

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

In the Matter of)	
)	
Competitive Bidding Procedures for Broadcast)	AU Docket No. 14-252
Incentive Auction 1000, Including Auctions)	GN Docket No. 12-268
1001 and 1002)	

To: The Commission

COMMENTS OF VERIZON

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SUMMARY

The goal of the incentive auction is to repurpose broadcast TV spectrum to help meet consumers’ exploding demand for wireless broadband services. In order to deliver a significant amount of additional spectrum, the Commission should adopt procedures that maximize auction participation. Many of the proposals in the Public Notice² advance this goal, but some would undermine it by creating unnecessary complexity and uncertainty that would deter participation and suppress bidding. To promote a successful auction the Commission should take the following actions:

1. Adopt a simple, transparent clearing target that does not impair any markets outside of the border areas. The Commission should establish a single clearing target that applies everywhere in the country except for the border areas, where the presence of foreign

¹ In addition to Verizon Wireless, the Verizon companies participating in this filing are the regulated, wholly owned subsidiaries of Verizon Communications Inc. (collectively “Verizon”).

² *Comment Sought on Competitive Bidding Procedures for Broadcast Incentive Auction 1000, Including Auctions 1001 and 1002*, AU Docket No. 14-252, Public Notice, FCC 14-191, 29 FCC Rcd. 15750 (2014) (“Public Notice”).

broadcasters constrains the Commission’s ability to repurpose spectrum. The FCC should not auction any impaired licenses except in the markets bordering Canada and Mexico. The Public Notice’s proposal to adopt a band plan allowing up to 20 percent of the “weighted” U.S. population to be impaired would create unnecessary complexity for the auction process and leave too much uncertainty for forward auction bidders about what markets will be impaired and how large those impairments will be.

2. *Limit impairments in the border areas to no more than 15% of the population.* The Commission should forego its complicated and arbitrary plan to create a distinct category of highly-impaired licenses (with impairments of up to 50% of the population) that would be auctioned separately from the rest of the licenses. Instead, all auctioned licenses should be fungible. There should be no impairments outside of the border areas, and any impairment to a border market should not affect more than 15% of the market’s population.

3. *Drop the proposal to favor some bidders over others in allocating impaired licenses.* If the Commission retains its complicated proposal to create two categories of impaired licenses, it should drop its proposal to discriminate against Verizon and AT&T with respect to their ability to obtain unimpaired spectrum. The *Mobile Spectrum Holdings Order*³ already prohibits AT&T and Verizon from bidding on spectrum that is set aside for all other bidders. There is no basis to amplify that restriction.

4. *Substantially increase the price that triggers the set-aside of reserved licenses while reducing or eliminating the per-unit closing price.* There is no basis for the proposal to set aside “reserved” spectrum for certain favored bidders as soon as auction prices reach \$1.25 per MHz-pop in the top 40 markets. The rationale for the set-aside trigger is to ensure that bidders

³ *Policies Regarding Mobile Spectrum Holdings*, WT Docket No. 12-269, Report and Order, 29 FCC Rcd 6133 (2014) (“*Mobile Spectrum Holdings Order*”).

eligible for reserved licenses are protected from full bidding competition *only* if prices rise to levels that theoretically could foreclose competitors. Given the prices paid for spectrum in recent auctions, there is no basis for finding that competitors might be foreclosed when prices are at only \$1.25. By contrast, there are sound policy reasons to set the price for when the auction can close to under \$1.25 or to replace it with a revenue-based closing condition. The Commission appropriately preserved its authority to reduce or eliminate the closing price.

5. *Place broadcasters that must be repacked in the repurposed part of the band only in its uplink portion.* The Commission should place broadcasters only in the uplink part of the band. Mobile operators can design base station filters to mitigate broadcaster interference in uplink spectrum. But if broadcasters are placed in the downlink portion of the band, it would be much more challenging to limit interference to mobile handsets.

6. *Modify the anti-collusion rule for this unique auction to restrict only those applicants who submit up-front payments.* The rule restricts business discussions and other communications by any entity that files an application, even if it later decides not to bid. Unlike all prior auctions, however, entities that are interested in the incentive auction will not know how much spectrum will be available and encumbered when they file. For this unique auction, the Commission should free applicants from the constraints of this rule if they do not submit an up-front payment.

I. THE COMMISSION SHOULD ADOPT A SIMPLE, TRANSPARENT NEAR-NATIONWIDE CLEARING TARGET THAT LIMITS THE NUMBER OF IMPAIRED MARKETS.

