

M E M O R A N D U M

January 22, 2010

TO: Coalition of Wireless Microphone Users

FROM: Toni Bush
Dave Pawlik

RE: FCC "Wireless Microphone" Order and Notice

In the Federal Communication Commission's January 15 "Report and Order and Further Notice of Proposed Rulemaking,"¹ the FCC issued decisions that (1) require wireless microphone users to vacate the 700 MHz band by June 12, 2010; and (2) legitimize the use of wireless microphones for the first time by entities that have not been qualified for Part 74 Low Power Auxiliary Station ("LPAS") licenses, including the previously unlicensed microphones used by Coalition members. The Commission is also requesting comments regarding the future operations and licensing of wireless microphones.

Most of the rules in the Order become effective January 22, 2010, the date of publication in the Federal Register. Comments on the NPRM issues will be due on February 22. Reply Comments will be due on March 15.

1. Terminating Operations in the 700 MHz Band.

The Commission has established June 12, 2010 as the final day for the use of wireless microphones in the 700 MHz band (698-806 MHz, to be exact),

¹ FCC 10-16, "Report and Order and Further Notice of Proposed Rulemaking" in WT Dockets No. 08-166 and 08-167 and ET Docket No. 10-24.

which was the former location of UHF television stations operating on channels 52-69. A portion of this band has been dedicated to use by public safety organizations and another portion has been auctioned off for commercial mobile services. In addition, a wireless microphone user is required to terminate service in the band within 60 days of receiving notice that a 700 MHz public safety or commercial wireless licensee will be beginning service earlier than June 12. This notice may come directly from the licensee or from the FCC in the form of a public notice. Furthermore, wireless microphone use in the 700 MHz band must cease immediately if the user is notified that the microphones are actually causing harmful interference to any public safety or commercial licensee.

Current LPAS licensees may coordinate replacement spectrum in lower areas of the TV Band and may file applications to modify their licenses to include the new frequencies.

The Order prohibits the manufacture, import, sale, lease, offer for sale or lease, or shipment of LPAS equipment, including wireless microphones, in the 700 MHz band in the United States. U.S. manufacturers may continue production of 700 MHz equipment for the export market, with labeling to notify consumers that the equipment cannot be used in the U.S.

Commission staff will be contacting the Coalition about the need to clear the 700 MHz band. They will appreciate it if Coalition members would help in spreading word of the June 12 deadline to their members, affiliates, and other wireless microphone users. Additional information is available on a special website set up for this purpose: www.fcc.gov/cgb/wirelessmicrophones

2. Immediate Temporary Part 15 Licensing.

The Commission solved the problem of widespread unlicensed use of wireless microphones by temporarily placing all unlicensed wireless microphones operating in the TV band under Part 15 regulation. Through June 12, this includes wireless microphones operating in the 700 MHz band. Part 15 governs unlicensed

devices, such as garage door openers and radio-controlled toys, so the FCC's action provides no interference protection (but there was also no protection for the years that the devices were successfully used without any authorization at all).

Interference in the TV Band will, however, become a major issue with the onset of service from unlicensed TV Band Devices.

Wireless microphones operating during this transition period as Part 15 devices must comply with specific technical requirements that the Commission noted are generally met by existing equipment designed for use by Part 74 licensees. The devices normally may not exceed a power level of 50 milliwatts, but the Commission will consider requests for higher power on a case-by-case basis. Microphones must be approved for use under Part 74. As Part 15 devices, they must not cause harmful interference to any licensed services and must accept interference received from other users.

3. Proposed Future Rules: Both Part 15 and Part 74.

In the NPRM portion of the document, the Commission proposes to continue the operation of wireless microphones under Part 15 rules and seeks comment on whether to expand eligibility for licensing under Part 74. The major distinction between these two types of regulation is that Part 15 offers no protection from interference and Part 74 would permit registration in the White Space Database and provide protection against unlicensed TV Band Devices. Part 74 also offers the option of higher-power operation without the need for a case-by-case waiver.

