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
	)	
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

COMMENTS OF MEDIA ACCESS PROJECT,
NEW AMERICA FOUNDATION, AND PUBLIC KNOWLEDGE

Media Access Project, the New America Foundation, and Public Knowledge, on behalf of the Public Interest Spectrum Coalition ("PISC"), respectfully submit these comments in response to the Commission's *Further Notice of Proposed Rulemaking* (the "*FNPRM*") in the above-captioned dockets.[1] PISC submits, as it has in previous filings in this proceeding,[2] that the

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[1] *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*, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24, Report and Order and Further Notice of Proposed Rulemaking (rel. Jan. 15, 2010) ("*FNPRM*").

[2] *See, e.g.*, Informal Complaint and Petition of the Public Interest Spectrum Coalition (filed July 16, 2008) ("PISC Petition"); *see also* Letter from Alex Curtis, Public Knowledge, to Marlene H. Dortch, Federal Communications Commission, WT Docket Nos. 08-166, 08-167, ET Docket No. 04-186 (filed Apr. 22, 2009) (PISC Apr. 22 *Ex Parte*).

Commission need not and should not expand Part 74 licensing to accommodate new classes of wireless microphone users – many of whom engage in unauthorized use of Part 74 equipment today – nor make special allowances under Part 15 that would in fact unfairly advantage wireless microphones over TV Band Devices ("TVBDs") in their nominally co-equal use of TV White Spaces ("TVWS") spectrum. In submitting these brief responses to questions on which the Commission expressly sought comment in the *FNPRM*, PISC continues to rely on – but shall refrain from re-stating here – all of the points it has demonstrated and proofs it has made in previous submissions in these dockets and in the TVWS proceeding.[3]

I. EXPANSION OF PART 74 LICENSING FOR WIRELESS MICROPHONES WOULD PREVENT USE OF WHITE SPACES BY TV BAND DEVICES AND HINDER THE EXPANSION OF MOBILE BROADBAND CAPACITY.

In the *FNPRM*, the Commission acknowledged PISC's previously articulated concern that "allowing a significant number of new users to be licensed as Part 74 low power auxiliary stations and then included in the database of licensed station devices that must be protected against harmful interference would effectively eliminate the channels available for TV Band Devices" in several major cities, thereby "crippling the viability of these devices and making national network offerings an impossibility"[4] in the TVWS spectrum. The Commission nevertheless suggested subsequently in the *FNPRM* that certain users of wireless microphones not currently eligible for a license under Part 74 "may have needs that are similar to existing eligible licensees and may have a need for the interference protection that a license affords."[5]

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[3] *See, e.g.*, Opposition to Petitions for Reconsideration of the Public Interest Spectrum Coalition, ET Docket Nos. 04-186, 02-380 (filed May 8, 2009).

[4] *FNPRM* ¶ 78 (citing PISC Apr. 22 *Ex Parte* at 1).

[5] *Id.* ¶ 127.

On the contrary, any Commission action to expand the class of wireless microphone users eligible for Part 74 licenses would be unproductive, unnecessary, and unworkable. Whatever "needs" wireless microphone manufacturers and users may perceive, and no matter the societal benefits that ***unauthorized*** use of such technologies may provide, the Commission should not ignore the vast benefits promised by authorized, unlicensed deployment and use of TVBDs when deciding whether or not to prioritize wireless microphones over other potential users of this valuable spectrum resource.

A. Expansion of Part 74 Licensing Would Be Unproductive on Balance, as It Would Prevent More Beneficial Use of the Spectrum for Broadband.

Expansion of Part 74 licensing eligibility to entities other than those currently authorized by Section 74.832(a) of the Commission's rules[6] would be unproductive, to say the least, because it likely would block TVBD use of all available frequencies in the core TV bands in major urban areas – severely curtailing or precluding outright the development of a nationwide market for TVBDs by preventing the use of such devices in the most populous markets.[7] Even a seemingly modest expansion in the class of users eligible for Part 74 licenses could deny access for TVBDs to otherwise available white spaces spectrum in urban areas,[8] potentially eliminating altogether or irrevocably diminishing the nationwide marketplace for these promising devices. The Commission is well aware of such possibilities, noting that "[b]ecause Part 74 licensees have protection against interference from unlicensed Part 15 devices,… a broad expansion of

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[6] *See* 47 C.F.R. § 74.832(a)(1)-(6).

[7] *See FNPRM* ¶ 77 (citing comments of White Spaces Coalition and individual companies such as Dell, Google, Microsoft, explaining the detrimental consequences from expanded Part 74 licensing for wireless microphones).

