

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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In the Matter of)
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Authorizing Permissive Use of the)
“Next Generation” Broadcast Television)
Standard)
)
_____)

GN Docket No. 16-142

COMMENTS OF MICROSOFT CORPORATION

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INTRODUCTION AND SUMMARY

The National Association of Broadcasters (“NAB”) explicitly disclaimed any need for additional spectrum to facilitate their voluntary transition to ATSC 3.0. Nonetheless, ONE Media, LLC (“ONE Media”)—a wholly owned subsidiary of a major broadcaster—now asks the Commission to double full-power broadcasters’ spectrum holdings, indefinitely, for free. Granting ONE Media’s request, however, would depart from long-standing U.S. spectrum practices, provide a windfall to broadcasters that is unnecessary to achieve the ATSC 3.0 transition, displace significant numbers of low-power broadcasters and translator stations, disrupt the post-Incentive Auction repack process, and undermine rural broadband access. This is too high a price to pay merely to “encourage” what ONE Media itself bills as “voluntary, market-driven deployment.”¹ Such a dramatic giveaway to the broadcast industry is clearly inconsistent with the public interest.

Such a giveaway is also inconsistent with spectrum policy, would violate the law, and is likely unnecessary to facilitate the voluntary ATSC 3.0 transition. The Commission is required by statute and its own precedent to hold an auction when assigning new mutually exclusive rights to spectrum—or to designate a band for shared non-exclusive use as it has for White Spaces technologies. Moreover, the Commission’s flexible local simulcast rules already make it very unlikely that a sufficiently motivated broadcaster could not find a suitable simulcast host. NAB itself emphasized this point in requesting the Commission’s permission to begin the ATSC 3.0 transition.

¹ Letter from Jerald N. Fritz, ONE Media, LLC, to Marlene H. Dortch, Secretary, FCC, at 2, GN Docket No. 16-142 (filed Oct. 17, 2017).

DISCUSSION

I. The Commission is Forbidden by Statute from Granting Exclusive Use of Spectrum—including Broadcast Spectrum—Without Conducting an Auction.

As the Commission has recognized, it is required to assign spectrum licenses for broadcast television stations by auction whenever it receives mutually exclusive applications. It is not permitted, therefore, to simply assign additional spectrum to stations whenever, in the Commission's view, this additional spectrum would ease the transition to ATSC 3.0. "[A]uction authority is mandatory, rather than permissive, for all full power commercial radio and analog television stations" and also "mandatory for all secondary commercial broadcast services."² Indeed, according to the plain text of the Telecommunications Act, if mutually exclusive applications are submitted for a given license, "the Commission *shall* grant the license or permit to a qualified applicant through a system of competitive bidding."³ Although the Commission may not receive mutually exclusive applications for every license, the Commission should reasonably anticipate that it would receive multiple applications for a given channel in many markets if channels are made available, triggering the competitive-bidding rule.

Neither the Act nor Commission rules provide an exception to this requirement for putatively "temporary" authorizations with either no end date at all, or end dates years into the future. Although the Act provides a narrow exception to certain statutory licensing rules for "temporary authorizations," the Act makes clear that these temporary authorizations require a

² *Implementation of Section 309(j) of the Communications Act—Competitive Bidding for Commercial Broadcast and Instructional Television Fixed Service Licenses et al.*, First Report and Order, FCC 98-194, 13 FCC Rcd. 15,920, 15,923 ¶ 9 (1998).

³ 47 U.S.C. § 309(j)(1) (emphasis added).

finding of “extraordinary circumstances” and may not exceed 180 days.⁴ A broadcaster’s *voluntary* decision to adopt a new transmission standard for the purposes of, e.g., offering higher screen resolution, or providing ancillary and supplementary services, cannot reasonably be described as an extraordinary circumstance.