4. Part 15 WAD Service.

The Commission proposes the term, "Wireless Audio Devices" for the Part 15 wireless microphones.¹ The NPRM suggests that Part 15 regulation can still provide interference-free use for a number of WAD operators because there will

¹ Although the Commission never uses the obvious acronym, "WAD," the term will certainly be adopted by the industry.

be “safe harbor” TV-Band-Device-free frequencies available in some markets, fixed TV Band Devices cannot operate adjacent to occupied broadcast channels, and personal/portable TV Band Devices cannot operate in frequencies below channel 21. However, although the technical rules are still being reconsidered in a separate proceeding, under the Commission’s current White Spaces rules, the safe-harbor channels are only available in 13 of the largest metropolitan areas and there are communities with no DTV allotments below channel 21, so finding interference-free channels for WADs is not necessarily a sure thing.

Proposed rules for WAD operations would prohibit data or video transmission and would not permit interconnection to the public switched telephone network or to private or commercial wireless systems (so they could not be used as wireless headsets for cellular or cordless phones). WAD power would be limited to 50 milliwatts and other technical requirements would mirror current rules governing Part 74 devices.

The Commission seeks comment on its proposed rules for the WAD service including technical features and whether equipment certified for compliance under Part 74 should be recertified for operation under Part 15.

5. Licensed Operation Under Part 74.

The Commission recognizes that certain wireless microphone users who are not currently eligible for Part 74 licenses have needs that are similar to existing licensees and may have a need for interference protection. The NPRM notes that if the field of eligible Part 74 licensees is expanded too much, the impact on new TV Band Devices could be significant. The Commission seeks comment on that issue. Through a series of specific questions, the NPRM seeks a reasonable basis for drawing the line between users who can be accommodated under the Part 15 WAD rules and those who require the interference protection of a Part 74 license. The significant questions asked are:

- Do theatres and churches that use large numbers of wireless microphones already qualify for Part 74 licenses because they broadcast or record programs?
- Do events that use only a few wireless microphones require the assurance of interference protection afforded by a license or can they be adequately served under the WAD rules?
- Is there a need for Part 74 licensed wireless microphone use at large theatres, entertainment complexes, sporting arenas, and religious facilities?
- How can the Commission completely and precisely define the types of additional entities eligible for licensing to ensure that entities that merit licensee status are included and licensed status is limited to only eligible entities?
- How should the Commission define professional arts, entertainment, or sporting events or eligible religious facilities?
- Should license eligibility be based on the size of the venue, such as minimum seating capacity?
- Should license eligibility be based on the number of wireless microphones that the entity uses on a regular basis?
- Should the Commission establish criteria for determining which specific users are eligible for a license and leave it to the organization to determine whether it needs the interference protection of a license?
- What other characteristics of the entities that potentially could be licensed should be specified in the rules?
- Should the license be issued to the owner or operator of a stadium or theatre or religious facility or should performing groups or sports teams or religious organizations be licensed? Should it matter whether the use is permanently housed at the venue (such as a home team)?
- (Not asked, but closely related: When equipment is rented, should the rental company or the renting user be licensed?)
- Would limiting new licensees to certain venues, such as large theatres, entertainment complexes, sporting arenas, and religious

facilities, permit registration in the TV Band Device Database at locations that can easily be identified and only for particular dates and times and frequencies?

- How can the Commission be assured that licensees provide accurate, up-to-date information to the Database on an ongoing basis? (The Commission is concerned that licensees may find it impractical to maintain the Database over time and may call for protection on all channels on a continuous basis, blocking access by TV Band Devices).
- Do other entities that use wireless microphones, such as conventions or trade shows, cultural events, or governmental or educational institutions need the protection of a Part 74 license, or can they operate effectively under the WAD rules?
- Is it practical for newly eligible users to comply with all of the Part 74 requirements that apply to existing eligibles, such as the requirement to coordinate frequencies?
- Should the Commission place any additional requirements or limitations on new licensees, such as a limit on the amount of spectrum?
- Should new licensees be eligible for the non-TV-Band frequencies available to Part 74 licensees? (The full set of Part 74 frequencies includes: (1) 26.100-26.480 MHz; (2) 54-72 MHz; (3) 76-88 MHz; (4) 161.625-161.775 MHz (except in Puerto Rico or the Virgin Islands); (5) 174-216 MHz; (6) 450-451 MHz; (7) 455-456 MHz; (8) 470-488 MHz; (9) 488-494 MHz (except in Hawaii); (10) 494-608 MHz; (11) 614-697 MHz; (12) 944-952 MHz.)
- Should the terms of new Part 74 licenses be coterminous with Part 74 licenses held by broadcasters? (These are up to 8-year licenses that coincide with the expiration dates of TV stations in a state. Possible options would include a 10-year license that begins when granted, or a universal license period that would expire on the same date for all licensees.)

