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

In the Matter of	)	
Authorizing Permissive Use of the "Next Generation" Broadcast Television Standard	)	GN Docket No. 16-142

REPLY COMMENTS OF MICROSOFT CORPORATION

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March 20, 2018

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INTRODUCTION AND SUMMARY

Broadcasters initiated this proceeding with a 2016 petition[1] which offered an appealing proposition: they would adopt a new broadcast standard, ATSC 3.0, offer improved picture quality, with minimal disruption to viewers, without asking for any more spectrum. Broadcasters determined that they could accomplish this by leveraging ATSC 1.0 simulcasts on subchannels within the 6 MHz physical channels of stations that had not switched their facilities over to the new standard.[2] The National Association of Broadcasters ("NAB") maintained the position that "broadcasters will not have additional spectrum during the transition"[3] through November of 2017.

Broadcasters have never disavowed their assurance to the FCC that the transition can move forward using the channel-sharing approach described in their petition. But they now *also* claim that they need additional broadcast channels to "ease" this transition. They provide no explanation for this inconsistency and, more importantly, no explanation to substantiate any claim that additional channels are needed to avoid disruption. In fact, the NAB explicitly says that the Commission should not require broadcasters seeking a simulcast station to demonstrate any need. Thus, broadcasters have made no substantive case at all that providing their companies with additional spectrum would offer any cognizable public-interest benefit. But the public-

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[1] Joint Petition for Rulemaking of America's Public Television Stations, AWARN Alliance, Consumer Technology Association, and National Association of Broadcasters, GN Docket No. 16-142 (filed Apr. 13, 2016) ("ATSC 3.0 Petition"); *Media Bureau Seeks Comment on Joint Petition for Rulemaking of America's Public Television Stations, et al.*, Public Notice, DA 16-451, 31 FCC Rcd. 3858 (2016).

[2] ATSC 3.0 Petition at iii.

[3] Letter from Patrick McFadden, Associate General Counsel, NAB, to Marlene H. Dortch, Secretary, FCC, at 2, GN Docket No. 16-142 (filed Nov. 2, 2017) ("November 2 NAB Ex Parte").

interest harms are real: gifting additional spectrum to broadcasters would undermine rural broadband services using White Spaces technologies, oust wireless microphones not licensed to broadcasters, and displace low-power broadcasters the Commission has worked hard to protect during the post-auction transition.

Lacking a substantive argument that the Commission should gift their companies new spectrum, broadcasters attempt distraction. They claim that consumers and businesses that use unlicensed technologies are not guaranteed access to spectrum. This is true, but irrelevant to the decision before the FCC. *No* prospective user is entitled to use spectrum for which it does not yet hold a license. This includes both unlicensed users and broadcast licensees that hope to expand into new frequencies. The FCC has not yet assigned the channels at issue to broadcasters, so they and the companies and consumers using unlicensed technologies are on an equal footing. And if, instead, broadcasters are relying on the fact that under Commission rules unlicensed devices have no expectation of protection from harmful interference, that is irrelevant as well. The FCC is not being asked to grant unlicensed devices any interference protection, it is being asked to grant new spectrum to companies that have said they don't need it.

The question under the Commission's rules, and the Communications Act, is simply what spectrum designation would best further the public interest. Given broadcasters' shifting positions, and failure to provide any substantial explanation of need, this analysis is straightforward: it favors the preservation of rural broadband services, wireless microphones, and low-power broadcasters, not indefinite assignment of unnecessary additional spectrum to broadcasters.

Finally, if the Commission does decide that the public interest favors authorization of simulcast spectrum, the record makes clear that it must be prepared to process mutually

exclusive requests for "temporary use" of these channels using a system of competitive bidding. There is no reasoned basis to assume, as broadcasters have suggested, that broadcasters will not submit mutually exclusive applications.

DISCUSSION

I. Broadcasters Have Not Shown That New Spectrum Rights Are Necessary to the ATSC 3.0 Transition, Much Less That Gifting It to Them Would Be in the Public Interest.

NAB and a handful of other broadcasters ask the Commission to grant them indefinite free access to additional exclusive spectrum rights—especially if they are not required to make any individualized showing that they need the channel.[4] But their comments make no showing that the voluntary ATSC 3.0 transition warrants such an extraordinary gift from the government to individual companies.