Moreover, the simulcast spectrum would not be limited to a 180-day period. As the Commission has noted, there is currently no ATSC 3.0 equipment available for consumers in the United States.⁵ It is uncertain when, or if, such equipment will eventually become sufficiently widespread that ATSC 1.0 simulcasting will no longer be necessary. This is why the Commission elected not to identify an end date for the ATSC 1.0 simulcasting requirement.⁶ Instead, it decided to “determine in a later proceeding when it would be appropriate for the Commission to eliminate the requirement that broadcasters continue to provide an ATSC 1.0 signal.”⁷ Therefore, although it is unclear how long broadcasters would seek to use any new spectrum for simulcasting, it is clear that it will be for far longer than 180 days. Notably, the analog-to-digital transition, which began in 1996 with the Commission’s adoption of the ATSC 1.0 standard,⁸ did not formally end for full-service stations until 2009, 13 years later.⁹ That transition is likely to

⁴ *Id.* § 309(f). Notably, such an authorization also may not be renewed for a period exceeding 180 days, with renewal requiring the same finding of “extraordinary circumstances.”

⁵ *Authorizing Permissive Use of the “Next Generation” Broadcast Television Standard*, Report and Order and Further Notice of Proposed Rulemaking, FCC 17-158, 32 FCC Rcd. 9930, 9939 ¶ 16 (2017) (“ATSC 3.0 Order”).

⁶ *See id.* ¶ 14.

⁷ *Id.*

⁸ *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, Fourth Report and Order, FCC 96-493, 11 FCC Rcd. 17,771 (1996).

⁹ *Modernization of Media Regulation Initiative: Amendment of Parts 27, 54, 73, 74, & 76 of the Commission’s Rules to Delete Rules Made Obsolete by the Digital Television Transition*, Order, FCC 18-3, MB Docket No. 17-105, ¶ 2 (rel. Jan. 24, 2018).

have been *faster* than the ATSC 3.0 transition because the analog-to-digital transition, unlike the ATSC 3.0 transition, included a converter-box program which artificially accelerated consumer adoption of compatible equipment. A spectrum giveaway for ATSC 1.0 local simulcasts would thus be inconsistent with both the temporal limitation of Section 309(f) as well as the “exceptional circumstances” requirement, which means that the Commission must be prepared to accept applications and assign this spectrum through a system of competitive bidding.

II. Broadcasters Have Stated Unequivocally that this Spectrum Giveaway Is Unnecessary to Enable the ATSC 3.0 Transition—Providing Free Simulcast Spectrum Would Merely Allow Them to Shift Their Costs onto Others.

ONE Media’s request for dedicated simulcast spectrum is inconsistent with the explicit representations of the original ATSC 3.0 petitioners. According to broadcasters, the voluntary ATSC 3.0 transition—including their proposed simulcast period—would succeed “without requiring any additional spectrum or government assistance,”¹⁰ and that the Commission “[n]eed not assign companion or transition channels to licensees.”¹¹ As petitioners originally explained, a broadcaster transitioning to ATSC 3.0 would provide its ATSC 1.0 simulcast on an existing DTV subchannel within an existing ATSC 1.0 stream:

Specifically, a temporary “host” broadcaster would agree to carry on its DTV subchannels the programming of those stations broadcasting with the Next Generation TV format. The “host” station’s programming would be carried reciprocally as a programming stream on one of the stations deploying the Next Generation TV standard.¹²

¹⁰ Joint Petition for Rulemaking of America’s Public Television Stations, AWARN Alliance, Consumer Technology Association, and National Association of Broadcasters at iv, GN Docket No. 16-142 (filed Apr. 13, 2016) (“ATSC 3.0 Petition”).

¹¹ *Id.* at 14.

¹² *Id.* at 17-18.