The Commission also seeks comment on a proposal by the Nuclear Energy Institute and Utilities Telecom Council seeking the expansion of Part 74 eligibility to cover uses within commercial nuclear power plants.

To the extent that Part 74 equipment ultimately differs from WAD equipment, such as the availability of different spectrum bands and power levels, the Commission is seeking comment on what labeling requirements and sale restrictions might be placed on the equipment. One possibility is a requirement that manufacturers, retailers, and distributors of Part 74 equipment not be permitted to provide it without a written commitment that the user is a bona fide reseller or a party eligible for a Part 74 license.

6. Part 90 Licensing.

The Commission notes that Part 90 of its rules permits the operation of wireless microphones in the following frequencies: 169.445 MHz, 170.245 MHz, 171.045 MHz, 171.845 MHz, 169.505 MHz, 170.305 MHz, 171.105 MHz and 171.905 MHz. General commercial entities as well as educational and ecclesiastical institutions are already eligible for Part 90 licenses. Part 90 rules do not protect wireless microphone users from interference from other Part 90 users, which includes general dispatch service and other two-way radio operations. The Commission seeks comment on what it might do to make Part 90 wireless microphones more useful. For example, are the bands too narrow (54 kHz as compared to 200 kHz for Part 74) or are there too few frequencies? Are Part 90 wireless microphones readily available?

7. Long Term Solutions.

The Commission notes that it is facing a spectrum shortage and seeks comment on how wireless microphones can use spectrum more efficiently. Can digital equipment replace analog devices? Can improved technology increase the number of microphones that can share the same 6 MHz TV channel? Would a band-manager system (where a single licensee manages the use of the spectrum) promote efficient use? What other steps would encourage technological improvements?

8. Suggestions for Comments.

It is not necessary for the Coalition to address every issue or attempt to answer every question in the NPRM. However, it is necessary to give the Commission a basis on the record for rules that would satisfy the requirements of Coalition members. The single most pressing need is the development of a sound rationale for drawing the line between entities that should be eligible for Part 74 licenses and those that can operate effectively under the WAD rules.

One example, presented here only as a basis for discussion and an example of the kind of solution that would be persuasive, would be to identify the characteristics of wireless microphone use by Coalition members that would require Part 74 licensing. There seem to be four factors:

- Need for Protection. Interference would destroy the effectiveness or the commercial value of the service being provided to the public.
- Quantity of Microphones. The service provided to the public regularly requires more units than can be reliably provided interference-free under the WAD rules.
- Need for Amplification. The circumstances of the performance or presentation require the amplification of voices which could not effectively be heard without high quality microphones.
- Need for Mobility. The performance or presentation requires the movement of performers such that wired microphones cannot be safely and effectively used.

Under this scheme, an applicant that could certify that it meets each of these four qualifying factors would be awarded a Part 74 license. We might even suggest that some applicants would qualify *per se*, such as professional, amateur, and educational theatres with an audience capacity of [300] or more (the size of the house would be necessary to meet the “Need for Amplification” factor); professional sports leagues or individual teams; religious facilities with a capacity of [300] or more (again, the need for amplification is important).

Additional factors could be possible. There may be other considerations added to the licensing qualifications: for instance, a requirement that

the licensee accept obligations to coordinate frequencies and accurately report uses to the TV Band Database. Other Part 74 licensees have these obligations and Broadway theatres and major sports events are heavily invested in coordination efforts.

9. Coalition Procedures.

We suggest that you jot down any suggestions, comments, and ideas in e-mails addressed to all Coalition members. We will schedule a group teleconference (or more than one, if needed to provide an opportunity for all to participate) to discuss the issues and reach a consensus before we begin drafting. Meanwhile, please let us know if you have any questions.