

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Expanding Flexible Use of the 3.7) GN Docket No. 18-122
to 4.2 GHz Band)
)

COMMENTS OF UNITED STATES CELLULAR CORPORATION

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United States Cellular Corporation (“USCC”) submits these comments in response to the Notice of Proposed Rulemaking released July 13, 2018 in the above-captioned proceeding.¹ USCC applauds the Commission for taking this important step towards making badly-needed mid-band spectrum available for terrestrial mobile services and fully supports the Commission’s proposal to add a non-federal mobile, except aeronautical mobile, service allocation to the 3.7-4.2 GHz band.² As detailed herein, USCC strongly urges the Commission to utilize an auction-based mechanism in order to maximize the amount of spectrum in this band that can be reallocated for terrestrial wireless broadband services (the Mid-Band Flexible Use or “MBX” spectrum). USCC also urges the Commission to adopt a band plan, licensing and operating rules, and auction procedures for the MBX spectrum that ensure carriers of all sizes have a reasonable opportunity to acquire flexible use rights for this spectrum, which will be a crucially important component of wireless service providers’ ability to deploy 5G and other innovative new services.

¹ See *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Notice of Proposed Rulemaking, GN Docket No. 18-122, FCC 18-91 (rel. July 13, 2018) (“NPRM”).

² *Id.* at ¶ 55.

I. INTRODUCTION & SUMMARY

Wireless service providers will require a sufficient quantity of low-, mid-, and high-band spectrum in order to deploy next generation wireless networks. As the Commission notes, mid-band spectrum is “well-suited for next generation wireless broadband services due to the combination of favorable propagation characteristics (compared to high bands) and the opportunity for additional channel re-use (as compared to low bands).”³ While the Commission has done an exceptional job allocating both the low- and high-band spectrum wireless service providers will require to deploy next generation networks, currently, the 3.5 GHz band is the only mid-band spectrum in the Commission’s pipeline. Although the Commission’s recent revisions to the rules governing the 3.5 GHz band significantly improve the viability of that band for larger-scale wireless deployments, the 3.5 GHz band by itself will not be able to support robust 5G networks. For instance, only 70 megahertz of the 3.5 GHz band will be available for licensed use, and even once the exclusion zones protecting incumbent operations are converted to protection zones, operations in many parts of the country periodically will be restricted to protect incumbent radar operations. In addition, the maximum power levels for the 3.5 GHz band are significantly lower than the limits imposed by Part 27 of the Commission’s rules.

Fortunately, this proceeding provides an important opportunity to address the current deficiency in mid-band spectrum by making available up to 500 megahertz of spectrum that is ideally positioned for the deployment of next generation wireless networks. In addition to the balance of coverage and capacity available in mid-band spectrum generally, the 3.7-4.2 GHz band likely will be harmonized for 5G operations throughout much of the world, which will result in equipment being available more quickly and at lower cost. Likewise, the 3.7-4.2 GHz

³ *Id.* at ¶ 5.

band's adjacency to the 3.5 GHz band will enable equipment sharing across these bands, resulting in quicker deployments and greater economies of scale in both bands.

Given the significant importance of the 3.7-4.2 GHz band to next generation wireless services and the wireless industry generally, USCC urges the Commission to utilize an incentive auction-based reallocation mechanism for this spectrum in order to maximize the amount spectrum repurposed for mobile broadband services and to ensure that all interested parties have an opportunity to compete for, and acquire, new flexible use licenses for this spectrum. USCC also urges the Commission to adopt a band plan and licensing and operating rules for the repurposed spectrum that ensure small and regional carriers have a reasonable opportunity to acquire these licenses and to use this spectrum to provide next generation wireless services to the rural areas these carriers typically serve. Notably, access to sufficient mid-band spectrum will be particularly important to these carriers and their customers because, as the Commission recognized, mid-band spectrum's "balance of coverage and capacity could provide a critical input to operators to deploy new and improved wireless services to rural, remote, and underserved areas of the country."⁴ Specifically, USCC urges the Commission to license the MBX spectrum on the basis of Cellular Market Areas and 20 megahertz blocks, adopt a license term and performance requirements that are properly tailored to particular characteristics of this spectrum, and prohibit a single entity from acquiring more than one-third of the initial flexible use licenses made available for the MBX spectrum.