This original proposal was entirely adequate to allow broadcasters the flexibility to make the transition to ATSC 3.0 if they chose to do so while protecting viewers from losing valuable programming. The existing ATSC 1.0 standard allows broadcasters to offer several independent video streams within a single 6 MHz channel. It is typical for a broadcaster, for example, to provide one high-definition stream alongside three or four standard-definition streams. While the high-definition stream is used to transmit the station’s primary broadcast content (such as programming from a big-four station), subchannels are typically used for less widely viewed content—and are sometimes left unused. The total number of subchannels available is determined largely by the picture quality that a broadcaster selects for its existing video streams.¹³

A subset of the broadcasters in the Washington, D.C. market, for example, offer the following content on their ATSC 1.0 signals:

WJLA-TV¹⁴		WUSA¹⁵	
<u>Station</u>	<u>Picture Quality</u>	<u>Station</u>	<u>Picture Quality</u>
ABC	720p	CBS – WUSA9	1080i

¹³ Richard Chernock et al., *ATSC 1.0 Encoding, Transport, and PSIP Systems*, in *National Association of Broadcasters Engineering Handbook* 641 (Garrison C. Cabell et al. eds., 11th ed. 2017).

¹⁴ NoCable, *Over-the-Air DTV Availability Report for: Washington, DC*, <https://nocable.org/availability-report/zip/20430-washington-dc> (last visited Feb. 20, 2018); RabbitEars, *Digital TV Market Listing for WJLA-TV*, https://rabbitears.info//market.php?request=station_search&callsign=wjla-tv#station (last visited Feb. 20, 2018).

¹⁵ NoCable, *Over-the-Air DTV Availability Report for: Washington, DC*, <https://nocable.org/availability-report/zip/20430-washington-dc> (last visited Feb. 20, 2018); RabbitEars, *Digital TV Market Listing for WUSA*, https://rabbitears.info//market.php?request=station_search&callsign=WUSA#station (last visited Feb. 20, 2018).

Charge!	480i	Justice Network	480i
Comet TV	480i	LATV	480i
TBD	480i		

WDCA ¹⁶		WRC-TV ¹⁷	
<u>Station</u>	<u>Picture Quality</u>	<u>Station</u>	<u>Picture Quality</u>
Fox 5 Plus	720p	Telemundo	1080i
Movies!	480i	NBC 4	1080i
Heroes & Icons	480i	COZI TV	480i (w)
Light TV	480i	TeleXitos	480i

The task facing a station making the transition to ATSC 3.0, therefore, would be to find one subchannel, among the many available in a given market, that can host “the primary video programming stream”¹⁸—the stream that “generally contains network programming for network affiliates or the station’s most popular programming for non-network stations.”¹⁹ Because, at broadcasters’ urging, the Commission will permit standard-definition simulcasts to replace what are today high-definition streams, this simulcast stream may be in standard definition. This should be possible whenever there is a single ATSC 1.0 broadcaster in the market available to serve as a host that either 1) has excess capacity available on its channel without making any

¹⁶ NoCable, *Over-the-Air DTV Availability Report for: Washington, DC*, <https://nocable.org/availability-report/zip/20430-washington-dc> (last visited Feb. 20, 2018); RabbitEars, *Digital TV Market Listing for WDCA*, https://rabbitears.info/market.php?request=station_search&callsign=wdca#station (last visited Feb. 20, 2018).

¹⁷ NoCable, *Over-the-Air DTV Availability Report for: Washington, DC*, <https://nocable.org/availability-report/zip/20430-washington-dc> (last visited Feb. 20, 2018); RabbitEars, *Digital TV Market Listing for WRC-TV*, https://rabbitears.info/market.php?request=station_search&callsign=WRC-TV#station (last visited Feb. 20, 2018).

¹⁸ ATSC 3.0 Order ¶ 13.

¹⁹ *Id.* ¶ 13 n.39.

modifications, 2) can make sufficient capacity available by changing the picture quality of one or more other ATSC 1.0 subchannels, or 3) by replacing content on an existing subchannel with the simulcast guest station.