Rather, broadcasters' comments continue to offer only vague assertions that the availability of additional channels will "ease the transition."[5] But the question before the Commission is not simply whether granting additional spectrum to broadcasters will ease their voluntary efforts to adopt a new broadcasting standard of their own design (and for which no consumer equipment is currently available). The inquiry is whether the benefits to the public outweigh the costs. Broadcasters' assertions fall far short of establishing that there is in fact any substantial benefit to the public, because they have not explained why they now believe that

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[4] Comments of the National Association of Broadcasters at 8, GN Docket No. 16-142 (filed Feb. 20, 2018) ("NAB Comments") ("Providing broadcasters with access to these channels should not turn on any showing of particular need.").

[5] *Id. See also* Comments of Pearl TV at 4, GN Docket No. 16-142 (filed Feb. 20, 2018) ("Pearl TV Comments") (stating that additional spectrum could "help effectuate the deployment of ATSC 3.0"); Comments of Meredith Corporation at 2, GN Docket No. 16-142 (filed Feb. 20, 2018) (stating that additional spectrum "will further the success of licensed services and the enhancements that ATSC 3.0 will bring to consumers").

consumers may be harmed if their companies are not given additional spectrum rights, and they have not offered any facts to demonstrate the prevalence or magnitude of that alleged harm.

The record's silence on this topic is especially striking given the fact that broadcasters themselves previously emphasized that the ATSC 3.0 transition could move forward "without requiring any additional spectrum"[6] and that the Commission "[n]eed not assign companion or transition channels to licensees."[7] Broadcasters put forth a detailed plan by which companies transitioning to ATSC 3.0 would satisfy the simulcast requirement—which broadcasters themselves proposed[8]—through reciprocal channel-sharing arrangements with ATSC 1.0 companies.[9] The Commission has already offered significant regulatory concessions to broadcasters to facilitate this form of simulcasting.[10] Broadcasters provide no explanation of why the Commission should accept their recent assertions that simulcast spectrum is needed over their previous repeated claims that no additional spectrum would be needed. Commission acceptance of the broadcasters' new assertions would be arbitrary and capricious in light of this record.

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6 ATSC 3.0 Petition at iv.

7 *Id.* at 14.

8 *See id.* at Attachment C, proposed 47 C.F.R. § 73.682(g) ("The licensee of a station operating pursuant to subsection (f) shall arrange for another DTV station (if any) operating in compliance with subsection (d) and substantially covering such station's community of license to simulcast such station's primary program stream for a period of time consistent with local market conditions. Agreements for simulcast under this subsection (g) must be filed with the FCC.").

9 *See* Comments of Microsoft Corporation at 4-5, GN Docket No. 16-142 (filed Feb. 20, 2018); ATSC 3.0 Petition at 17-18.

10 *See 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, 9942-53 ¶¶ 22-47 (2017) ("ATSC 3.0 Order").

NAB half-heartedly claims that the results of the Incentive Auction, which reduced the size of the broadcast band, raise new challenges for the ATSC 3.0 transition. But did broadcasters not know of the Incentive Auction when they filed their ATSC 3.0 petition for rulemaking? In fact, as recently as November of 2017, after the results of the auction had been known for nearly eight months, NAB argued that because "broadcasters will not have additional spectrum during the transition, it is imperative that the Commission provide broadcasters with as much flexibility as reasonably possible."[11] But now that they have been granted the flexibility they sought, they're back to ask the Commission to grant them additional exclusive spectrum as well.[12]

Moreover, because simulcasting is mandatory, the Commission's rules already protect consumers from harm in any potential situation where a broadcaster is unable to find a simulcasting partner to preserve its existing service. Thus, even accepting broadcasters' most recent, unsupported position that simulcast channels are needed in order for a limited number of stations to provide an ATSC 1.0 simulcast, the only "harm" could be to broadcast *companies* that seek to make the transition to ATSC 3.0, without taking the steps necessary to protect consumers. And if, as some broadcasters claim, the transition will be sufficiently brief that the Commission may authorize simulcast stations using its Special Temporary Authority rules, they will not be delayed for more than a single year. Such brief and isolated delays in offering ATSC 3.0 service is a minor harm indeed given that ATSC 3.0-ready equipment has not yet reached a

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[11] November 2 NAB Ex Parte at 2.