The Public Notice's complex market variation proposal would create a nationwide patchwork of high- and low-clearing markets and would impair markets that cover up to 20 percent of the country's entire population. The Commission should replace that proposal with a

simpler band plan that is uniform outside the border areas, but that acknowledges the reality that the presence of foreign broadcasters necessitates creating some low-clearing markets at the border.

A. The Commission Should Establish a Near-Nationwide Clearing Target.

The Commission should auction unimpaired licenses in most of the country and limit the sale of impaired licenses to only the border markets. The Commission correctly concludes that a single nationwide clearing target (a “lowest common denominator” applied to every market) would likely clear too little spectrum, given that the need to protect Canadian and Mexican television stations will unavoidably reduce the number of available channels in border markets. But rather than address those unavoidable border issues while still promoting the Commission’s goal of creating a “near-nationwide” band plan, the Public Notice proposes a national clearing standard under which as much as 20 percent of the country’s total population will live in wireless markets that are impaired by broadcast stations’ coverage areas.⁴ That percentage is far too high and it is not tailored to address the fact that border areas are unique.

The 20 percent impairment proposal would mean that as many as 62 million people (out of the national population of 313 million) would reside in impaired areas. That high number could mean hundreds of significantly impaired wireless licenses, and the impaired markets would likely be scattered across the country, leaving uneven amounts of repurposed spectrum and a large patchwork of areas that do not conform to the nationwide band plan. The erratic pattern would not track any recognizable logical geographic region or economically integrated area, a fact that would make it difficult for forward auction bidders to plan their bidding across adjacent markets or in regional areas. For example, under the proposed 20 percent impairment

⁴ Public Notice, ¶ 37.

standard, impaired and unimpaired licenses may exist across two or more PEAs that would be most efficiently integrated into a single wireless service area. Such impaired licenses could thus suppress bidding – not only on those impaired licenses themselves, but also on adjacent cleared licenses.

Creating an extensive patchwork of impaired and unimpaired markets throughout the entire country would also reduce the value of the auctioned licenses by imposing unnecessary costs on holders of impaired licenses. In every impaired market it will be necessary for the mobile operators with impaired licenses to coordinate and/or negotiate various siting issues (including for small cell sites) with the broadcast station(s). And the number of markets where such coordination would need to take place is increased by the Commission’s decision to auction a large number of PEA licenses rather than a smaller number of Economic Area licenses. By contrast, coordinating cell siting with the smaller community of foreign broadcast stations in order areas will be more manageable and less costly.

Also, the Commission has repeatedly acknowledged the importance of providing bidders with as much certainty as possible so they know exactly what they are bidding on.⁵ That goal would be best advanced by adopting a national clearing target with no impaired licenses outside of the border markets. Such a band plan would be much simpler to implement because, rather than having to determine which licenses are impaired throughout the country and calculate the number of weighted pops that could be affected, the Commission will only need to determine the extent to which the population in border markets is impaired. That added simplicity and certainty, in turn, will promote forward auction participation because bidders will not face the

⁵ See, e.g., *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268, Report and Order, 29 FCC Rcd. 6567, ¶¶ 41, 111 (2014) (“*Incentive Auction Order*”); Public Notice, ¶ 169.

difficulties in having to decide how much to bid for impaired licenses (and indeed whether to bid at all). In addition, the sale of unimpaired spectrum across most of the nation will generate the highest prices and the most revenue.

B. The Commission Should Use a Transparent Approach to Calculating Impairments that Avoids the Arbitrary Weighting of Pops.

Another advantage of limiting market variability to border areas is that by selling only unimpaired licenses outside of the border markets, the Commission can forego its complex attempt to create a “weighting” scheme for calculating impairments. The Public Notice proposes a scheme to “weight” impairments based on population in order to limit the population affected by impaired licenses. But such a complicated methodology is unnecessary if impairments are limited to border areas, where geographic limitations on impairments will directly limit the population affected.

In any event, the complex impairment proposal in the Public Notice would add substantial uncertainty to the forward auction and is inherently arbitrary. There is no reason why residents in an impaired part of Chicago should “count” more for calculating impairment than residents in an impaired part of New York, merely because Chicago had a higher per-MHz pop in a prior auction. And even if that were relevant, the Public Notice does not identify any non-arbitrary standard for deciding which prior auctions should be included and which should not.

