

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 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
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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
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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
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REPLY COMMENTS OF MOTOROLA, INC.

I. INTRODUCTION

Motorola, Inc. (“Motorola”) hereby submits these reply comments in response to the record developed in the above-captioned proceeding.¹ As indicated in its initial comments,² Motorola continues to support some form of unlicensed wireless microphone operation under Part 15 combined with a limited expansion of Part 74 wireless microphone eligibility that still preserves the usefulness of the TV white spaces spectrum and protects land mobile radio users.

¹ See Revisions to Rules Authorizing the Operation of Low Power Auxiliary Stations in the 698-806 MHz Band, Public Interest Spectrum Coalition, Petition for Rulemaking Regarding Low Power Auxiliary Stations, Including Wireless Microphones, and the Digital Television Transition, Amendment of Parts 15, 74 and 90 of the Commission’s Rules Regarding Low Power Auxiliary Stations, Including Wireless Microphones, *Report and Order and Further Notice of Proposed Rulemaking*, WT Docket Nos. 08-166 and 08-167, ET Docket No. 10-24, 25 FCC Rcd 643 (rel. Jan. 14, 2010) (“*FNPRM*”).

² See Comments of Motorola, Inc., WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24 (filed March 1, 2010) (“*Motorola Comments*”).

Additionally, Motorola urges that if the Commission does grant the limited request for waiver of the Nuclear Energy Institute and Utilities Telecom Council for authority to operate Telex wireless headsets in many bands, including the 700 MHz band, under Part 90 inside nuclear power plants, that such a grant should be subject to a requirement that the power plant users coordinate with public safety and commercial licensees, as applicable depending on the spectrum proposed for use, to reduce the potential for interference to those systems.

II. A LIMITED EXPANSION OF AUTHORIZED WIRELESS MICROPHONE USE IS APPROPRIATE.

The numerous comments submitted to the record by wireless microphone users demonstrate that there is a real need for authorized use of these devices in certain segments of spectrum below the 700 MHz band. As such, the Commission should take steps to authorize unlicensed use of wireless microphones under Part 15 in a defined set of up to four TV channels per market area, with expansion to additional channels for any wireless microphones that meet the TV white spaces TV band device (TVBD) requirements, and to adopt a limited expansion of the categories of eligible wireless microphone users under Part 74 Subpart H. In doing so, the Commission must be guided by the multiple goals of enabling nonharmful use of wireless microphones by appropriate parties while also ensuring sufficient protection for public safety and enterprise mobile radio users, and realistic access to the TV white spaces by TVBDs.

As indicated in its initial comments, Motorola supports unlicensed use of wireless microphones under Part 15 in four designated channels per market area, to be selected by the Commission in coordination with affected licensees on a state or regional level.³ As Motorola previously explained, the Commission should select these channels through first expanding the exclusion of TVBDs from operating on the channels immediately adjacent to channel 37

³ Motorola Comments at 2-3.

nationwide, thereby making these channels available for wireless microphone use, and second, by identifying two additional high-band VHF channels per market area, perhaps such as the first adjacent channels inside a VHF television station's protected service contour, where TVBDs are also prohibited.

In any event, as Motorola and others have suggested, unlicensed use of wireless microphones under Part 15 should not be allowed in TV channels 14-20.⁴ Critical land mobile operations are deployed in these channels and it is simply too risky to authorize and encourage the use of unlicensed wireless microphones on these channels.

Motorola's recommended approach will achieve the Commission's goals of expanding the authorized use of wireless microphones while also protecting crucial public safety and enterprise communications and promoting the efficient use of TV white spaces spectrum by TVBDs. Providing four designated TV channels in each area for unlicensed wireless microphone use provides 50 or more microphone channels at a given location. However, to accommodate the rare scenarios in which four available channels would not provide sufficient unlicensed wireless microphone capacity, the Commission could also allow wireless microphones to qualify for unlicensed use pursuant to the TVBD rules.

To assist users that need more interference protection or larger numbers of wireless microphones than can be provided through unlicensed use, the Commission should adopt a limited expansion of the Part 74 Subpart H eligibility criteria for licensed wireless microphone users in support of live broadcast and professional entertainment venues. Currently, only entities

⁴ See Motorola Comments at 4; Comments of the Association of Public-Safety Communications Officials-International, Inc. at 2-3, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24 (filed March 1) ("APCO Comments"); Comments of National Public Safety Telecommunications Council at 3-4, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24 (filed March 1) ("NPSTC Comments")

that fall within one of the defined set of categories, such as broadcasters, cable television operators, and some film and television producers, are eligible for a Part 74 license.⁵ Motorola supports a limited expansion of the Part 74 eligibility rules for use of wireless microphones in TV channels 38-51 in support of live broadcast and professional entertainment venues as a means of legalizing many existing users who are currently unauthorized.⁶ In contrast, the Commission should reject the proposals made by some commenters that seek to achieve a broader expansion of the Part 74 criteria.⁷

Although a broad expansion of Part 74 eligibility would, by definition, allow a larger number of wireless microphone users to obtain licenses, it would nonetheless be unnecessary. Many wireless microphone users, such as smaller houses of worship or smaller amateur and academic entertainment venues, would be able to fully meet their microphone needs through unlicensed use of the four channels in each market to be identified through Motorola's previously discussed proposal. An over-proliferation of licensed use will be administratively burdensome and will unnecessarily restrict the amount of TV white spaces spectrum available for use by TVBDs. Indeed, in times and places where the four channels identified as available for wireless microphone use are insufficient, venues and entities that are ineligible for Part 74

⁵ See 47 C.F.R. § 74.832(a)(1)-(6).