[12] Yet again, broadcasters also fail to recognize that, if their claims are true, and the Incentive Auction results have made the transition more challenging, this is a situation of their own making. The broadcast band did not shrink through regulatory fiat, but rather due to broadcasters' own voluntary decisions to give up spectrum rights, in exchange for sizeable monetary payments.

single American household. The only legitimate reason broadcasters collectively might have for proceeding expeditiously with the ATSC 3.0 transition would be to stimulate the market for this equipment, but this goal will not be undermined in any meaningful way if a small number of stations wait until simulcasting is no longer necessary. In fact, because the transition is voluntary, it is likely that some stations will choose to wait before deploying in any event.

And this is to say nothing of broadcasters' inflated promises regarding the ATSC 3.0 transition itself. Microsoft does not object to broadcasters transitioning to this new standard—we believe it is long overdue—so long as the transition does not become a new vehicle for broadcasters to lay claim to additional exclusive spectrum. But it's worth placing broadcasters' claims in context. Broadcasters have claimed for years, well before the development of ATSC 3.0, that they would provide mobile television, data services, interactive television, and other supposed innovations with the free exclusive spectrum the government has given to them.[13] None of these services ever materialized.

So now, these long-promised advances form a key part of broadcasters' public-interest narrative for ATSC 3.0.[14] Likewise, broadcasters extol the possibility of providing 3D broadcast

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[13] *See, e.g.*, Letter from Mark Richer, President, ATSC, to Marlene H. Dortch, Secretary, FCC, at 2 (filed June 23, 2011) ("Current implementation of the A/153 Standard is laying the groundwork for deploying a host of new innovative capabilities, such as NRT and 3D television broadcasting."); NAB, *NAB's 'Future of TV Campaign Goes On-Air, Online* (Jan. 4, 2011), http://www.nab.org/documents/newsroom/pressRelease.asp?id=2415 (describing an NAB ad campaign which states that the "future of broadcast TV . . . [is] HD, 3D, mobile TV").

[14] *See, e.g.*, Letter from Erin L. Dozier, Senior Vice President and Deputy General Counsel, Legal and Regulatory Affairs, NAB, to Marlene H. Dortch, Secretary, FCC, at 1, GN Docket Nos. 09-47, 09-51, 09-137, 10-25, 10-66, MB Docket No. 10-71 (filed Feb. 3, 2011) (listing "public interest innovations" such as "new channels, mobile DTV, possible 3D television, more coordination with over-the-top television services, and broadband supplement solutions"); Comments of the National Association of Broadcasters at 17-18, MB Docket No. 17-214 (filed Oct. 10, 2017); NAB Comments at 1.

television using ATSC 3.0.[15] In fact, for years, in numerous public pronouncements, NAB gushed about 3D broadcast television as the future of the over-the-air broadcasting industry. It turned out, though, that MVPDs, programmers, and television manufacturers offering 3D programming for years have concluded that consumers do not want it.[16]

For these reasons, the proposal to give away additional channels for ATSC 1.0 simulcasting clearly could not satisfy any meaningful cost-benefit analysis. As explained above, the benefits of such a decision would be meager. But the costs would be significant: lost opportunities for rural broadband deployment, displacement of low-power and translator stations, and disruption to unlicensed wireless microphone users. In each case, valuable services would be

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[15] *See, e.g.*, Comments of the AWARN Alliance at 2 n.3, GN Docket No. 16-142 (filed May 9, 2017) (listing 3D Content as one of the 13 "use cases representing the foundation of ATSC 3.0"); Comments of OneMedia, LLC at 2 n.4, PS Docket No. 15-94, GN Docket No. 16-142 (filed July 13, 2017) (listing 3D Content as one of the 13 "use cases representing the foundation of ATSC 3.0"); Geoffrey Morrison, *ATSC 3.0: What You Need to Know About the Future of Broadcast Television*, CNET (May 11, 2016, 1:05 PM), https://www.cnet.com/news/atsc-3-0-what-you-need-to-know-about-the-future-of-broadcast-television/ ("Up next, not surprisingly, is . . . 3D (remember that?)"); Broadcast & CableSat, *ATSC 3.0 – Next-Gen TV Standard* (July 2017), http://www.broadcastandcablesat.co.in/index.php/technology/standards/7803-atsc-3-0-next-gen-tv-standard ("ATSC 3.0, when implemented, will include . . . [t]rue native 3-D transmission capability.").