⁴ *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, Notice of Inquiry, GN Docket No. 17-183, FCC 17-104, ¶ 6 (rel. Aug. 3, 2017).

II. THE COMMISSION SHOULD ADOPT AN AUCTION-BASED MECHANISM FOR CLEARING THE 3.7-4.2 GHz BAND

USCC agrees with the Commission that, “[g]iven the high demand for and high-value of mid-band spectrum,” the Commission “should strive to adopt a mechanism that will repurpose a socially efficient amount of spectrum in the band.”⁵ Moreover, as a result of the critical importance of the 3.7-4.2 GHz band to the future deployment of robust 5G networks, USCC believes there is a direct relationship between the amount of spectrum reallocated for flexible use and the public interest benefits that arise from this proceeding. USCC therefore strongly urges the Commission to ensure that its actions in this proceeding facilitate reallocating the greatest amount of spectrum in this band possible while still protecting or otherwise accommodating incumbent users of this spectrum. As Ericsson emphasized, “[c]learing as much of the band as possible for mobile use is critical to extracting the maximum value of the band and ensuring that a sufficient amount of spectrum is available for innovation and development in support of 5G.”⁶

USCC agrees further with T-Mobile that the best way to “maximize the opportunity for 5G wireless terrestrial mid-band spectrum use [is] by making *all* of the spectrum in the 3.7-4.2 GHz band available in an auction...”⁷ Notably, unlike the other approaches discussed in the NPRM, an auction-based reallocation mechanism has a proven track record. Specifically, the broadcast incentive auction successfully used market forces to repurpose the 600 MHz band for higher-value, flexible use services while still preserving a robust broadcast service.

⁵ NPRM at ¶ 81.

⁶ Letter from Mark Racek, Sr. Dir Spectrum Policy, Government Affairs and Public Policy, Ericsson, to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket No. 17-183, p. 3 (Mar. 29, 2018).

⁷ Letter from Steve B. Sharkey, Vice President, Government Affairs, Technology and Engineering Policy, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket Nos. 17-183, 18-122, p. 4 (June 15, 2018) (“T-Mobile June 15, 2018 *Ex Parte*”) (emphasis in original).

The public interest benefits of relying on competitive bidding for awarding spectrum rights are well-documented. For instance, in a report to Congress evaluating the efficacy of its auctions program, the Commission noted that its competitive bidding procedures “provided significant benefits” as compared to the mechanisms the Commission previously had used to award spectrum licenses, explaining that its auctions program had “demonstrated the ability to award licenses to productive users, to encourage the emergence of innovative firms and technologies, to generate valuable market information, and to raise revenues for the public.”⁸ In addition, with regard to incentive auctions specifically, the Commission has explained how this mechanism allows it “to apply market forces to the assignment of spectrum licenses, helping to ensure that spectrum is put to its most productive use.”⁹

USCC understands, however, that a standard incentive auction like that used for the 600 MHz band may not be feasible here. As the Commission explains, in that auction, “[m]any broadcast licenses were substitutes because if one licensee bid to relinquish its spectrum usage rights this could make spectrum available to repack other broadcast stations and free spectrum for flexible use.”¹⁰ As a result, only a certain number of broadcasters needed to participate in order for the auction to be a success, which “induce[d] broadcast incumbents to reveal the least amount they must be paid to relinquish their spectrum rights,”¹¹ and thereby prevented monopoly pricing by reverse auction participants. In contrast, because “all FSS licensees have equal, nonexclusive rights to the entire band,” all of the incumbent licensees “must agree to relinquish their spectrum rights in a given geographic area in order to reassign spectrum,” which

⁸ *FCC Report to Congress on Spectrum Auctions*, Report, 13 FCC Rcd 9601, 9604 (1997) (“*FCC Auction Report*”).

⁹ *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Notice of Proposed Rulemaking, 27 FCC Rcd 12357, 12367 (2012).

¹⁰ NPRM at ¶ 60.

