not make use of VHF channels, and are permitted to certifying that all “other available channels” are in use even without using the VHF channels.

Requests for Registering Additional Channels

Similarly, in indicating a need for registration of wireless microphones in the additional channel(s) that are available for use by TV white space devices (“TV white space” channels), applicants must maximize the use of each channel that it seeks to register. Applicants may consult any operating TV bands database system to identify these TV white space channels. Requests to register numerous TV white space channels will be reviewed closely to determine whether the applicant would be using these channels efficiently and whether the number of channels that it seeks to register is justified.

Multiple Point and Area Registrations

Section 15.713(h)(9) of our rules allows registrations that specify more than one point in the facility to be entered for very large sites. In addition, the FCC form will accept registrations for an area defined by 4 points. When defining the quadrilateral, the distance between two consecutive points is limited to a maximum of 3 kilometers.

Although area registrations are allowed, they should only be used in very rare instances where participants using unlicensed microphones or other low power auxiliary station devices are moving throughout a large area during the event. The Commission noted in its order that “the relatively low power of [wireless microphones] limits their operating range to about 100 meters, allowing each vacant TV channel to be used at many locations in a TV market.”²² In addition, the types of major events that may qualify for registration are generally contained within a specific location (e.g., auditorium, stadium, arena). For larger locations, registrants are encouraged to register multiple points rather than an area. The Commission will scrutinize requests for area registration to ensure that the area is limited to the size needed to encompass simultaneous use of co-located unlicensed wireless microphones and that channels are being reused to the extent possible. Requests for area registration will take longer to review. Although requests for registration must be filed at least 30 days prior to operation, in these instances registrants should consider filing registrations further in advance to provide more time for review. If we determine, after further evaluation, that the area requested is not fully justified, the request for registration will be dismissed.

Usage Schedule

Section 15.713(h)(9) further states that registration applies to venues with significant wireless microphone use at well-defined times. Registrants must provide the specific “months, weeks, days of the week and times the device(s) are used.”²³ Sites will not be protected when events are not taking place.

The Commission acknowledges that some leeway may be needed to accommodate events in which the precise duration of a scheduled event may not be known or delay may occur. For these events, registrants can request extra time to accommodate the potential for an event to run over, but registrants are cautioned not to request excessive time either with the Commission or with the TV bands database

²² *TV White Spaces Second MO&O*, 25 FCC Rcd at 18715-18716 ¶ 132.

²³ 47 C.F.R. § 15.713(h)(9)(vii).

systems after registration approval. Registrants should not generally block out large amounts of time to handle scheduling changes. Once a registration is approved, registrants can adjust the schedule directly with the TV bands database systems to handle last minute changes. The FCC will periodically survey usage schedules to see if excessive blocks of time are requested which could result in modification of a registration.

Further Questions

For questions and additional information about filing unlicensed wireless microphone registrations, go to <http://www.fcc.gov/help/unlicensed-wireless-microphone-registrations> or contact the Licensing Support Center at (877) 480-3201, option #2. Questions regarding TV White Spaces and Database Administration may be directed to Alan Stillwell at (202) 418-2470 or Hugh L. Van Tuyl at (202) 418-7506 (OET).

By the Chief, Office of Engineering and Technology and the Chief, Wireless Telecommunications Bureau.

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