II. THE COMMISSION SHOULD PERMIT IMPAIRMENTS ONLY IN BORDER MARKETS AND IT SHOULD LIMIT THOSE IMPAIRMENTS TO 15% OF THE POPULATION.

The Commission should abandon its complex plan to create and separately auction two different categories of licenses based on how heavily impaired the licenses are predicted to be. Instead, it should ensure that all licenses are fungible by avoiding any impairments outside of the

border areas and by limiting impairments in the border area markets to ones that affect 15% or less of a market's population.

The Public Notice proposes to auction two categories of licenses based on how many pops are impaired (and thus cannot be served by the wireless provider). "Category 1" would contain licenses for a PEA where between 0 and 15 percent of the population is impaired, and "Category 2" would include licenses for PEAs where between 15 and 50 percent are impaired.⁶ The Commission should not offer any Category 2 licenses and instead should use a single category, which will include all licenses that are impaired by up to 15 percent. (These licenses would be confined to border markets, for the reasons discussed above.) This will greatly simplify the forward auction, and recognize the major operational difficulties wireless carriers would face in trying to serve more heavily impaired license areas.

First, the proposal to create and auction multiple categories of licenses is unnecessarily complicated. It would add even more uncertainty and complexity to an auction that will already be the most complicated the Commission has ever conducted. To implement its two-category proposal, the Commission would have to calculate the percent of impairment of every license, and these calculations would only be *predictions* of the interference between television and wireless services based on a complex methodology the Commission developed. There would be no guarantee that a license that is *predicted* to have a 40 percent level of impairment will only have that level of impairment and no more. Bidders would then have to engage in the exceedingly difficult task of determining how to value these impairments, wherever and whatever they are. Again, the complexity in the Public Notice's proposal will cause uncertainty among bidders that can only suppress bidding activity and forward auction prices.

⁶ Public Notice, ¶¶ 142-158.

Second, the categorization proposal fails to account for the substantial difficulty wireless providers would face in serving more impaired markets. Licenses that are impaired by more than 15 percent of the population will be harder to serve because more than 15 percent is a substantial part of any market. The impairment could prevent service to either one or more cities in the PEA, or to broad swaths of suburban and rural areas. Excluding a city or other population center of a PEA severely impacts the value of the license. Alternatively, if the city can be served but more than 15% of rural residents cannot, large rural areas of that market will not have new service from the licensee. The need to avoid impaired areas creates many problems in designing the network to provide seamless service, impacting license values and even the number of interested bidders. Building coverage that avoids impaired areas will also adversely impact wireless customers. For example, a commuter that lives in an area that can be served, but commutes to an area that cannot, will have to be handed off to a different band, potentially impacting data speeds or service quality. Where the city cannot be covered, coverage would have to be a “donut” with no coverage in the “hole,” which would require difficult and very inefficient network design. And, the larger the impaired area, the more difficult it becomes to find cell sites that will be able to provide good quality service only to the unimpaired areas, while ensuring that coverage does not spill into the impaired area.

III. THE COMMISSION SHOULD DROP ITS PROPOSAL TO FAVOR SOME BIDDERS OVER OTHERS IN ALLOCATING IMPAIRED LICENSES.

If the Commission retains its proposals to create multiple categories of impaired licenses, and to create (unnecessarily) impaired licenses outside of border areas, it should drop its associated proposal to discriminate against Verizon and AT&T with respect to their ability to obtain licenses that are not impaired. Verizon and AT&T are already restricted by the set-aside

established in the *Mobile Spectrum Holdings Order* – and there is no basis to favor other bidders even more by steering the “good” licenses away from Verizon and AT&T.

AT&T and Verizon will be restricted from bidding on “reserved” licenses once forward auction prices reach a level that triggers the set-aside. The Commission established that set-aside policy in the *Mobile Spectrum Holdings* proceeding, where it balanced its policy goal of avoiding excessive concentration of low-frequency spectrum with its countervailing goal of not unduly preventing Verizon or AT&T from acquiring the spectrum it needs to effectively serve *its* customers.⁷ The Public Notice threatens to upset that balance by proposing to steer the “best” licenses (i.e., those with no restrictions or very minor restrictions) to the firms that qualify for the reserved spectrum, thereby amplifying the restrictions on Verizon and AT&T.