¹¹ *Id.*

incentivizes each licensee “to overstate the value it assigns to the spectrum in order to increase the share of auction revenue it may receive.”¹²

Although a standard incentive auction may not be feasible here, USCC believes an alternative method for conducting an incentive auction of the 3.7-4.2 GHz band can be designed, based, for example, on the approach previously outlined by T-Mobile. A modified incentive auction framework has great promise as it could address the issues that would arise with a standard incentive auction format while retaining the primary advantages of an auction-based reallocation process. As T-Mobile described its proposal, the “core framework is an incentive auction with a descending amount of spectrum, in which a consortium comprised of all satellite licensees ... is the seller and potential wireless providers would be the buyers.”¹³ Notably, the first phase of T-Mobile’s proposed approach would involve terrestrial operators bidding for all 500 megahertz of spectrum in each license area, which would establish an initial price per area that would be offered to the incumbent licensees to relinquish their rights to the entire band.¹⁴ Thus, in contrast to a wholly voluntary reallocation mechanism, incumbent licensees would be presented with a specific dollar amount before having an opportunity to formally decline to relinquish their spectrum rights. Importantly, the presumably high initial price per area likely would make FSS licensees more likely to consider relinquishing some or all of their spectrum rights, just as the high opening price offers spurred a large number of broadcasters to participate in the broadcast incentive auction.

T-Mobile’s proposal then calls for additional bidding in the forward auction for a reduced amount of spectrum in those license areas for which incumbents did not agree to clear all 500

¹² *Id.* at ¶¶ 59-60.

¹³ T-Mobile June 15, 2018 *Ex Parte* at 5.

¹⁴ *See id.*

megahertz at the prices established in the initial phase.¹⁵ The price established in the forward auction for the reduced amount of spectrum in each of these license areas then would be presented to the incumbent licensees for their acceptance or rejection. This process would repeat, with forward auction bidders seeking to acquire an increasingly smaller amount of spectrum in each uncleared license area until a pre-determined minimum amount of spectrum per license area is reached. Incumbent licensees then would need to clear that minimum amount of spectrum in the remaining license areas at the prices established in the final phase of the forward auction.¹⁶ If properly done, this approach would guarantee that a socially efficient quantity of spectrum is reallocated for terrestrial mobile use and made available in a way that fosters competition in the auction and in the wireless marketplace.

The modified incentive auction approach to reallocating the 3.7-4.2 GHz band has several other important benefits as compared to the other potential approaches discussed in the NPRM. In particular, it would be an incentive auction. A substantial percentage of the proceeds could be paid to the incumbent licensees to provide a powerful incentive to clear the band. As a practical matter, the mechanism also would provide incumbents with valuable pricing information that would enable informed decisions. For instance, T-Mobile explained how its proposed approach would allow incumbent licensees “to determine the value of the spectrum for satellite service relative to terrestrial mobile service.”¹⁷ Likewise, the Commission has long-recognized that “auctions generate information about the value of spectrum for alternative uses.”¹⁸ This benefit of utilizing an auction-based reallocation mechanism would be particularly beneficial here given

¹⁵ *See id.* at 6.

¹⁶ *See id.*

¹⁷ *Id.* at 5.

¹⁸ *FCC Auction Report*, 13 FCC Rcd at 9624.

the uncertainty regarding the market value of terrestrial mobile spectrum in the 3 GHz range, as well as the dearth of valuation information for the FSS licenses in this band given that these licenses were not subject to competitive bidding when they were initially awarded.

On the other hand, proposals by incumbents to have FSS licensees sell some of their spectrum rights to terrestrial operators on the secondary market seems highly unlikely to achieve the public interest goals of putting enough mid-band spectrum into the hands of enough players to maximize the deployment of robust 5G networks due to a number of significant flaws in this approach.¹⁹ For instance, given the voluntary nature of this approach and the ability of a single licensee to block any clearing as a result of the non-exclusive licensing framework, there would be no guarantee that any portion of the 3.7-4.2 GHz band would even be reallocated for terrestrial mobile operations. Moreover, as Commissioner Rosenworcel cautions, “the combination of a limited number of operators, non-exclusive licensing, and the scarcity of mid-band spectrum could create opportunities to price this resource above what a truly competitive market with a large pool of fungible spectrum would support.”²⁰ At a minimum, such actions would impede a socially efficient reallocation of this spectrum, and it could lead to no portion of the band being reallocated for terrestrial mobile use. In response to the Commission’s query, USCC does not believe this concern is, in any way, “mitigated by the fact that the market for