⁶ See Letter from Steve B. Sharkey, Senior Director, Regulatory and Spectrum Policy, Motorola, Inc. to Marlene H. Dortch, Secretary, Federal Communications Commission, *Ex Parte* in WT Docket No. 08-166, ET Docket No. 04-186 at 2 (Aug. 6, 2009) ("Motorola Aug. 6 *Ex Parte*").

⁷ See, e.g., Comments of Audio-Technica, Inc. at 11-12, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24 (filed March 1); Comments of the Association for Maximum Service Television, Inc. and the National Association of Broadcasters at 17-18, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24 (filed March 1) ("MSTV/NAB Comments"); Comments of Sennheiser Electronic Corporation at 5-6, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24 (filed March 1); Comments of Shure Incorporated at 5-6, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24 (filed March 1); Comments of the Coalition of Wireless Microphone Users at 6-7, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24 (filed March 1).

licenses can use TVBD-compliant wireless microphones, a solution which leaves that spectrum available for other TVBD users when the extra microphones are not needed.

III. THE COMMISSION SHOULD CONDITION ANY GRANT OF THE NEI/UTC WAIVER ON COORDINATION WITH PUBLIC SAFETY AND COMMERCIAL LICENSEES.

Motorola recommends that if the Commission grants a limited waiver allowing the use of certain wireless headsets in nuclear power plants, that such operation be conditioned on coordination with the licensees of 700 MHz. As explained by the Nuclear Energy Institute and the Utilities Telecom Council (“NEI/UTC”) in their petition and subsequent *ex partes* and comments in this proceeding,⁸ nuclear power plants have long used certain two-way wireless headsets, certified for use under Part 74 Subpart H, for crucial indoor communications activities pursuant to experimental licenses. NEI/UTC have not found a solution which meets all their needs.⁹ Thus, the power plants seek a waiver of Part 2 and Part 90 rules in order to obtain licenses for the use of this equipment in many bands including the 700 MHz band for a period of three years.¹⁰

Motorola appreciates the necessity of the use of these systems for safe and efficient nuclear power plant operations. However, the Commission should condition any waiver grant on

⁸ See Petition for Waiver (Expedited Action Requested), Nuclear Energy Institute and Utilities Telecom Council, WT Docket No. 09-176 (filed Sept. 23, 2009); Letter from J. Jeffrey Craven, Counsel to Nuclear Energy Institute, to Ms. Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket Nos. 09-176, 08-166, 08-167, ET Docket Nos. 05-345, 10-24 (filed Feb. 26, 2010) (“NEI/UTC Feb. 26 *Ex Parte*”); Comments of the Nuclear Energy Institute and Utilities Telecom Council, WT Docket No. 08-166, 08-167, ET Docket No. 10-24 (filed March 1, 2010); Letter from J. Jeffrey Craven, Counsel to Nuclear Energy Institute, to Ms. Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket Nos. 09-176, 08-166, 08-167, ET Docket Nos. 05-345, 10-24 (filed March 18, 2010) (“NEI/UTC March 18 *Ex Parte*”).

⁹ See NEI/UTC Feb. 26 *Ex Parte* at 8.

¹⁰ See *id.* at 2; March 18 *Ex Parte* at 2-3.

certain steps designed to mitigate interference and promote the efficient use of spectrum resources. For example, CTIA has expressed concerns about potential interference to public safety and commercial communications in the 700 MHz band caused by the use of these devices in nuclear power plants.¹¹ The Commission must take steps to ensure that in the case of an emergency event, current and future public safety communications systems are not impaired by wireless headset operation near or within nuclear power plants. Additionally, commercial 700 MHz band licensees should have confidence that their systems will not be constrained by any operation of two-way wireless headsets in the areas surrounding nuclear power plants.

In order to avoid any potential harmful interference with other licensees, the Commission should condition any grant of the requested waiver on a commitment by nuclear power licensees to coordinate with public safety and commercial licensees in the areas surrounding their plants. This coordination should be done with the goal of identifying up front any potential impact to licensed systems that could be caused by wireless headset use in the power plants. The Commission should not wait to address interference after the fact. Furthermore, to promote the efficient use of the 700 and 800 MHz spectrum bands, the waiver and subsequent licenses issued subject to the waiver request should only permit the operation of wireless headsets in the 698-868 MHz band for a limited time and encourage transition away from licensed operations in this band.

IV. CONCLUSION

The widespread demand for wireless microphones is undeniable. In creating additional flexibility for authorized operation of these devices, however, the Commission must take care to ensure that the needs of public safety, enterprise commercial licensees, and TV band device users

¹¹ See Comments of CTIA—The Wireless Association at 3-4, WT Docket No. 08-166, 08-167, ET Docket No. 10-24 (filed March 1, 2010) (“CTIA Comments”).

are given full consideration. In particular, unlicensed wireless microphone use should not be allowed in the 470-512 MHz band. Motorola anticipates that most wireless microphone uses will be fully accommodated by unlicensed use under part 15. However, for those use cases in support of live broadcast and professional entertainment venues where a greater amount or quality of wireless microphone use is required than can be provided through unlicensed operations, a limited expansion of the Part 74 eligibility for licensed wireless microphone use is appropriate. Additionally, the Commission should support mission-critical utility company communications while protecting public safety and enterprise use by conditioning any grant of a time-limited waiver allowing licensed use of wireless headsets by nuclear power plants under Part 90 upon coordination with the applicable public safety and commercial license holders.

Respectfully submitted,

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