Specifically, the Public Notice proposes to include in the reserved block only licenses with no impairments or low impairments. The remaining licenses, including the most impaired ones (“Category 2”), would be relegated to the unreserved blocks.⁸ That proposal should be abandoned. The *Mobile Spectrum Holdings Order* specifically states that “[o]nce the spectrum reserve is established, bidders will bid separately for *generic* reserved and unreserved spectrum licenses”⁹ – and relegating Verizon and AT&T to bidding for the less desirable licenses is inconsistent with that order and its rationale. At a minimum, any decision to increase the restrictions faced by Verizon and AT&T would need to be made in the *Mobile Spectrum Holdings* proceeding based on record evidence – and it would need to be balanced against the

⁷ See *Mobile Spectrum Holdings Order*, ¶ 28.

⁸ Public Notice, ¶¶ 142-158.

⁹ See *Mobile Spectrum Holdings Order*, ¶ 192 (emphasis added).

harms that the Commission acknowledges can occur when “major providers” are unnecessarily limited in their “ability ... to acquire additional spectrum licenses.”¹⁰

This kind of undue discrimination will suppress bidding and forward auction revenues to the detriment of all stakeholders. The Commission should reject this proposal. It should not create two categories of licenses in the first place, but if it does it should place the *unimpaired* licenses in the open bidding pool. Doing so will ensure that impaired licenses can be equitably allocated among all bidders through the assignment round. This approach will fully preserve the Commission’s decision in the *Mobile Spectrum Holdings* proceeding to impose a “limited” restriction on Verizon and AT&T while still ensuring that they have the same ability as any other firm to bid for the licenses with impairment levels that meet their business needs.

IV. THE COMMISSION SHOULD SET A HIGHER TRIGGER PRICE FOR IMPOSING THE SET-ASIDE OF RESERVED LICENSES.

There is no rational basis for setting aside “reserved” spectrum as soon as auction prices reach \$1.25 per MHz-pop in the top 40 markets. Events since the *Incentive Auction Order* have issued call into question whether there is still any basis to conclude that there is a *bona fide* foreclosure risk – and there certainly is no basis to conclude that a competitor would be “foreclosed” or otherwise harmed when prices are still at only \$1.25. On the other hand, with respect to the auction’s closing conditions, there are sound policy reasons to reduce or eliminate the \$1.25 threshold, and the Commission has preserved its flexibility to establish a closing price that is below \$1.25 or to eliminate the per-unit closing price altogether.

¹⁰ See *Mobile Spectrum Holdings Order*, ¶ 28.

A. The Proposed Reserve Trigger Is Far Below What Might Theoretically Be Deemed a Foreclosure Price.

The basis for a set-aside trigger is to ensure that bidders eligible for reserved licenses are protected from full bidding competition *only* if prices rise to levels that theoretically could foreclose them from obtaining spectrum – something that simply cannot happen if prevailing auction prices are only at \$1.25, as the Public Notice proposes.

The Public Notice proposes to adopt a “final stage rule” that will set a price at which the auction closes, and to use that same price as the trigger for prohibiting Verizon and AT&T from bidding on a specific number of paired licenses, known as “reserved” licenses. The set-aside of those reserved licenses would kick in once the auction meets an average price per MHz pop of \$1.25 for the largest 40 PEAs by population.¹¹ That set-aside trigger price is far too low.

The intent of the set-aside is to ensure that all firms have access to spectrum and that no firm is foreclosed from acquiring spectrum or placed at a competitive disadvantage by having its costs artificially raised.¹² That foreclosure concern is based on the theory that smaller incumbents might face anticompetitive prices at auction if Verizon and AT&T place a “foreclosure value” on spectrum during the auction.¹³ Under that theory, there is no foreclosure (and therefore no risk of competitive harm) when auction prices are at “pre-foreclosure” levels. Foreclosure could occur, in theory, only if and to the extent Verizon and AT&T drive prices up to *foreclosure levels*, which can happen only if they bid their “use value” plus their “foreclosure

¹¹ Public Notice at ¶¶ 46-47.

¹² See, e.g., *Mobile Spectrum Holdings Order*, ¶¶ 41, 45.

¹³ See, e.g., Jonathan B. Baker, *Further Comments on Spectrum Auction Rules that Foster Mobile Wireless Competition*, at 1 (“Baker Further Comments”), attached to Letter from T-Mobile to Marlene H. Dortch, FCC, GN Docket No. 12-268, WT Docket No. 12-269 (Aug. 2, 2013).

value” for the spectrum.¹⁴ Because there is no risk to competition during the “pre-foreclosure” setting,¹⁵ there is no rational basis for setting aside spectrum for any bidders when prices are below levels that could theoretically foreclose them from acquiring spectrum needed to serve their customers.

