

Morgan, Lewis & Bockius LLP  
2020 K Street NW  
Washington, DC 20006-1806  
Tel. +1.202.373.6000  
Fax: +1.202.373.6001  
www.morganlewis.com

**Catherine Wang**

Partner  
+1.202.373.6037  
catherine.wang@morganlewis.com

June 24, 2015

**VIA ELECTRONIC FILING**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12th Street, S.W.  
Washington, DC 20554

Re: EX PARTE MEETING NOTICE:  
Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, GN Docket No. 12-268; Promoting Spectrum Access for Wireless Microphone Operations, GN Docket No. 14-166; Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, ET Docket No. 14-165

Dear Ms. Dortch :

On June 22, 2015, representatives from the broadcast and cable industries, news organizations, wireless microphone users, and wireless microphone manufacturers met with Chairman Tom Wheeler, FCC staff from his office, the Incentive Auction Task Force ("IATF"), the Wireless Telecommunications Bureau ("WTB"), the Office of Engineering Technology ("OET"), and the Office of General Counsel ("OGC") to discuss wireless microphone issues in connection with the above-captioned proceedings. In attendance were:

Broadcast/Cable/News and other Wireless Microphone Users: Tom Ferrugia, The Broadway League; Amy Klein and Jeff Willis, ESPN; Anne Lucey, CBS; Roger Charlesworth, DTV Audio Group; Jared Sher, 21st Century Fox; Kevin Parrish and Margaret Tobey, NBC Universal; Bruce Franca, National Association of Broadcasters; Kathleen Kirby, Radio Television Digital News Association; Chris Imlay, Society of Broadcast Engineers and Broadcast Sports, Inc.; and Kyle Dixon, Time Warner, Inc.

Wireless Microphone Manufacturers: Henry Cohen, CP Communications; Howard Kaufmann, Lectrosomics; Joe Ciaudelli and Laura Stefani (outside counsel), Sennheiser; and Mark Brunner, Ahren Hartman, Catherine Wang (outside counsel), Shure Incorporated.

FCC Staff: Chairman Tom Wheeler, Renee Gregory, legal advisor to Chairman Wheeler, Gary Epstein, IATF Chair, Howard Symons, IATF Vice Chair, Roger Sherman, WTB Bureau Chief, Julius Knapp, OET Bureau Chief, Chris Helzer, WTB, and Bill Scher, OGC.

The group expressed appreciation for the challenging task before the Commission of balancing competing demands for UHF spectrum in developing rules for the Incentive Auction and broadcast repacking. In considering UHF spectrum priorities and long-term solutions for wireless microphones, the group urged the Commission staff to consider the near-untenable position of wireless microphone users and manufacturers dedicated to meeting the demand of millions of American consumers and business for high-quality news, entertainment, sports, music, theater, and communication.

The group explained that wireless microphone use has expanded significantly since the inception of the technology decades ago. Today, wireless microphone use plays an integral part in covering important news events and disseminating vital information to the public, broadcast and cable programming creation, music, sports, and theater, and civic and corporate events among other productions. Wireless microphones are critical to the coverage and operations of large events including, for example, the Olympics, political conventions, and the recent US Open golf tournament at which thousands of wireless microphone frequencies were used during the course of the event by US and international broadcasters and online organizations covering the tournament.

Wireless microphones also play an essential role in the coverage of breaking news and emergencies. Whether it be coverage of severe weather events, to alert the public about dangerous prison escapees in upstate NY, the Charleston church shooting, or the Boston marathon bombing, wireless microphones enable journalists to disseminate critical public health and safety information and news to the public in near real-time. In this regard, journalists covering breaking news, who rely significantly on wireless microphones as they navigate the scene, are acknowledged by law enforcement and public safety officials as part of the “first responder” team.

Many productions requiring wireless microphones are live and not subject to “a do over.” As a result, applications require known, clear spectrum to achieve very high quality interference- and latency-free transmission.

In light of competing demands for UHF spectrum, the group discussed when a wireless microphone performance in UHF spectrum is critical. In short, UHF spectrum is critical for wireless microphone operations when it is live with no practical chance for a “second take,” when revenues, an audience, or public benefit are attached to the production and/or when no suitable alternative spectrum will deliver the signal with an equivalent audio quality or reliability. In contrast, unlicensed services sharing the UHF spectrum with wireless microphones employ technologies that respond to very different user needs, have the opportunity to resend

transmissions until successful without a degradation of the content, and have multiple equivalent viable (wi-fi) spectrum alternatives.

Wireless microphones have successfully shared UHF spectrum with TV broadcasting for decades and more recently with white space devices. However, the wireless microphone community has lost access to a tremendous amount of spectrum by virtue of the Commission's relatively recent decision to transition wireless microphones out of 700 MHz which caused many users to replace their 700 MHz equipment with 600 MHz UHF equipment just a short time ago. Further, the Commission intends to eliminate the two reserve channels created when white space devices were first permitted to operate alongside wireless microphones in the same UHF spectrum.

It is extremely challenging to meet existing wireless audio demand with spectrum resources available today. While wireless microphone access to UHF spectrum has been contracting, the number of events and productions that depend on wireless microphones is increasing exponentially, in large measure due to the explosion in digital distribution of content.

Users and manufacturers are working diligently to adjust to the new landscape by continuing to innovate in the limited spectrum currently available to wireless microphones. In recent years, the industry has achieved significant gains in spectral efficiency and made greater use of non-UHF spectrum where particular applications can be successfully served by other spectrum choices. Despite these material achievements on the part of industry, the impending Incentive Auction and broadcast repacking creates a near-untenable situation for wireless microphone users and manufacturers and the audience of millions of Americans that rely on the technology on a daily basis.

The group expressed appreciation for the Commission's efforts to address wireless microphone spectrum shortages with proposals for supplemental spectrum in GN Docket 14-166. The supplemental frequencies proposed in that docket are helpful but not sufficient given the great extent of UHF spectrum loss, that practical use of such supplemental spectrum is years away, and that virtually all possible spectrum bands identified are encumbered in some way. Wireless microphone industry representatives will continue to work with FCC staff at OET and WTB toward making available near and long-term solutions for supplemental spectrum.

Access to more spectrum is needed particularly in light of the FCC's recently announced plan to permit TV stations to be assigned to 600 MHz frequencies in the duplex gap, including the 4 MHz previously identified by the Commission for exclusive wireless microphone use. This decision is particularly troubling to the extent that TV stations are assigned to the duplex gap in major metropolitan markets, given it could effectively remove access to all UHF spectrum exclusively available for licensed wireless microphones in those markets. From the journalist's perspective, impairment of the 4 MHz designated for microphones in the duplex gap could have devastating consequences. Breaking news is not planned, and the exigencies of these operations

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prevent news teams from relying on registrations in the database to reserve frequencies in advance of use. Should disaster strike in a locale where the 4 MHz is impaired, journalists would be unable to disseminate often life-saving information to the public. Accordingly, the parties urged the Commission to leave the 4 MHz designated for wireless mics unimpaired nationwide.

Finally, we urged the Commission staff to consider additional steps to address wireless microphone needs including further consideration of co-channel operations, rules that would give the wireless microphone industry the longest possible transition time, and equipment transition rules that do not make working equipment obsolete.

Very truly yours,

*/electronically signed/*

Catherine Wang

CC:

Chairman Tom Wheeler  
Renee Gregory  
Gary Epstein  
Howard Symons  
Roger Sherman  
Julius Knapp  
Chris Helzer  
Bill Scher