April 10, 2020

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

Re: Notice of *Ex Parte* Communication, ET Docket No. 18-295, GN Docket No. 17-183

Dear Ms. Dortch:

On April 8, 2020, Rick Kaplan, Robert Weller, Alison Neplokh, and the undersigned, all of the National Association of Broadcasters (NAB) had separate telephone conferences with Erin McGrath of Commissioner O'Rielly's office, William Davenport of Commissioner Starks' office, Umair Javed of Commissioner Rosenworcel's office, and Will Adams of Commissioner Carr's office, as well as a separate telephone conference with staff in the Commission's Office of Engineering and Technology (OET). A complete list of staff is included below. On April 9, 2020, the same NAB representatives had a separate telephone conference with Aaron Goldberger of Chairman Pai's office. During these telephone conferences NAB focused on its primary concern regarding unlicensed low power indoor operations contained in the draft order in the above-referenced proceeding to allow expanded unlicensed operations in the 6 GHz band. In these meetings, NAB proposed a solution that both meets the Commission's goal of maximizing new 160 MHz channels for unlicensed use and the public's need for critical news and information provided by the nation's broadcasters.

In the face of a public health emergency and an evolving economic crisis, it has rarely been more critical to ensure that the nation's broadcasters have the tools they need to cover complex and dynamic news. One of the most important of those tools is spectrum necessary to cover news events, including 6 GHz spectrum. Unfortunately, the draft order in this proceeding leaves open the possibility that this tool may effectively be taken away when broadcasters and their viewers need it most.

As the draft order acknowledges, it is possible for unlicensed low power indoor (LPI) use to cause interference to broadcasters' mobile operations used for electronic newsgathering. Wi-Fi operations on the same channel as mobile newsgathering operations can easily cause interference if the Wi-Fi device is near a window or outdoors. The draft order concludes, however, that "we find the risk of harmful

1 M Street SE
Washington DC 20003 3512
Phone 202 429 5300
nab.org

Advocacy Education Innovation

interference to incumbent operations to be insignificant."[1] The draft order does not state or even suggest that the Commission undertook its own analysis to reach that conclusion. As detailed below, the Commission performed no independent analysis demonstrating the likelihood of interference – or if it has that analysis is found nowhere in the record. Rather, the draft order takes issue with some of the analysis presented by NAB and states that in the Commission's "experience" and "engineering judgment" it believes any harm is minimal.[2] Broadcasters are left with no way to evaluate the accuracy of the draft order's determination. Moreover, the draft order does not even define what it believes to be an "insignificant" risk. Does the Commission consider interference occurring 0.1 percent of the time significant? One percent of the time? Ten percent? There is no conversation to be had around the merits of the decision without understanding the basis of the decision.

Given the Commission's push to open up significantly more spectrum for unlicensed uses and in light of the critical importance of 6 GHz to broadcasters' ability to deliver the news and information for which they are relied upon, we believe the most appropriate action would be for the Commission, at a minimum, not to allow LPI operations in U-NII-6 where broadcasters currently have the bulk of their authorized mobile operations. This would allow the Commission to make 1,100 MHz of spectrum available for unlicensed – a massive amount – while still preserving 100 MHz for broadcasters to continue to do their most important job without the threat of interference.

NAB also recognizes, however, that Commission leadership has stated its aim is to free up 160 MHz channels specifically. In the event the Commission is determined to make as many 160 MHz wide channels available in the band as possible, the Commission could still make seven such channels available in 1,120 MHz, while preserving 80 MHz at the top of the 6 GHz band that would *not* be authorized for LPI but would continue to be available for authorized mobile operations. This is far from a perfect solution for newsgatherers but would at least allow broadcasters more security where the Commission has not undertaken its own analysis to demonstrate that LPI will not cause harmful interference. We note that no party has identified a preference for unlicensed operations in a particular part of the band in the record, so there should be no objection to not permitting LPI in the upper 80 MHz of the band as opposed to anywhere else – but NAB would be happy to consider alternative locations.

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[1] *Unlicensed Use of the 6 GHz Band,* Report and Order and Further Notice of Proposed Rulemaking, FCC-CIRC2004-01, ¶ 112 (draft released April 2, 2020) (Draft Order).
[2] *Id.* (stating that "[b]ased on our experience with unlicensed operations and interference analysis as well as our engineering judgment, we find that 5 dBm/MHz PSD will both adequately protect all incumbents in the band . . . .")