¹⁹ For instance, the C-Band Alliance, whose members provide the vast majority of satellite services in the 3.7-4.2 GHz band in the United States, recently expressed an intent to clear only “*up to 200 MHz of mid-band spectrum*” under its proposal to sell a portion of its members’ spectrum rights in the 3.7-4.2 GHz band on the secondary market. *See* Letter from Jennifer D. Hindin, Wiley Rein LLP, counsel to the C-Band Alliance, to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket Nos. 17-183, 18-122 (Oct. 23, 2018) (“C-Band Alliance Oct. 23, 2018 *Ex Parte*”) (emphasis added). USCC notes that, depending on the block size adopted by the Commission for the MBX spectrum, reallocating only 200 megahertz could result in only a few flexible use licenses being made available in each service area, with the largest carriers likely acquiring these few licenses to the exclusion of everyone else. As discussed below, however, even if more than 200 megahertz is cleared, the Commission should license the MBX spectrum on the basis of 20 megahertz blocks to ensure small and regional carriers have a reasonable opportunity to acquire licenses and to use this spectrum to deploy 5G networks in rural and other under-served areas.

²⁰ NPRM (Statement of Commissioner Jessica Rosenworcel).

spectrum for high-speed broadband services is much broader than just the 3.7-4.2 GHz band”²¹ given the unique importance of this scarce mid-band spectrum to 5G deployments.

Another primary concern of all but the largest wireless providers is the real possibility that they would be shut out of an incumbent-driven private sale mechanism. The incumbent FSS licensees simply could decide that it would be administratively easier, or that the negotiation process would be quicker, if they were to deal with, and divide any reallocated spectrum between, only a couple of large buyers interested in acquiring significant bandwidth covering an expansive geographic area, perhaps even nationwide. Moreover, even if the incumbents invited smaller carriers to the negotiating table, they might not offer these carriers a reasonable opportunity to acquire any spectrum, or large carriers might structure their offers in ways that make participation by smaller operators difficult or impossible. For instance, for administrative ease and/or some perceived financial benefit, the incumbents may decide to divide the band into large license areas that command prices beyond the means of smaller carriers, and which would require smaller carriers to unnecessarily acquire spectrum rights to areas well outside of their existing or planned service footprints. Alternatively, even if the individual license areas being offered by incumbents are reasonably-sized, the incumbents could allow the largest carriers to package license areas together in their offers in ways that prevent smaller carriers from having a reasonable opportunity to acquire licenses for one or a small number of license areas.

While the secondary market for spectrum rights serves an important purpose, and although USCC has successfully engaged in spectrum transactions on the secondary market, the reality is that sales of significant spectrum rights on the secondary market invariably have been between a large seller and one or a small number of large buyers. In other words, these private

²¹ NPRM at ¶ 71.

sales do not result in a large spectrum asset being divvied up between multiple, different-sized buyers. In contrast, auctions allow for, and attract, broad participation, with each bidder being provided a reasonable opportunity to compete pursuant to a set of pre-defined rules and procedures. Given the importance of mid-band spectrum for next-generation wireless services and the likelihood that the 3.7-4.2 GHz band will be prime mid-band spectrum capable of supporting 5G deployments, the Commission must ensure that every interested party has an opportunity to compete for this spectrum. Accordingly, the Commission must utilize an incentive auction-based reallocation mechanism for the 3.7-4.2 GHz band.

Proponents of a private sale mechanism stress that it need not be a one-time event, and that additional spectrum could be reallocated at some point in the future. However, even if future sales were to take place, which certainly would not be guaranteed, they would be too little, too late for those wireless providers who were unable to acquire any spectrum in the initial sale. With each subsequent sale, rights to the 3.7-4.2 GHz band would become increasingly scarce, causing license prices to continue to rise – likely to a level well above what was paid for the initial tranche of licenses, and quite possibly above what all but the largest carriers could afford. Further, in response to the Commission’s query,²² USCC does not believe that requiring a minimum amount of spectrum be repurposed in order to use a private sale mechanism would adequately address the likelihood that this approach would reallocate a socially inefficient, and generally suboptimal, amount of spectrum. Moreover, such a minimum requirement could cause significant delay in the overall reallocation process. Presumably, extensive negotiations amongst the satellite operators, and between the satellite operators and both terrestrial service providers and earth station operators, would be required before it would be known whether such a

²² See *id.* at ¶ 81.

minimum would be satisfied. And if not, the private sale mechanism would be abandoned, and the Commission and the industry would be back to square one.