[8] *See* Dell Inc. and Microsoft Corp., Consolidated Opposition to Petitions for Reconsideration, ET Docket No. 04-186, at 9-10 (filed May 8, 2009) (detailing the TV band congestion and TVBDs preclusion that would occur in major metropolitan regions, in areas such as but not limited to midtown Manhattan, if the Commission were to issue additional Part 74 wireless microphone licenses).

eligibility could seriously reduce the amount of spectrum available for unlicensed TV Band Devices." [9] The *FNPRM* concludes that such dire predictions "could be particularly true in heavily populated places, where there might be significant demand for operation of TV Band Devices as well."[10]

As the Commission also recognized in the *FNPRM*, wireless microphone users might have improper incentives and priorities with respect to registration of their own systems in the eventual TVWS database, and thus could be tempted to demand interference protection on ***all*** channels and on a continuous basis.[11] Such demands could completely block access to this spectrum by TVBDs, and therefore would lead inexorably to "less efficient use of the spectrum"[12] that otherwise would be available for an array of mobile broadband devices and applications. In addition, inefficient outcomes would occur even if wireless microphone users restricted their reservation of channels to specific dates and hours of operation, due to proposed rules stipulating a one kilometer protection radius for Part 74 licensees.[13] Under these rules, a relatively tiny number of potential Part 74 wireless microphone registrants in congested metro markets could completely nullify the utility of the band for broadband innovation and services.

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9 *FNPRM* ¶ 134.

10 *Id.*

11 *Id.* ¶ 132 (noting the Commission's concern that producers of live arts and sporting events, for example, might not provide up-to-date information on wireless microphone use at particular dates and times in protected venues because such producers "may find it impractical" to do so). Of course, the supposed impracticality of complying with Commission rules may indeed prevent more efficient use of the spectrum by TVBDs, but such impracticality cannot be an argument for the Commission to condone or legitimize inefficient and unauthorized use of the spectrum at issue. *See* Reply Comments of the Public Interest Spectrum Coalition, WT Docket Nos. 08-166, 08-167, at 14 (filed Oct. 20, 2008).

12 *FNPRM* ¶ 132.

13 *See* 47 C.F.R. §15.712(f)(1); *see also FNPRM* ¶ 11.

B. Expansion of Part 74 Would Be Unnecessary in Light of the Other Options Available to Wireless Microphone Users.

In such circumstances, expansion of Part 74 licensing would be harmful on aggregate because the lost efficiency and innovation benefits for TV Band Devices far outweigh the benefits of expanded protection for wireless microphone users. Furthermore, expanded Part 74 licensing is unnecessary to preserve wireless microphone user flexibility in either the short- or long-term. Wireless microphone users will be able to continue unlicensed use of core TV band channels pursuant to Part 15, and also can make licensed use of frequencies set aside for wireless microphones by the Commission's Part 90 rules.[14] A long-overdue, widespread implementation of digital technology in wireless microphone design and manufacturing, coupled with ready relocation of wireless microphones to other bands and/or to unlicensed but authorized operation within the TV bands, would provide an abundance of choices for currently unauthorized wireless microphone users – all without precluding innovative broadband applications in TVWS spectrum.

Expanded Part 74 rights for wireless microphones also are unnecessary because as the *FNPRM* reports[15] – and as PISC has noted and, in fact, challenged in the TVWS proceeding[16] – the Commission has effectively reserved TV channels below 21 for wireless microphones in every market by prohibiting the operation of personal/portable TVBDs on those channels, and has allocated two additional channels for wireless microphones above channel 21 in the thirteen

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[14] *See FNPRM* ¶¶ 109-123, 150-151; *see also id.* ¶ 136 ("We underscore that irrespective of whether we revise the eligibility requirements under Part 74, entities that use wireless microphones would be permitted to operate wireless microphones under our proposed Part 15 rules, and also under Part 90….").

[15] *See id.* ¶ 111.

[16] *See* Petition for Reconsideration of the Public Interest Spectrum Coalition, ET Docket Nos. 04-186, 02-380, at 17 (filed Mar. 19, 2009).

Private Land Mobile markets. The Commission's decision to prevent TVBD use of such channels already provides wireless microphone with more than sufficient spectrum, at the expense of increased mobile broadband access in high-density areas throughout the united States.

C. Expansion of Part 74 Would Be Unworkable in Terms of the Parameters that the Commission Would Need to Establish for Newly Eligible Entities.

Finally, expansion of Part 74 licensing to new classes of eligible licensees would be unworkable, as the *FNPRM*'s discussion of such potential expansion makes painfully clear. The *FNPRM* notes that "large" venues, such as large theaters, entertainment complexes, sporting arenas, and religious facilities, "may require multiple vacant TV channels" to accommodate the number of wireless microphones such venues are accustomed to using.[17] It bears repeating that such usage arose under an unacceptable and untenable scenario in which manufacturers brazenly flouted Commission rules and marketed wireless microphones to ineligible users, for unauthorized uses. Such practices should not be rewarded with priority status and increased protection that, as shown above, would prevent more productive use of the spectrum. It also bears repeating that, as the *FNPRM* concedes, expansion of Part 74 to include all existing wireless microphone users and applications could lead to a completely unworkable situation in which "virtually anyone would be eligible for a license."[18]

Yet, even if some justification remained for expanding Part 74 eligibility, the Commission still would face an unenviable task. The *FNPRM* studiously avoids attempts to suggest what might make a venue "large" enough to become eligible for a Part 74 license even as it lays out a range of unpalatable options to determine eligibility for a Commission license, such as counting up the number of seats in the venue or the number of microphones the venue

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[17] *See FNPRM* ¶¶ 128-129.