Each of these three possibilities is likely to remain available to a broadcaster—which, again, need only find a new home for the standard-definition version of its primary stream to satisfy the Commission’s requirements. Prospective host stations may, of course, require compensation to make these changes and to serve as a host station, but that simply is the natural and proper outcome of the market-based transition that broadcasters have proposed, without the special “government assistance,”²⁰ that broadcasters have disclaimed. Indeed, within such a market, it appears likely that a broadcaster will frequently value the ability to simulcast its primary ATSC 1.0 stream highly enough that it will willingly pay another broadcaster to make available the necessary channel capacity.

Therefore, the only purpose that the simulcast-spectrum proposal will likely serve in practice will be to reduce the price that the average broadcaster must pay in order to exclusively secure spectrum for its ATSC 1.0 simulcast—*perhaps reducing their cost to zero through a government spectrum subsidy in the form of a free exclusive channel, externalizing the costs of this transition onto other users in the band.* To the extent that this accelerates the voluntary ATSC 3.0 transition, this is only because this subsidy would stimulate supply of ATSC 3.0 service even in the absence of enough market demand to support it without government assistance. And, unlike non-exclusive White Spaces operations that must share spectrum with all comers, granting broadcasters special rights to devote entire channels to ATSC 1.0 simulcasts would also allow them to exclude all other users from that channel. Given that the rules do not

²⁰ ATSC 3.0 Petition at iv.

prohibit broadcasters from providing ancillary and supplemental services on its local simulcast channel, free use of the vacant channel for an indefinite period of time could provide an even more significant windfall as spectrum costs would not be factored into any ancillary service fee required under the law. This emphasizes the need for a fair, market-based assignment process, rather than Commission selection of favored licensees and services.

Moreover, in the unlikely event that a station fails to find a suitable host for its ATSC 1.0 local simulcast—i.e., a station and the market does not value the opportunity to transition to ATSC 3.0 highly enough that the company is willing to pay what the market demands for simulcast spectrum—the consequences for the broadcaster, and for viewers, will be relatively slight. Most straightforwardly, such a broadcaster could simply make the voluntary transition to ATSC 3.0 when market forces make simulcasting economically efficient, or until ATSC 3.0 equipment becomes sufficiently widespread that simulcasting is no longer necessary. Under the right circumstances, a broadcaster could also seek a waiver of either the local simulcast requirement itself, the geographic coverage requirements, or other rules to allow it to make the ATSC 3.0 transition. The Commission, regardless of its decision on this proposed rulemaking, will also remain free to consider applications for Special Temporary Authority on a case-by-case basis, in truly exceptional cases.

III. Allowing Broadcasters Indefinite Access to Free Simulcast Spectrum Will Inevitably Displace Low-Power Stations and Delay the Post-Incentive Auction Transition.

In addition to potentially violating the law, as described above, allowing broadcasters to utilize channels within the band for ATSC 1.0 would also displace additional low-power and translator stations, delay the post-auction transition, or both. The Commission asks whether to make vacant channels available during the post-auction transition, and only make these channels

available to displaced low-power broadcasters once the full-power broadcaster has ceased to use them.²¹

While suggestions that more spectrum may be required to facilitate the ATSC 3.0 transition are speculative—a claim that broadcasters themselves have explicitly contradicted—it is a fact that the Commission has already determined that some low-power broadcasters will be displaced by the repack.²² Because low-power broadcasters were not eligible to participate in the Incentive Auction, and not protected during the post-auction repack, many low-power broadcasters will need to move to new channels after the repack to avoid interference to or from relocated full-power and Class A broadcasters.²³ There are likely to be cases where no such channels are available and a low-power broadcaster will need to physically relocate or enter into a channel-sharing arrangement with another broadcaster in order to stay on the air.

Importantly, ensuring that the band remains conducive to rural broadband deployment by protecting the White Spaces channels in every market and maximizing spectrum efficiency by encouraging broadcasters to occupy contiguous channels would have no impact, or a vastly lower impact on low-power broadcasters, compared with ONE Media’s proposal.²⁴ Unlike White

²¹ ATSC 3.0 Order ¶ 126.