The \$1.25 price discussed in the Public Notice is *much* lower than what might theoretically be considered a price that could facilitate foreclosure or raise rivals’ costs to anticompetitive levels. It is far lower than the average price for 700 MHz spectrum during Canada’s recent auction (\$1.98) and indeed is lower even than prevailing prices for 700 MHz spectrum on the secondary market in the United States. For example, a year ago T-Mobile paid \$1.85 per MHz-POP for Verizon’s 700 MHz A Block spectrum, and stated that it was “very pleased with the value of this transaction.”¹⁶

And just last month, the average net price paid in the AWS-3 auction for paired spectrum was \$2.51. In fact, the second largest bidder in the AWS-3 auction (the Dish entities) bid an average of \$2.82 for the paired spectrum that it won, demonstrating that even prices well above the average do *not* cause new entrants to be foreclosed. And those numbers would constitute conservative benchmarks for what might constitute a reasonable set-aside trigger price given that various parties claim that the below-1 GHz spectrum to be auctioned in the Incentive Auction is *more* valuable than AWS-3 spectrum. Moreover, the average net price for AWS-3 licenses in

¹⁴ See, e.g., U.S. Department of Justice, *Ex Parte Submission of the United States Department of Justice*, WT Docket No. 12-269 (Apr. 11, 2013) (“*DOJ Ex Parte*”).

¹⁵ Baker *Further Comments* at 5 fn.21. That pre-foreclosure versus post-foreclosure framework applies both to the foreclosure described by the *DOJ Ex Parte* and also to the “raising rivals costs” version of foreclosure that is the subject matter of Dr. Baker’s paper. *Id.*, *passim*.

¹⁶ See Remarks of John Legere, T-Mobile US Inc., A-Block Transaction Conference Call, Transcript (Jan. 6, 2014), p. 9, available at <http://investor.t-mobile.com/Cache/1500056176.PDF?Y=&O=PDF&D=&fid=1500056176&T=&iid=4091145>; see also T-Mobile US, Inc. – A-Block Spectrum Transactions, p. 9, available at <http://investor.t-mobile.com/Cache/1001182112.PDF?Y=&O=PDF&D=&fid=1001182112&T=&iid=4091145>.

the top 40 PEAs – the markets that the Incentive Auction trigger price will be based on – was well over \$3.00.¹⁷

B. Setting the Trigger Too Low Would Convert a Limited Competition Safeguard into a Harmful Cross-Subsidy for Favored Bidders.

The harms caused by a set-aside trigger that is below a reasonable foreclosure benchmark would substantially outweigh the theoretical benefits of the set-aside. The Commission acknowledges that “limit[ing] the ability of major providers to acquire additional spectrum licenses may limit their ability to provide new services or serve new customers.”¹⁸ It is undisputed that wireless operators must find ways to meet consumers’ exploding demand for bandwidth. Failure to establish a meaningful price trigger would risk preventing the two disfavored bidders from acquiring the spectrum that *they* need to serve *their* customers.

By contrast, establishing a meaningful price trigger (one that does not distort bidding unless prices rise to foreclosure levels) will promote the objective of “fairness to all participants”¹⁹ and will enhance consumer welfare by ensuring that spectrum is awarded to the firms that are most likely to put it to use promptly to serve consumers. As the Commission has repeatedly found, consumers benefit when spectrum is put “to its most effective use,”²⁰ and it therefore has a longstanding policy of holding open auctions that assign spectrum to firms that will put it to use efficiently to “provide new services or serve new customers.”²¹ By setting a

¹⁷ The net MHz-pop price for top 40 PEAS based on respective CMA (G Block) was \$2.92. The net MHz-pop price for top 40 PEAS based on respective EA (J Block) was \$3.85.

¹⁸ See, e.g., *Mobile Spectrum Holdings Order*, ¶ 28.

¹⁹ See, e.g., *Amendment of the Commission’s Rules Regarding Installment Payment Financing For Personal Communications Services (PCS) Licensees*, Second Report and Order and Further Notice of Proposed Rulemaking, 12 FCC Rcd 16436, ¶ 2 (1997).