Finally, USCC notes that the primary, and perhaps only, public interest benefit alleged by proponents of a secondary market reallocation mechanism is that this approach may allow terrestrial mobile operations in the band more quickly than an auction-based mechanism. But these proponents have merely stated that the spectrum could be cleared within three years of a final Commission order in this proceeding.²³ Moreover, this claim largely is speculative given the untested, and likely extremely complex, nature of this approach and the large number of parties that would need to voluntarily make binding commitments and take specific actions within rather tight timeframes. In contrast, the industry and the Commission have extensive experience with spectrum auctions, and thus, can reliably predict how quickly some or all of the 3.7-4.2 GHz band could be cleared through an auction process involving concrete and readily enforceable deadlines that are not largely established and policed by those responsible for the actual clearing of the spectrum. Moreover, even if the proponents' claim is accurate, USCC does not believe that clearing a portion of the band more quickly justifies risking the various public interest harms associated with a secondary market reallocation mechanism. For these various reasons, USCC questions whether the Commission could satisfy its obligation under Section 309(a) of the Communications Act to ensure that the grant of a license serves the public interest if it authorizes incumbent FSS licensees to engage in private sales of their spectrum usage rights to new flexible use licensees.²⁴

²³ See, e.g., C-Band Alliance Oct. 23, 2018 *Ex Parte*, Attachment.

²⁴ See 47 U.S.C. §309(a).

III. CMA-BASED LICENSING WOULD INCREASE COMPETITION, PROMOTE RURAL DEPLOYMENT, AND BENEFIT ALL CARRIERS

USCC supports the Commission’s proposal to license the 3.7-4.2 GHz MBX spectrum on an exclusive, geographic area basis.²⁵ As the Commission notes, in addition to being consistent with its approach in other bands used to provide terrestrial fixed and mobile services, geographic area licensing “provides flexibility to licensees, promotes efficient spectrum use, and helps facilitate rapid assignment of licenses...”²⁶

Regarding the appropriate service areas for the flexible use licenses, USCC urges the Commission to license the MBX spectrum on the basis of Cellular Market Areas (“CMAs”) in order to preserve opportunities for small and regional carriers to provide an important source of competition to the dominant nationwide carriers and to ensure the deployment of rural networks in this spectrum. License areas larger than CMAs could prevent many small and regional carriers from acquiring licenses for the MBX spectrum because the geographic size and high population totals of larger license areas can make them prohibitively expensive for these carriers. Small and regional carriers also often lack the resources necessary to build out such geographically-extensive networks, and their business plans do not include serving the densely-populated urban areas that would invariably be found in larger license areas.

In contrast, as the Commission has recognized on numerous occasions, CMAs preserve opportunities for small and regional carriers to acquire licenses.²⁷ For instance, the Commission

²⁵ See NPRM at ¶ 138.

²⁶ *Id.*

²⁷ See, e.g., *Service Rules for Advanced Wireless Service in the 1.7 GHz and 2.1 GHz Bands*, Report and Order, 18 FCC Rcd 25162, 25177 (2003) (“AWS-1 R&O”) (“By being smaller, [CMAs] provide entry opportunities for smaller carriers, new entrants, and rural telephone companies.”); *Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59)*, Report and Order, 17 FCC Rcd 1022, 1061 (2002) (“Licensing a portion of the Lower 700 MHz Band over [CMAs] balances the playing field such that small and rural providers will have an opportunity to participate in the auction...”).

has explained how CMAs “permit entities who are only interested in serving rural areas to acquire spectrum licenses for these areas alone and avoid acquiring spectrum licenses with high population densities that make purchase of license rights too expensive for these types of entities.”²⁸ Further, despite the Commission’s recent use of Partial Economic Areas to license several spectrum bands, the existing service areas of many small and regional carriers predominantly still align with the boundaries of CMAs. Larger license areas, therefore, would force smaller carriers to bid on multiple licenses, each of which would include densely-populated areas, to acquire spectrum that covers their existing service footprints. In other words, simply to upgrade its network for the benefit of existing customers, a carrier’s only option may be to acquire several large license areas.

Perhaps most significantly, the opportunity CMAs would afford small and regional carriers to acquire licenses for this spectrum would spur network deployments in rural and other underserved areas, where these carriers often focus their deployment efforts.²⁹ CMAs also would force every licensee, regardless of size, to provide service to rural areas in order to meet its buildout obligations, rather than focus only on the densely-populated portions of a larger license area.³⁰ For these reasons, licensing the MBX spectrum on the basis of CMAs would be the most effective means for the Commission to ensure that this spectrum is used to serve rural and other underserved areas.