²² *The Incentive Auction Task Force and Media Bureau Announce Procedures for Low Power Television, Television Translator and Replacement Translator Stations During the Post-Incentive Auction Transition*, Public Notice, 32 FCC Rcd. 3860, 3862 ¶ 5 (2017).

²³ *Id.*

²⁴ Letter from Paul Caritj, Counsel for Microsoft Corporation, to Marlene H. Dortch, Secretary, FCC, at 2, GN Docket No. 12-268, ET Docket No. 14-165, MB Docket No. 15-146 (filed Sept. 6, 2017); Letter from Paul Caritj, Counsel for Microsoft Corporation, to Marlene H. Dortch, Secretary, FCC, at 2, GN Docket No. 12-268, ET Docket No. 14-165, MB Docket No. 15-146 (filed Sept. 1, 2017); Letter from Paul Caritj, Counsel for Microsoft Corporation, to Marlene H. Dortch, Secretary, FCC, at 2, GN Docket No. 12-268, ET Docket No. 14-165, MB Docket No. 15-146 (filed Aug. 29, 2017); Letter from Paul Caritj, Counsel for Microsoft Corporation, to Marlene H. Dortch, Secretary, FCC, at 2, GN Docket No. 12-268, ET Docket No. 14-165, MB Docket No. 15-146 (filed Aug. 21, 2017); Letter from Paul Margie,

Spaces operations, television broadcast stations will occupy a single fixed channel throughout their service contours and, moreover, can bar broadcasters from operating on adjacent channels.²⁵ Therefore, allowing full-power broadcasters to utilize what would otherwise be White Spaces channels to provide dedicated simulcast spectrum will significantly constrain the band overall, displacing far larger numbers of low-power broadcasters and forcing more to potentially cease operations entirely. Nonetheless, some broadcasters now support the latter proposal, with its significant impact on low-power broadcasters, while vehemently opposing the former, the impact of which will be negligible.

Notably, ONE Media's proposal to allow full-power broadcasters to claim additional channels for simulcasting would upend the Special Displacement Window that the Commission plans to open on April 10, 2018.²⁶ The Special Displacement Window is intended to provide low-power broadcasters an opportunity to change channels and make other facility modifications needed to remain in operation after the post-auction repack without causing harmful interference. But if the Commission adopts ONE Media's proposal and allows full-power broadcasters to claim channels, "even if it is the only channel to which a displaced LPTV or translator station could relocate,"²⁷ there would be no reason to proceed with the Special Displacement Window—

Counsel for Microsoft Corporation, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 14-165, MB Docket No. 15-146 (filed June 21, 2017); Letter from Paul Margie, Counsel for Microsoft Corporation, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 14-165, MB Docket No. 15-146 (filed June 15, 2017).

²⁵ *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, OET Bulletin No. 69 at 8 tbl.5A (2004).

²⁶ *Incentive Auction Task Force and Media Bureau Announce Post-Incentive Auction Special Displacement Window April 10, 2018, Through May 15, 2018, and Make Location and Channel Data Available*, Public Notice, DA 18-124, MB Docket No. 16-306, GN Docket No. 12-268 (rel. February 9, 2018).

²⁷ ATSC 3.0 Order ¶ 126.

full-power broadcasters would be free to claim the very channels that low-power broadcasters had just selected.

The alternative, however, would be to delay the Special Displacement Window until *after* broadcasters select their desired simulcast channels. Given that neither broadcasters nor the Commission appear to possess any actionable information about how many channels, or which ones, broadcasters in each market would seek to use now and at later dates, this would constitute an effectively indefinite delay for the Special Displacement Window and, therefore, the repack process as a whole. Indeed, it is not presently clear how many broadcasters will seek to make the voluntary transition to ATSC 3.0 in the first place, meaning that the repack would likely be delayed for years, if it must wait for broadcasters to select local simulcast channels.