[16] *See, e.g.*, Mike Flacy, *DirecTV Scales Back 3D Content Due to Lack of Demand*, Digital Trends (June 25, 2012, 8:22 PM), https://www.digitaltrends.com/home-theater/directv-scales-back-3d-content-due-to-lack-of-demand/ (explaining that DirecTV chose to scale back 3D programming and AT&T chose to drop ESPN 3D, due to lack of demand); Ryan Nakashima, Associated Press, *Who's Watching? 3D TV No Hit With Viewers*, USA Today (Sept. 29, 2012, 12:41 PM), https://www.usatoday.com/story/tech/2012/09/29/3d-tv-viewership-rate/1602741/ ("Sluggish demand for 3D on TV has caused programmers to hit pause on rolling out new shows and channels."); Andrew Dodson, *Breaking: ESPN 3D Shutting Down at Year's End*, TV News Check (June 21, 2013, 11:12 AM), http://www.tvnewscheck.com/playout/2013/06/breaking-espn-3d-shutting-down-at-years-end/ ("We are committing our 3D resources to other products and services that will better serve fans and affiliates."); David Katzmaier, *Shambling Corpse of 3D TV Finally Falls Down Dead*, CNET (Jan. 17, 2017, 10:56 AM), https://www.cnet.com/news/shambling-corpse-of-3d-tv-finally-falls-down-dead/ ("We decided to drop 3D support for 2017 in order to focus our efforts on new capabilities such as HDR, which has much more universal appeal.").

displaced merely because broadcasters are rushing to deploy ATSC 3.0 technologies before consumers are able to receive it and are unwilling to live up to their commitment not to seek additional spectrum or government assistance. This may be why broadcast companies have conspicuously failed to provide the Commission with a cost-benefit analysis. But if there was ever a request that should be supported by a cost-benefit analysis, a request for a government grant of free exclusive spectrum would be it. The FCC should require broadcasters to submit such an analysis before proceeding, or explain why it is unnecessary.

Putting aside the outcome of an overall cost-benefit analysis, it is no surprise that the government granting individual companies free exclusive simulcast spectrum would appeal to ONE Media in particular. Easing the ATSC 3.0 transition by providing free simulcast spectrum would benefit ONE Media even though it is unnecessary to protect consumers or otherwise serve the public interest, because ONE Media stands to profit from commercializing its intellectual property portfolio. The faster ATSC 3.0 is adopted—with or without real consumer demand—the more revenues ONE Media can generate from the sale of ATSC 3.0 equipment to broadcasters, MVPDs, and consumers. For broadcasters, this rulemaking represents an opportunity to obtain an addition 6 MHz channel at no cost. Although this simulcast channel would theoretically be provided on only a temporary basis, until the simulcast period ends, that simulcast period has no end date. Indeed, it will certainly last for years, given the complete lack of any existing ATSC 3.0 equipment, and cannot be ended without a new Commission proceeding. The Commission should not allow simulcasting which would inevitably provide broadcasters an opportunity to extend the simulcast period, or simply reverse themselves once more and lobby to retain their simulcast channels indefinitely. If so, numerous broadcast stations would benefit handsomely in *both* ways to the detriment of other users of the band.

II. Broadcasters Misrepresent FCC Rules, Which Do Not Prohibit Commission Consideration of the Value of Unlicensed Services in Its Policy Decisions.

One common refrain among broadcasters in this proceeding is that unlicensed White Spaces operations are entitled to no "protection" from licensees. NAB claims that White Spaces "are guaranteed no protection"[17] while Pearl TV argues that "[i]t is a core tenant of the Commission's rules that unlicensed devices are not entitled to protection as against licensed operations."[18] It is true that unlicensed devices are guaranteed no protection from harmful interference caused by licensees. But if the broadcasters' statements above are imprecise allusions to this rule, they are irrelevant to this proceeding. Alternatively, if they are an attempt to make the far more sweeping claim that the FCC may not consider the value of unlicensed technologies to consumers and businesses if licensed service is also possible in a channel or band, they are incorrect.