²⁸ *AWS-1 R&O*, 18 FCC Rcd at 25177.

²⁹ *See id.* (noting that CMAs “foster service to rural areas and tribal lands and thereby bring the benefits of advanced services to these areas”).

³⁰ *See Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands*, Report and Order and Order of Proposed Modification, 27 FCC Rcd 16102, 16122 (2012) (noting that “licensing smaller geographic blocks averts the phenomenon of huge tracts of licensed territory being left unserved”).

At the same time, carriers of all sizes would benefit from CMAs because these smaller license areas allow more targeted spectrum acquisitions,³¹ and thus, allow service providers to acquire the precise locations called for in their business plans without also acquiring – and excluding other carriers from serving – those additional areas that otherwise would accompany their targeted locations in a larger license area. Not only would these targeted acquisitions help all bidders avoid excess spectrum costs, they would help to ensure localized spectrum rights are awarded to those bidders who value them the most, and thus, are most likely to put the spectrum to its highest and best use. In other words, CMAs would help to ensure that the MBX spectrum is reallocated efficiently. In addition, CMAs easily can be aggregated by large carriers seeking expansive service territories. On the other hand, small and regional carriers likely would never gain access to this spectrum unless if the Commission adopts larger license areas because divestitures of spectrum rights on the secondary market to small and regional carriers have been, and likely will continue to be, the exception rather than the rule.

IV. A BAND PLAN CONSISTING OF 20 MHz BLOCKS WOULD PROVIDE NECESSARY FLEXIBILITY AND BEST PROMOTE COMPETITION

Given the unique circumstances surrounding the 3.7-4.2 GHz band, USCC believes the best approach is to license the MBX spectrum on the basis of 20 megahertz unpaired blocks. For instance, these smaller block sizes would provide the flexibility required to accommodate the potentially significant range of terrestrial wireless services that may be deployed in the 3.7-4.2 GHz band. In addition to being consistent with the channel size currently assigned for fixed

³¹ See *Service Rules for Advanced Wireless Service in the 1.7 GHz and 2.1 GHz Bands*, Order on Reconsideration, 20 FCC Rcd 14058, 14066 (2005) (“RSAs and MSAs allow entities to mix and match rural and urban areas according to their business plans...”); *AWS-1 R&O*, 18 FCC Rcd at 25176-77 (“These local service areas will be optimal for incumbent operators who may need spectrum capacity only in limited areas.”).

microwave links operating in this band,³² as the Commission notes, the “use of 20 megahertz blocks will enable transmission efficiencies achieved by 5G voluntary [3GPP] standards, including Long-Term Evolution (‘LTE’) derivatives.”³³ At the same time, wireless service providers desiring additional bandwidth would have an opportunity to acquire multiple blocks, and the ascending clock auction format and assignment phase would guarantee contiguity of an entity’s license holdings, enabling a licensee of multiple 20 megahertz blocks to make use of the larger channel sizes available in the 3GPP standard.

Equally important, regardless of the amount of spectrum eventually reallocated for flexible use operations, the resulting band plan should be able to accommodate 20 megahertz blocks. Thus, there would be no need to have blocks of varying size, or blocks sizes that would not support channel sizes specified in the 3GPP standards, depending on the amount of spectrum ultimately reallocated. Another significant benefit of this approach is that 20 megahertz blocks would provide smaller entities with a reasonable opportunity to acquire flexible use licenses for this crucial mid-band spectrum. With larger blocks, there would be a significant risk that the largest carriers would monopolize this band, especially if only a portion of the band is repurposed for flexible use operations.

V. A FIFTEEN-YEAR LICENSE TERM WITH REASONABLE PERFORMANCE REQUIREMENTS IS APPROPRIATE FOR THE MBX SPECTRUM

USCC supports the Commission’s proposed 15-year term for flexible use licenses in the 3.7-4.2 GHz band.³⁴ Such action would be consistent with the Commission’s previous findings that a license term longer than 10 years is necessary where the relevant spectrum band, like here,

³² NPRM at ¶ 9.

³³ *Id.* at n. 234.