IV. Gifting New Channels to Broadcasters for Simulcast Signals Would Undermine Rural Broadband.

As Congress and the Commission have recognized, White Spaces channels are important enablers of rural broadband internet access. Repurposing these channels to indefinitely transmit duplicated programming as part of a broadcaster's voluntary decision to transition to ATSC 3.0 would make the difficult job of connecting rural communities even harder.

White Spaces technologies are uniquely valuable for rural broadband deployment because they enable a compelling solution to the central technical and economic challenges of bringing service to areas with low population densities. Simply put, when population densities are low, the cost of bringing service to a given household skyrocket, often making network deployments impossible. These challenges tend to grow in proportion to the quality and speed of the connection. White Spaces technologies offer one solution. Signals on White Spaces frequencies propagate substantially farther and can penetrate foliage and many other obstructions substantially better than signals on any other unlicensed frequencies available to broadband

providers. Consequently, investment in a single White Spaces radio and its associated physical infrastructure can enable high-speed internet connectivity to homes and businesses across a wide area that would otherwise be unserved. In Southern Virginia, for example, Microsoft worked with the Mid-Atlantic Broadband Communities Corporation to deploy the Homework Network, which uses White Spaces technologies to connect homes across Charlotte and Halifax counties to their local schools' networks.

Granting broadcasters across the nation additional channels for ATSC 1.0 simulcasts will eliminate some White Spaces channels—a serious blow to rural broadband deployment and innovation. It would also diminish the utility of the White Spaces that remain. First, it would sharply limit the permissible power levels on adjacent channels, potentially precluding any long-range operations.²⁸ Second, it would impair operators' ability to use spectrum efficiently throughout the band by reducing the number of contiguous White Spaces. Although White Spaces technology offers significant and unique advantages even with only one channel, the availability of multiple adjacent channels is what allows operators to offer broadband service in rural America. It is important, therefore, for the Commission to adopt policies that result in broadcast television stations and other incumbents in the VHF and UHF bands operating efficiently in contiguous spectrum to the greatest extent possible to maximize the opportunities for White Spaces operators to also maximize the utility of remaining White Spaces. Allowing channels to be used for ATSC 1.0 simulcast spectrum would therefore not only reduce the number of channels available, but reduce the amount of *contiguous* spectrum available, potentially reducing throughputs in the channels that remain.

²⁸ See 47 C.F.R. § 15.712(a)(2).

The impact will be even more severe if the Commission allows broadcasters to inefficiently select simulcast spectrum that is not contiguous with the channels already used for broadcasting or other licensed services. This would force reduced power levels on *two* adjacent channels and further limit maximum channel width and, therefore, maximum throughput.

These unnecessary and inefficient outcomes highlight a critical advantage of White Spaces technology. Unlike free, exclusive, second channels for broadcasters, allowing continued unlicensed use of these White Spaces would not unfairly enrich a single operator, nor would it exclude other users from the band—White Spaces are non-exclusive shared channels that anyone can use. Multiple operators can coexist in a given area and, potentially, even on a given channel without the dramatic loss of efficiency that would come from gifting exclusive channels to broadcasters. While licensed broadcast use would exclude any other operations from a channel—and, potentially, adjacent channels—White Spaces systems can work cooperatively to carry data from more than one operator far more efficiently, maximizing overall utility, and eliminating any need for the Commission to pick a single “winner” among multiple potential users of this spectrum.

CONCLUSION

There is no need for the Commission to complicate the post-auction repack, undermine rural broadband services, and violate its statutory mandate to assign spectrum through competitive bidding, merely to subsidize broadcasters’ voluntary adoption of ATSC 3.0. Even if convenience for a single industry group were a sound reason for compromising these other important Commission goals, the broadcasters themselves have stated unequivocally that it is unnecessary—broadcasters *do not need* a subsidy in the form of new spectrum in order to adopt ATSC 3.0. The Commission should therefore give broadcasters what they asked for in their

petition for rulemaking: authorization to migrate to ATSC 3.0, with a mandatory simulcasting period, without special government assistance in the form of dedicated simulcast spectrum.

Respectfully submitted,

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