[18] *Id.* ¶ 134.

typically uses.[19] The *FNPRM* then observes that even in large venues "some of these live arts, entertainment, and sporting events may only require the use of a few wireless microphones … [and] may not require the assurance of interference protection afforded by a license."[20] Moreover, as the *FNPRM* also observes, some events at these venues already are broadcast or recorded, making the producers of such events potentially eligible for Part 74 licenses today.[21] Rather than wading into the morass of issues that the Federal Communications Commission would encounter by trying to define the terms "professional arts, entertainment, or sporting events," let alone potentially even more difficult obstacles inherent in determining what structures might qualify as "eligible religious facilities,"[22] the Commission should decide not to expand Part 74 licensing for all of the reasons set forth herein.

II. THE COMMISSION SHOULD NOT DISCOURAGE USE OF THE WHITE SPACES BY IMPOSING LESS STRINGENT REQUIREMENTS ON WIRELESS MICROPHONES THAN THOSE ADOPTED FOR TV BAND DEVICES.

In the petition that launched the current proceeding, PISC suggested that wireless microphones operating in core TV channels could do so on a co-equal basis with TVBDs, despite the fact that previously illegal operation of wireless microphones in these bands could not be condoned by the Commission nor seen as creating seniority against properly authorized devices.[23] PISC still maintains that the Commission may legalize currently unauthorized wireless microphones by permitting them to operate in the TV bands on an unlicensed basis

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19 *See id.* ¶ 131. Obviously, adoption of such numerical thresholds could create perverse incentives to over-purchase and over-use wireless microphone systems if the Commission were to make protections available only to venues that buy or use more than a certain number of mics.

20 *Id.* ¶ 129.

21 *See id.*

22 *Id.* ¶ 131.

23 *See* PISC Petition at 32.

under Part 15, even though this solution will reduce consumers' access to wireless broadband services in these bands. However, if currently unauthorized microphones are to operate as co-equal Part 15 devices in the TV bands, the Commission must ensure that its TVWS rules and any newly adopted Part 15 rules for wireless microphones truly do make the devices co-equal.

Therefore, the Commission must reconsider application of various regulatory and technical obligations imposed on TVBDs before the Commission can adopt final rules permitting wireless microphones to operate in the TV bands on an unlicensed basis. The instant *FNPRM* suggests that geolocation capability, database registration, and "periodic sensing of the airwaves for other devices, may … be incompatible with the operation of a real-time always-on device such as a wireless microphone."[24] Yet, as the *FNPRM* subsequently suggests, similarities between the power limits adopted for TVBDs and proposed for Part 15 operation of wireless microphones should "mean that, from a power and spectrum sharing standpoint, one type of device should not have a significant advantage over the other."[25]

PISC concurs completely with the proposition that unlicensed Part 15 wireless microphones should not have any special advantage over TVBDs. Regrettably, imposing onerous and asymmetrical requirements on TVBDs with respect to registration, reporting, and sensing obligations most definitely would advantage wireless microphones over TVBDs. The Commission indicated in the instant *FNPRM* that it would address in the TVWS proceeding, rather than here, reconsideration requests related to various requirements imposed on TVBDs regarding protection of and sensing for wireless microphones.[26] PISC urges the Commission to resolve such questions with all due expedience, and emphasizes for present purposes that

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24 *FNPRM* ¶ 120.

25 *Id.*

26 *See id.* ¶ 120, n.297.

inequalities between the rules applied to TVBDs and to wireless microphones within Part 15 will have the undesired effect of prioritizing wireless microphones over new broadband uses.

For instance, current rules applicable to TVBDs require such devices to use geolocation and spectrum sensing technologies to determine whether a wireless microphone licensed under Part 74 is present. Yet, spectrum sensing methods alone are unable to determine whether any wireless microphones present are licensed under Part 74 or operated on an unlicensed basis. In sum, asymmetric and overly burdensome spectrum sensing requirements would expand Part 74 protections to ***all*** wireless microphones sensed by authorized TVBDs, improperly prioritizing and protecting unlicensed wireless microphones that should be co-equal to TVBDs.

CONCLUSION

For the foregoing reasons, Media Access Project, the New America Foundation, and Public Knowledge, on behalf of PISC, respectfully submit that the Commission should not undertake any expansion of Part 74 licensing eligibility requirements along the lines of proposals set forth in the *FNPRM*, nor take any action in this proceeding or elsewhere that effectively disadvantages TVBDs against unlicensed wireless microphone systems using TV band spectrum.

Respectfully submitted,

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