Section 15.5 of the Commission's rules instructs that unlicensed operators do not have vested legal rights to continue using a given frequency, and must accept any interference they received from others. Thus, the Commission's rules prevent unlicensed operators from making any legal claim to spectrum, or from submitting interference complaints against licensees or against one another. Importantly, however, even on this narrow interpretation, broadcasters get the FCC's rule wrong: this disclaimer of any interference protection operates between both licensed *and unlicensed* operations. It is not limited to interference by licensed to unlicensed operations.[19]

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[17] NAB Comments at 6.

[18] Pearl TV Comments at 4.

[19] *See* 47 C.F.R. § 15.5(b).

On the other hand, the Commission's rules have never been interpreted to preclude it from considering the important benefits of unlicensed operations in its policymaking decisions even if a licensed alternative exists. In fact, Commission precedent clearly demonstrates the opposite. In numerous proceedings—including the White Spaces proceeding itself[20]—the Commission has recognized the unique value of unlicensed spectrum and intentionally made rules that encourage its development and adoption, and protected it from developments that would diminish the overall utility of unlicensed operations.[21]

There is a good reason the Commission has never endorsed such a restriction on its own policy-making powers: to ignore the millions of consumers and businesses that rely on unlicensed spectrum would be disastrous for the economy, innovation, and U.S. technology leadership. Unlicensed technologies, and Wi-Fi in particular, carry the lion's share of not only mobile data traffic but *all* Internet traffic.[22] And in so doing, unlicensed spectrum generates hundreds of billions of dollars in value for the U.S. economy.[23] Plainly, these benefits cannot be

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[20] *See Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Report and Order, FCC 14-50, 29 FCC Rcd. 6567, 6681-88 ¶¶ 258-279 (2014).

[21] *See, e.g.*, *Request by Progeny LMS, LLC for Waiver of Certain Multilateration Location and Monitoring Service Rules*, Order, FCC 13-78, 28 FCC Rcd. 8555, 8555 ¶ 1 (2013) (discussing the obligation of a multilateration licensee to demonstrate that it will not cause unacceptable interference to unlicensed operations in the 900 MHz band); *Terrestrial Use of the 2473-2495 MHz Band for Low-Power Mobile Broadband Networks, et al.*, Report and Order, FCC 16-181, 31 FCC Rcd. 13801, 13803-04 ¶ 5 (2016) (adopting a revised proposal by a satellite licensee that would forgo operation in 2.4 GHz spectrum widely used for Wi-Fi to avoid potential degradation of unlicensed operations); *Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, First Report and Order, FCC 14-30, 29 FCC Rcd. 4127, 4127 ¶ 1 (2014) (authorizing unlicensed operations in U-NII-1 despite presence of a licensed incumbent).

[22] Cisco, *The Zettabyte Era: Trends and Analysis* 4 (June 2017), https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/vni-hyperconnectivity-wp.pdf.

[23] Raul Katz, Telecom Advisory Services, LLC, *Assessment of the Future of Economic Value of Unlicensed Spectrum in the United States* 39–40 & tbl.19 (Aug. 2014),

ignored in any rational public-interest or cost-benefit analyses. Moreover, it is widely acknowledged that emerging 5G technologies will rely on both licensed and unlicensed spectrum, meaning that the Commission's failure to consider the importance of unlicensed technologies in its policymaking would leave it unable to compete globally with other nations that are better able to support future versions of both Wi-Fi and 3GPP technologies.

The fact that the UHF and VHF bands are allocated generally to broadcast services makes no difference in this analysis. Such allocation decisions do not create a right to that spectrum for any prospective licensee in the relevant service. Regardless of a band's allocation status, the Commission is required by statute to make an individualized determination of "whether the public interest, convenience, and necessity will be served by the granting of such application."[24] As explained above, the value of unlicensed spectrum use is a significant part of this determination. No Commission rule supports the claim that broadcast licensees, or licensees within any other service, may simply demand additional free spectrum—with no regard for the economic and public-interest consequences, and without showing that the spectrum is actually needed—merely because the band is generally allocated to their service. In this case as well, accepting broadcasters' argument would be disastrous for U.S. wireless policy writ large. Unlicensed services coexist with licensed services in every band where they operate.[25] But broadcasters are asking the Commission to adopt an approach in which the Commission would authorize *any* application by *any* licensee to use spectrum in the applicable wireless service band

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http://dynamicspectrumalliance.org/assets/Katz-Future-Value-Unlicensed-Spectrum-final-version-1.pdf.