²⁰ See, e.g., *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Second Report and Order, 22 FCC Rcd. 15289, ¶ 259 (2007)

²¹ See, e.g., *Mobile Spectrum Holdings Order*, ¶ 28.

meaningful price trigger – well above \$1.25 – the Commission can achieve its goals of promoting competition and enhancing consumer welfare while still ensuring that no firm is foreclosed.

The Commission explains that bidding will be unrestricted “up to the point at which the spectrum reserve trigger is reached,”²² and that the trigger will help to “fairly distribute[] the responsibility for satisfying the costs of the Incentive Auction among all bidders.”²³ Setting the trigger for the set aside too low would convert the set-aside from a limited safeguard into a subsidization mechanism under which the favored bidders would – even if fully capable of paying prevailing prices – pay artificially low prices by avoiding any need to bid against Verizon or AT&T.

C. A Substantially Higher Price Trigger Is Warranted Given that Market Developments Are Undermining the Rationale for the Set-Aside.

Events since the set-aside was established undermine its rationale – which was weak to begin with – and militate in favor of a much higher trigger price. In establishing the set-aside the Commission acknowledged that there is no evidence of any past foreclosure, but it perceived some risk that foreclosure could happen in the future and therefore determined that a limited mitigation measure was appropriate.²⁴ The Commission acknowledged that the intent of the set aside policy (providing a safeguard against the perceived risk of potential foreclosure) must be balanced against the fact that “limit[ing] the ability of major providers to acquire additional spectrum licenses may limit their ability to provide new services or serve new customers.”²⁵ Striking that balance requires setting a price trigger that balances the risk of setting the trigger

²² *Mobile Spectrum Holdings Order*, ¶ 187.

²³ *Mobile Spectrum Holdings Order*, ¶ 186.

²⁴ *Mobile Spectrum Holdings Order*, ¶ 61.

²⁵ *See Mobile Spectrum Holdings Order*, ¶ 28.

too low and thus distorting the auction, against the risk of setting the trigger too high and thus creating a risk that some bidders could be foreclosed. Events since the *Incentive Auction Order* was issued make clear that the balance should tip in favor of a much higher trigger price.

First, there can be no serious debate that the wireless industry is intensely competitive. Sprint and T-Mobile – two firms purportedly in need of special treatment – are proving themselves to be robust nationwide competitors. Neither Sprint nor T-Mobile have shown that either needs substantial amounts of *additional* low-frequency spectrum to have the coverage layer they say is needed to avoid being at a competitive disadvantage. Sprint, for example, recently confirmed that it has “successfully deployed voice services on the 800 megahertz spectrum nationwide.” Sprint also states that nationwide low-frequency coverage layer has “greatly improved not only in rebuilding coverage, but also the key performing metrics of the voice network.”²⁶

Similarly, T-Mobile has been successfully deploying its now-expansive footprint of low-frequency spectrum. T-Mobile has described the low-frequency spectrum that it purchased from Verizon as a “huge swath” of licenses allowing T-Mobile to deploy low-frequency spectrum across 70% of its customer base and 9 of the 10 top markets,²⁷ and it has been further expanding its low-frequency footprint.²⁸ Indeed, T-Mobile now says that – far from being at a competitive disadvantage – it is “in a *unique* position to satisfy the growing demand for fast mobile data” because it “has more network capacity per customer—and a remarkable 70 percent more network spectrum per customer than even Verizon—with its network concentrated in the places people

²⁶ See Sprint 4th Quarter 2014 Earnings Call Tr. (Feb. 5, 2015), at 4.

²⁷ Remarks of Neville Ray, T-Mobile CTO, T-Mobile US Inc. at Morgan Stanley Technology, Media & Telecom Conference (Mar. 5, 2014), at 3.

²⁸ See Phil Goldstein, Fierce Wireless, T-Mobile scores more 700 MHz A-Block spectrum from CenturyLink unit, (Aug. 12, 2014), *available at* <http://www.fiercewireless.com/story/t-mobile-scores-more-700-mhz-block-spectrum-centurylink-unit/2014-08-12>.

need data the most.” T-Mobile also has been “expanding its network capacity at an unmatched pace,” including by “rolling out its newly acquired 700Mhz [sic] spectrum.”²⁹

Moreover, the results of the recent AWS-3 auction also undercut the rationale for a set-aside. The two DISH bidding entities acquired more licenses than any other participant. Additionally, based on the gross dollar value of all new bids placed in the auction, DISH and its partners accounted for 50% of the bids placed in the auction, which was nearly three times what Verizon bid and more than T-Mobile, Verizon and AT&T bid combined. In fact, when comparing the final license provisionally winning bid (“PWB”), the DISH entities outbid T-Mobile much more extensively than did either Verizon and AT&T combined: of the 211 licenses where T-Mobile was the second-highest PWB, the DISH topped T-Mobile more than 132 times, compared to only 26 times for AT&T and only 16 times for Verizon.³⁰ And, in head-to-head final bids, T-Mobile topped Verizon on *twice* as many licenses (32) as Verizon topped T-Mobile (16). These results weaken (if not entirely eliminate) the basis for a set-aside.