³⁴ *See id.* at ¶ 149.

is occupied by incumbent operations, and therefore must be cleared before new licensees can begin to deploy their networks. For instance, when the Commission adopted a 15-year license term for the AWS-3 bands to account for “the relocation and band clearance issues associated with these bands,” it explained that a longer license term would “encourage development of these frequency bands” because it would “provide investors with the necessary assurances that a sufficient amount of time [would] be available to recoup the initial costs of developing and deploying advanced wireless networks in these bands.”³⁵ Similarly, the Commission extended the initial 700 MHz license terms on several occasions due to continued broadcast operations in that band, explaining that the extended license terms would “promote investment” by providing “sufficient time for the recovery of costs related to the development and deployment of new services, especially those based on technologies that are more advanced, more expensive, and which may take longer to develop.”³⁶ More recently, the Commission adopted longer license term for the AWS-3 bands to “compensate[] for the transition of government operations,”³⁷ as well as for the 600 MHz band “[g]iven the complexities and timing of clearing broadcast operations” in that band.³⁸

USCC agrees with the Commission “that performance requirements play a critical role in ensuring that licensed spectrum does not lie fallow,”³⁹ and fully supports the adoption of appropriate performance requirements for the MBX spectrum. USCC also supports the

³⁵ *AWS-1 R&O*, 18 FCC Rcd at 25190-91.

³⁶ *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 8064, 8096 (2007).

³⁷ *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz Bands*, Report and Order, 29 FCC Rcd 4610, ¶ 132 (2014) (“*AWS-3 R&O*”).

³⁸ *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Report and Order, 29 FCC Rcd 6567, ¶ 760 (2014) (“*Incentive Auction Order*”).

³⁹ NPRM at ¶ 150.

Commission’s proposal to measure buildout by percentage of population served as this will ensure that licensees provide services where customers actually need them.⁴⁰ USCC, however, believes the specific construction benchmarks on which the Commission seeks comment are overly stringent for the 3.7-4.2 GHz band. Specifically, the Commission seeks comment on whether to require a licensee relying on mobile or point-to-multipoint service to provide reliable signal coverage and offer service to at least 45% of the population within each of its license areas within six years of license issue, and to at least 80% of the population within each of its license areas within twelve years of license issue.⁴¹

As the Commission notes, it traditionally has adopted construction benchmarks based on the particular characteristics of a band.⁴² A review of the construction benchmarks for other bands and the characteristics of those bands, however, demonstrates that the benchmarks on which the Commission seeks comment are too rigorous. For instance, the Commission adopted less stringent performance requirements for the 600 MHz band (40% population coverage within six years and 75% population coverage within twelve years)⁴³ even though, unlike the 3.7-4.2 GHz band, the 600 MHz band “has excellent propagation characteristics that allow signals to reach farther...”⁴⁴ Similarly, for the CMA- and EA-based 700 MHz licenses, the Commission adopted a final construction benchmark of 70% geographic coverage⁴⁵ – a requirement the Commission repeatedly described as being “stringent.”⁴⁶ Notably, when it adopted this

⁴⁰ See *AWS-3 R&O* at ¶ 138.

⁴¹ See *NPRM* at ¶ 151.

⁴² See *id.* at ¶ 150.

⁴³ See 47 C.F.R. § 27.14(t).

⁴⁴ *Incentive Auction Order* at ¶ 271.

⁴⁵ See 47 C.F.R. §27.14(g).

⁴⁶ See *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Second Report and Order, 22 FCC Rcd 15289, 15348 (2007) (“[W]e replace the current ‘substantial service’ requirements for the 700 MHz Band licenses

benchmark, the Commission explained how the “unique propagation characteristics of [the 700 MHz band] means that fewer towers will be needed to serve a given license area, as compared to providing service at higher frequencies, and thus large license areas may be served at lower infrastructure costs.”⁴⁷

While those bands had incumbent users that needed to clear the spectrum before wireless licensees could begin to offer service using the spectrum, the same is true for the 3.7-4.2 GHz band. Thus, the Commission should not adopt more stringent construction benchmarks for the MBX spectrum, and in fact, should adopt less stringent benchmarks given the inferior propagation characteristics of this band, especially as compared to the 600 MHz and 700 MHz bands. Specifically, USCC proposes that the Commission adopt interim and final construction benchmarks of 35% and 60% population coverage, respectively, for licenses relying on mobile or point-to-multipoint service. USCC believes these benchmarks would sufficiently ensure that the MBX spectrum does not lie fallow while properly accounting for the inferior propagation characteristics of the 3.7-4.2 GHz band.