[24] 47 U.S.C. § 309(a).

[25] *See* 47 C.F.R. § 2.106 (showing unlicensed services coexisting with licensed fixed, mobile, and radiolocation services at 2400-2483 MHz; fixed-satellite, mobile, and aeronautical radionavigation services at 5150-5250 MHz; and radiolocation services at 5725-5850 MHz).

regardless of the likelihood of it crippling unlicensed communications. The Commission should reject this incorrect reading of FCC rules.

III. NAB's Claim That Mutually Exclusive Applications Are "Highly Unlikely" Is Unrealistic.

The Commission is not permitted to give away simulcast spectrum to any commercial broadcaster that asks for it. It must prepare for the likelihood that it will receive mutually exclusive applications, which would trigger its statutory obligation to resolve mutually exclusive applications for temporary channels through competitive bidding. Although they do not say so directly, NAB appears to acknowledge that the Commission is required to resolve mutually exclusive commercial broadcast license applications by competitive bidding, and that this requirement applies to temporary simulcast stations. They claim that mutually exclusive applications are unlikely, and urge the Commission to help applicants resolve any cases of mutual exclusivity informally, but recognize that the Commission may be required to "step in."[26]

This is because the Commission's obligation to assign broadcast television channels through competitive bidding is now well established. In fact, the Commission acknowledged its obligation to auction broadcast spectrum recently when it announced procedures for low-power and translator stations participating in the Special Displacement Window. It explained that, if licensees cannot resolve mutual exclusivity between themselves, the "applications will be subject to the Commission's competitive bidding rules."[27] The fact that the VHF and UHF bands are largely allocated for broadcast use does not alter the Commission's statutory auction

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[26] NAB Comments at 8.

[27] *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, DA 17-442, 32 FCC Rcd. 3860, 3867 ¶ 16 (2017).

requirement. The Commission's statutory competitive-bidding requirement applies at the spectrum *assignment* stage as a mechanism to choose between competing applications within the service to which the band was allocated. This is no different from other bands that might, for example, be allocated for mobile wireless use. The Commission is required to—and routinely does—conduct a spectrum auction in bands allocated for mobile wireless service to determine which operator is granted the right to exclusive use of a given channel.

Furthermore, NAB's optimism about the infrequency of mutual exclusivity is not warranted. This is especially true if the Commission adopts NAB's suggestion not to require any individualized showing of need before giving away valuable spectrum.[28] If broadcasters' new (and unsupported) claim that they must have more free exclusive spectrum is accurate—and not their prior claims that they will need no additional spectrum—one would expect numerous broadcasters to request additional channels to "ease" their ATSC 3.0 transitions. And in many markets, especially constrained urban areas, there are not nearly enough free 6 MHz channels for multiple broadcasters to double their use of spectrum, virtually guaranteeing mutual exclusivity. If, contrary to the record evidence, the Commission concludes that it should allow broadcasters to expand their spectrum footprint further still through the use of simulcast channels, it must at least plan for the inevitability that multiple commercial broadcasters will seek to use them. This requires the development of a workable and fair competitive bidding process for temporary channels that meets the statutory requirements for a spectrum auction.[29]

[28] *See* NAB Comments at 8.

[29] 47 U.S.C. 309(j)(3).

CONCLUSION

An FCC grant of new exclusive spectrum to individual companies, merely to ease their voluntary transition ATSC 3.0, would be an unwarranted government subsidy for broadcasters. The benefits of such an extraordinary action are little or none. Broadcasters have made perfectly clear that they will not proceed with the ATSC 3.0 transition until market conditions warrant, and that they will not need additional spectrum in order to do so. But the costs are real. There will be fewer White Spaces channels to support rural broadband. Wireless microphones will lose access to spectrum. And low-power television stations will go off the air. The Commission should hold broadcasters to their earlier assurance that they could make their voluntary transition without new spectrum, and should allow the market to dictate the timetable and success of the ATSC 3.0 transition without special government assistance.

Respectfully submitted,

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March 20, 2018