NAB appreciates the hard work of the staff on this item. Unfortunately, NAB, broadcasters across the country and their viewers cannot rely upon mere judgment rather than independent analysis of a highly technical issue. As a result, we believe that allowing a safe zone of less than seven percent of the overall band where LPI cannot occur at this time at least provides both the Commission and broadcasters some protection as the band is forever altered.

Indoor Use

The draft order restricts LPI to indoor-only operations, stating that attenuation from buildings is "key to providing the necessary signal reduction to prevent harmful interference from occurring to incumbents."[3] We agree in principle. The draft order further cites the ITU median construction loss of 17 dB – a figure we do not contest. But that same ITU recommendation notes that in two percent of cases building loss will be less than 1 dB, or next to nothing. In other words, the draft order states that building loss is *key* to protecting incumbents but fails to address the concern that building loss will sometimes be essentially zero.[4] While two percent may sound underwhelming, in an environment with hundreds of millions of devices operating in the band, it represents a significant potential interference problem for broadcasters and viewing public.

Moreover, the draft order offers no reasonable means for ensuring that Wi-Fi devices are kept indoors. The order's requirements for labels, power cords, integrated antennas and a prohibition on weatherproofing will do nothing to stop a user from locating a device near a window to improve outdoor reception, on their covered deck or even outside using an extension cord. The suggestion that labels and power cords will prevent outdoor use simply belies common sense. Particularly given the importance the draft order itself places on building attenuation, unrealistic approaches to ensuring indoor-only operations are inadequate and unconsidered.

Contention-Based Protocol

The draft order also requires LPI operations to use a contention-based protocol, such as listen-before-talk, to reduce the potential for harmful interference to existing services. NAB agrees that such protocols will likely help mitigate the potential for interference to indoor ENG users from LPI operations. However, we remain concerned that contention-based protocols will not prove an effective means of protecting outdoor ENG operations.

As we have previously explained, Wi-Fi's listen-before-talk protocol will serve to protect broadcast auxiliary service (BAS) operations only if BAS signals are actually detected. The probability of detecting BAS signals is virtually zero when a transmitter is located far

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[3] Draft Order at ¶ 102.
[4] *Id.*

from its associated receiver, which is the case in virtually all ENG truck deployments, and Wi-Fi access points are located near the receiver. An ENG receiver is entirely passive (it does not transmit) and therefore presents a so-called "hidden node" that is undetectable by the Wi-Fi access point. This same listen-before-talk protocol has demonstrably failed to control interference in the 2.4 GHz spectrum that is also shared with ENG. There is nothing in the record to suggest that such a protocol will succeed at 6 GHz. Indeed, the only empirical measurements in the record clearly demonstrate that Wi-Fi 6E signals can cause interference to ENG, and there has been no testing performed to suggest that a listen-before-talk protocol will prevent such interference.[5]

Resolving Competing Technical Analyses

We appreciate the draft order's acknowledgment that NAB was the only advocate for mobile operations in the band to submit a detailed technical study in the record.[6] However, the draft order criticizes several aspects of that study without explaining how the Commission then arrived at its proposed outcome. In other words, the FCC points out purported flaws in NAB's study but does not explain the analysis and parameters the FCC ultimately uses.

For example, in determining the appropriate power spectral density (PSD) for LPI operations to protect existing users, the draft order states that the Commission evaluated competing technical studies, and considered building loss, propagation models and clutter loss. However, while different parties used different propagation models and assumptions regarding clutter, there is no explanation of how the FCC balanced those differences or what weights it assigned to different parameters to arrive at the proposed power spectral density. Instead, as noted above, the draft order provides only the conclusory statement that, "Based on our experience with unlicensed operations and interference analysis as well as our engineering judgment, we find that 5 dBm/MHz PSD will both adequately protect all incumbents in the band."[7] No interested party can duplicate or verify the FCC's conclusions.