D. Distinct Policy Considerations Support Reducing or Eliminating the Closing Price.

Although the Commission should set the set-aside trigger at a foreclosure level that is much higher than the \$1.25 per MHz pop floor the Public Notice proposes, sound policy supports moving in the opposite direction with respect to the closing price for the auction. The policy issues the Commission considered for determining when the auction can close are very different from the ones relevant to establishing a meaningful set-aside trigger based on prices at which foreclosure could theoretically happen. For example, with respect to the closing

²⁹ See T-Mobile Press Release, “T-Mobile Quadruples Simple Starter Data With New Option” (Aug. 25, 2014), available at <http://newsroom.t-mobile.com/news/company-news/4x-the-data.htm>.

³⁰ In fact, T-Mobile topped Verizon *twice* as often – 32 times – than Verizon topped T-Mobile. U.S. Cellular topped T-Mobile 16 times, the same number as Verizon.

conditions, the Commission recognized that in a two-sided auction there is uncertainty about the per-unit price that may prevail under different clearing scenarios, and it therefore appropriately preserved its flexibility to reduce or eliminate the per-unit closing price in order to “allow the auction to close” under certain scenarios.³¹

Rather than guess at an appropriate per-unit closing price, it would be appropriate to simply adopt the closing condition that Congress established – which is that the auction can close when revenue is sufficient to pay for the reverse auction winning bids, the Commission’s administrative costs, and the repacking reimbursements.³² Alternatively, if the Commission perceives a need to retain a per-unit closing price, it should be set below \$1.25 per MHz pop.

V. STATIONS THAT MUST BE REPACKED INTO THE 600 MHz BAND SHOULD BE REPACKED ONLY INTO *UPLINK* SPECTRUM.

Wherever it is impossible to avoid repacking a broadcaster into a portion of the repurposed spectrum, the Commission should only place the broadcaster in the *uplink* portion of the mobile band plan – not in its downlink, duplex gap, or guard band spectrum.

The Public Notice asks whether broadcast stations that cannot be repacked below the repurposed part of the 600 MHz band should be assigned to frequencies in the uplink, downlink or both portions of the repurposed spectrum.³³ As discussed above, an important objective should be to eliminate the need – except for limited instances in markets along the borders with Canada and Mexico – to insert a broadcaster into *any* portion of the repurposed spectrum. But in the small number of markets where inserting a broadcast station into the 600 MHz band cannot

³¹ See, e.g., *Incentive Auction Order*, ¶ 26 (discussing the “alternative formulation” of the final stage rule).

³² See Verizon Incentive Auction Comments, Docket No. 12-268, at 55-56 (filed Jan 25, 2013) (*citing* Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6403(c)(2), 126 Stat. 156 (2012)).

³³ Public Notice, ¶¶ 34-36.

be avoided, the Commission should place it only in the *uplink* portion, because under that scenario wireless operators can design market-specific base station receiver filters to protect against broadcaster interference. No broadcasters should be inserted into the downlink portion, because it is not possible to use market-specific filtering methodologies in handsets that must be able to roam into all areas. The handsets must conform to the nationwide wireless band plan, and hence there are no filter-based solutions that can eliminate uplink interference into the handsets' receivers. Unlike modifications to base stations, which would only be needed in the fixed geographic area affected by the broadcaster, modifications to handset filters are not possible because *all* 600 MHz handset devices (regardless of which service provider or vendor) must be able to operate anywhere in the United States.