USCC notes that overly stringent performance requirements have a disproportionate negative impact on licensees seeking to serve rural areas because it costs more and takes more time to build out a network that satisfies a population-based coverage requirement in areas with low population densities. Overly stringent performance requirements, therefore, can have the unintended consequence of dissuading service providers that otherwise would provide service to rural areas from expending the significant resources to acquire licenses and deploy networks

that have not been auctioned with *significantly more stringent* performance requirements.”) (emphasis added); *id.* at 15348 (“In adopting these stringent performance requirements...”); *id.* (“[W]e conclude that these set of stringent benchmarks...”); *id.* at 15355 (“Given these stringent performance requirements...”).

⁴⁷ *Id.* at 15348.

given the reasonable risk they will fail to satisfy the performance requirements, and thus, will face license termination. USCC also notes that overly stringent performance requirements are unnecessary given that market incentives already provide every motive for licensees to start earning revenues as quickly as possible in order to obtain returns on the substantial investments they make in acquiring licenses.⁴⁸ The industry’s critical need for mid-band spectrum likewise provides a powerful incentive for licensees to build out their licensed territory expeditiously.

Finally, while USCC does not oppose the Commission’s proposed penalties for failing to timely satisfy the interim and final construction benchmarks, given the draconian nature of automatic license termination for a failure to satisfy the final benchmark, USCC urges the Commission to provide the same options to MBX licensees that fail to satisfy the final construction benchmark that it allows flexible use licensees in most of the millimeter wave bands. Specifically, the Commission should allow an MBX licensee that does not meet the final construction benchmark for an entire license area to choose either “(1) automatic termination of the entire license, or (2) partition the license at the county level, and return a portion of the license to the Commission such that the applicable performance requirements are met for the remaining non-forfeited area.”⁴⁹

VI. THE COMMISSION SHOULD NOT PERMIT THE LARGEST SERVICE PROVIDERS TO MONOPOLIZE THE MBX SPECTRUM

USCC urges the Commission to prohibit a single entity from acquiring more than one-third of the initial flexible use licenses made available for the MBX spectrum. USCC further

⁴⁸ See *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, Second Report and Order, 9 FCC Rcd 2348, 2358 (1994) (“Auctions are [] likely to reinforce the desire of licensees to make efficient and intensive use of [] spectrum.”).

⁴⁹ *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014, ¶ 216 (2016) (“*mmW R&O*”).

urges the Commission, when it subsequently evaluates proposed assignments or transfers of control of these licenses on the secondary market, to include this spectrum in the screen it uses to identify markets that warrant further competitive analysis.

As the Commission notes, “[s]pectrum is an essential input for the provision of mobile wireless services...”⁵⁰ Absent adequate spectrum aggregation policies, however, the largest carriers will have both the means and motivation to prevent small and regional carriers from acquiring the MBX spectrum they need to serve as a competitive counter-balance and to ensure that those living in rural and other underserved areas also have an opportunity to benefit from innovative 5G services. In other words, adequate spectrum aggregation policies are needed in order to sufficiently promote both competition and the efficient use of this spectrum, as well as to prevent an excessive concentration of this spectrum in the hands of a few already-dominant carriers.⁵¹ The Communications Act, therefore, mandates the adoption of USCC’s proposed safeguards.⁵²

VII. CONCLUSION

For the reasons set forth above, in order to maximize the amount of spectrum in the 3.7-4.2 GHz band reallocated to terrestrial flexible use and ensure small and regional carriers have an opportunity to acquire rights to this spectrum in order to provide next generation wireless services to rural areas and to act as a competitive check on the dominant nationwide carriers, the Commission should utilize an incentive auction-based reallocation mechanism for the 3.7-4.2

⁵⁰ NPRM at ¶ 146.

⁵¹ See *mmW R&O*, 31 FCC Rcd at 8081 (“[M]obile spectrum holdings policies [] will promote competition in the future, including competition in the development of 5G services, as well as promote the efficient use of mmW spectrum, and avoid an excessive concentration of licenses.”).

⁵² See NPRM at n. 259 (“The Communications Act requires the Commission to examine closely the impact of spectrum aggregation on competition, innovation, and the efficient use of spectrum to ensure that spectrum is assigned in a manner that serves the public interest, convenience, and necessity.”).