Similarly, the draft order states that at a 5 dBm/MHz PSD and with the other protections it has put in place, the FCC finds the risk of interference to existing operations to be "insignificant."[8] There is no explanation of what that level of risk is, how it was calculated or how the Commission determined it to be insignificant. Interested parties are asked simply to trust the Commission's judgment without any way

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[5] Letter from Paul Caritj to Marlene H. Dortch, ET Dockets No. 18-295 and 17-183 (March 10, 2020).
[6] Draft Order at ¶ 150.
[7] *Id.* at ¶ 112.
[8] *Id.*

of knowing where it drew the line regarding acceptable risk – or if such a line was even drawn at all.

Agencies typically are afforded deference in making predictive judgments about uncertain events.[9] However, the issues in this proceeding are susceptible to more precise analysis and the ascertainment of mathematical likelihoods of interference. The draft order itself states that "technical analysis should…take a statistical approach such as in Monte Carlo simulations so as to probabilistically account for many intertwined phenomena."[10] There is no indication that the FCC itself performed such an analysis. If the FCC in fact did perform such an analysis, that analysis must be disclosed to provide a meaningful basis for public comment.[11] In any event, the Commission may not rely on unsupported assumptions or unexplained extrapolations, or engage in obscure reasoning that does not adequately explain the justifications for its decision.[12]

Throughout this proceeding, NAB has attempted to share as much information as possible with the Commission and other stakeholders regarding our concerns and analysis. We have asked the Commission to convene a moderated discussion of the competing analyses to develop a more thorough and legally sustainable record. The RLAN Group has continued to ignore our request, and the Commission has evidently decided to forgo this opportunity as well. We hope the Commission will consider revisiting this idea in the Further Notice and Proposed Rulemaking in this proceeding.

In any event, we urge the Commission at the very least not to permit LPI operations in at least 80 MHz of the band to ensure that broadcasters continue to have access to

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[9] *See, e.g., EarthLink, Inc. v. FCC*, 462 F.3d 1, 12, 373 U.S. App. D.C. 202 (D.C. Cir. 2006); *MCI Telecomms. Corp. v. FCC*, 750 F.2d 135, 140, 242 U.S. App. D.C. 287 (D.C. Cir. 1984); *FCC v. Nat'l Citizens Comm. for Broad*., 436 U.S. 775, 813-14, 98 S. Ct. 2096, 56 L. Ed. 2d 697 (1978).
[10] Draft Order at ¶ 135.
[11] *See, e.g., Conn. Light & Power Co. v. Nuclear Regulatory Comm'n*, 673 F.2d 525, 530, 218 U.S. App. D.C. 134 (D.C. Cir. 1982); *Chamber of Commerce v. SEC*, 443 F.3d 890, 899, 370 U.S. App. D.C. 249 (D.C. Cir. 2006); *Am. Radio Relay League, Inc. v. FCC*, 524 F.3d 227, 236-37, 390 U.S. App. D.C. 34 (D.C. Cir. 2008). The D.C. Circuit has consistently maintained that "[i]n order to allow for useful criticism it is especially important for the agency to identify and make available *technical studies and data* that it has employed in reaching the decisions to propose particular rules." *Conn. Light & Power Co.*, 673 F.2d at 5305 (emphasis added); *see also Am. Radio Relay League, Inc.*, 524 F.3d at 237 ("It would appear to be a fairly obvious proposition that studies upon which an agency relies in promulgating a rule must be made available during the rulemaking in order to afford interested persons meaningful notice and an opportunity for comment.").
[12] *Kristin Brooks Hope Ctr. v. FCC*, 626 F.3d 586, 589-90 (D.C. Cir. 2010).

spectrum that will be free from interference as they serve their local viewers and communities. In the event the draft order's conclusions regarding the likelihood of interference are borne out by experience, the Commission can revisit this issue in the near term and authorize LPI operations across the entire band. But if those conclusions prove overly optimistic, and the Commission proceeds to allow LPI operations across the band, the Commission will never be able to undo the harm it will cause to broadcasters' newsgathering capabilities in this proceeding.

Respectfully Submitted,

Patrick McFadden
Associate General Counsel,
National Association of Broadcasters

cc: Will Adams
William Davenport
Aaron Goldberger
Umair Javed
Erin McGrath
Bahman Badipour
Nick Oros
Paul Murray
Ira Keltz
Jamie Coleman
Monisha Ghosh
Ron Repasi
Barbara Pavon
Jamison Prime
Michael Ha