Moreover, there are technical challenges with attempting to insert broadcast stations into the downlink or even near the downlink portion of the bands. First, there is the threat of end user device destruction due to burn-out, where the handset's front end low noise amplifier ("LNA") is exposed to very high power due to close proximity to the DTV transmitter location. Because the handsets can be carried anywhere and because the receiver front end RF filter must be generic to serve the nationwide band plan, this is a real threat. Second, such high power exposure, if it does not destroy the LNA, can cause permanent degradation and damage to the device. Third, there is the threat of operational overload, where the simultaneous reception of the undesired re-inserted broadcast station energy at a high level and the desired wireless uplink channel at a low level at a different channel still causes RF blocking (small signal reception degradation). Again, because the handset's reception filter must be generic for all markets, there is no way to filter out RF generated by the broadcast station.

Similarly, inserting broadcast stations into the guard band or the duplex gap would threaten the handset downlink receiver, and, for the same reasons as above, is not viable. Even in the guard bands, the high power of the broadcast station will overcome the small amounts of attenuation, and destroy, damage, or overload the LNA, depending upon distance from the broadcaster transmitter. As with the downlink portion of the band, there is no viable filtering solution for the handset.

The only viable alternative is to insert the broadcast stations into the uplink band, where the handset transmits to the base station receiver. As with the end user devices, the broadcast stations' high power will threaten the base station receiver, but that concern is mitigated for two reasons. First, because base stations are not mobile, the operator knows what markets they serve and can design and provision market-specific RF filters for those impacted base stations. These RF filters would be designed to filter out the inserted broadcast channels, since the channel plan would be known for the specific market. Second, base station filters can be designed with much sharper filter performance because they are less severely constrained by cost and size than small sized handset filters, which are more limited in performance.

There are also important economic reasons to impair uplink, and not downlink spectrum. Where uplink spectrum is impaired, the corresponding downlink block is substantially less valuable but can still be used for supplemental downlink. By contrast, where downlink spectrum is impaired the corresponding block to be auctioned is uplink – but currently there is little demand for unpaired uplink spectrum. And currently there is no carrier aggregation technique with which to deploy supplemental uplink.

Although the uplink portion of the band plan is the only viable place to insert broadcasters if inserting them is unavoidable, it is not the case that broadcasters can be inserted

anywhere in the uplink portion. First, the DTV stations cannot be too close to 698 MHz boundary (former channel 51) with 700 MHz Lower A Block uplink (Band 12) so as to not interfere with existing Band 12 base station receivers. Because channel 51 must be used as a guard band for Band 12 protection, the highest channel for possible insertion of a broadcast station is channel 50. Second, there must be sufficient transition band for practical BTS filter design, so at least 2-3 MHz (or more) should be left between the inserted broadcast station and the closest preserved mobile channel dedicated to wireless services uplink.

VI. THE ANTI-COLLUSION RULE SHOULD BE MODIFIED FOR THIS UNIQUE AUCTION.

For this unique auction, where applicants will have very limited information about how much spectrum will be available (and encumbered) when they file their applications, it is unfair to apply the anti-collusion rules to them if they decide not to bid. The Commission should thus free applicants from the constraints of this rule if they do not submit an up-front payment.

The Public Notice proposes to determine many of the standard auction design features, e.g., upfront payments, opening bids, bidding units, and activity and stopping rules, in much the same way that it has for recent simultaneous multiple round (SMR) auctions.³⁴ It proposes to use the same anonymous bidding limits on information about specific bidder activity as in AWS-3 and other recent SMR auctions. Bidders will not know who submits a bid, only the clock price for the subsequent round. Verizon supports the use of anonymous bidding.

The Commission should, however, modify its anti-collusion rule for this unique auction in one respect: If an applicant decides not to participate before the start of the first forward auction, it should at that time be freed from the anti-collusion restrictions. In previous auctions, companies knew when they filed their up-front applications exactly which licenses were

³⁴ Public Notice at ¶¶ 138-141, 160 -167, 170-173, 186-188, 195.

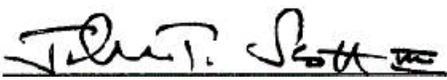
available in every market. This time, however, companies will not have that information. They will not know when they file their up-front applications what the clearing target is, how many licenses in each PEA are available in the forward auction, which are impaired, and to what degree. Moreover, this auction will run far longer than previous ones given that it will combine successive forward and reverse auctions. Forcing an applicant who decides not to bid based on the clearing target that the FCC sets to comply with the anti-collusion rules for what may be a months-long process is unnecessary and, worse, could discourage applications.

CONCLUSION

For the reasons set forth herein, the Commission should adopt simple, transparent procedures for the incentive auction that will maximize participation and avoid discrimination among applicants.

Respectfully submitted,

VERIZON

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