

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

In the Matter of)
)
Expanding the Economic and Innovation) GN Docket No. 12-268
Opportunities of Spectrum Through)
Incentive Auctions)
)

COMMENTS OF MOBILE FUTURE

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Mobile Future provides these comments in response to the Commission’s Notice of Proposed Rulemaking regarding the use of incentive auctions to repurpose broadcast television (“TV”) spectrum and allocate it for wireless use (“*Incentive Auction NPRM*”).¹ Consumer demand for mobile services continues to grow at an exponential pace. Incentive auctions are a critical component of the Commission’s efforts to make much needed spectrum available for mobile broadband services in response to that exploding consumer demand. The Commission should design all aspects of the broadcast incentive auction to encourage participation by broadcasters and wireless operators alike in order to maximize the amount of spectrum repurposed for mobile broadband services – to meet or even exceed the 120 MHz envisioned in the National Broadband Plan² in as many markets as possible – to enable providers to meet

¹ *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Notice of Proposed Rulemaking, 27 FCC Rcd 12357 (2012) (“*Incentive Auction NPRM*”).

² See Federal Communications Commission, *Connecting America: The National Broadband Plan*, at 88 (Mar. 16, 2010) (“National Broadband Plan”). As long as the proceeds from the forward auction satisfy the revenue requirements in Section 6403 of the Middle Class Tax Relief and Job Creation Act of 2012

consumer demand, to spur and sustain innovation and job creation in the United States, and to assist the United States in retaining its leadership role in the global mobile economy.

I. INTRODUCTION AND SUMMARY

Mobile Future and its members have a strong interest in the success of the upcoming incentive auction of broadcast TV spectrum, which will impact the availability of wireless broadband services and continued U.S. economic growth and development. Mobile Future is an association of wireless technology businesses and non-profit organizations dedicated to advocating for an environment in which innovations in wireless technology and services are enabled and encouraged.³ Mobile Future actively has been part of the extended dialogue to introduce additional spectrum resources to the wireless marketplace. As Mobile Future Chairman Jonathan Spalter recently noted, “[r]apidly growing adoption and limited spectrum resources is a losing combination for the 330 million wireless connections used by American consumers ... [w]ith consumers already starting to see the affects from near capacity mobile networks, it is critical that government act swiftly and responsibly to free up more spectrum to help keep pace with exploding consumer demand for wireless connectivity.”⁴ It is critical that the Commission both conducts the incentive auction as soon as possible, and that the

(Pub. L. No. 112-96, § 6403(c)(2), 126 Stat. 156, 227-28 (2012) (“Spectrum Act”), and the repurposing of the spectrum is otherwise consistent with the Spectrum Act’s provisions governing the broadcast incentive auction, there is no reasonable basis for artificially capping the amount of spectrum that is cleared.

³ See, Mobile Future, <http://www.mobilefuture.org/> (last visited Jan. 25, 2013).

⁴ Press Release, *Mobile Future Infographic Puts Spectrum Crunch in Perspective* (Aug. 28, 2012) (quoting Jonathan Spalter, Chairman of Mobile Future), available at http://www.mobilefuture.org/news/archives/mobile_future_infographic_puts_spectrum_crunch_in_perspective.

Commission designs the auction process effectively in order to maximize the number of participants and amount of spectrum to be repurposed.

The mobile innovation ecosystem is a critical growth engine of the U.S. economy that is transforming every aspect of consumers' lives and our nation's prosperity.⁵ The wireless industry is responsible for 3.8 million jobs in the U.S., generating \$195.5 billion in economic activity globally in 2011, and accounting for \$33 billion in productivity improvements in 2011 alone.⁶ Mobile broadband affords Americans new economic opportunities, burgeoning mobile health services, and access to a vast array of new educational resources. Wireless networks, however, will be unable to meet the growing demand for these services without access to more spectrum. The U.S. is rapidly approaching a spectrum deficit that may hinder consumers' enjoyment of the myriad benefits of robust wireless growth. Only a small portion of spectrum resources are allocated to commercial wireless services. American wireless networks are the most congested in the world, operating at 80% of capacity, compared to a global average of just

⁵ Wireless companies have invested roughly \$94 billion in U.S. mobile networks over the past four years. See CTIA – The Wireless Association, Semi-Annual Wireless Survey (Oct. 2012), *preview available at* http://files.ctia.org/pdf/CTIA_Survey_MY_2012_Graphics-final.pdf. Achieving the President's goal of making an additional 500 MHz of spectrum available by 2020 could create 500,000 American jobs and contribute \$400 billion to the nation's gross domestic product. See David W. Sosa and Marc Van Audenrode, The Analysis Group, *Private Sector Investment and Employment Impacts of Reassigning Spectrum to Mobile Broadband in the United States* (Aug. 2011), <http://www.mobilefuture.org/page/-/spectrum-impact-study.pdf>.

⁶ Roger Entner, *The Wireless Industry: The Essential Engine of US Economic Growth*, at 1, 4 (May 2012), available at <http://reconanalytics.com/wp-content/uploads/2012/04/Wireless-The-Ubiquitous-Engine-by-Recon-Analytics-1.pdf>.

65%.⁷ The FCC predicts that demand for wireless connectivity could surpass existing spectrum capacity as early as this year, with massive deficits soon to follow, resulting in unreliable service and higher connectivity costs.⁸

The upcoming broadcast TV incentive auction provides a critical opportunity for the Commission to address the impending spectrum crunch. Both the Administration and the Commission, under the Chairman's leadership, should be commended for securing Congressional support for incentive auctions and bringing this vision to reality. The Commission should use this opportunity to repurpose as much spectrum as possible for the provision of mobile broadband service.

Critical to this goal is ensuring that the reverse auction is designed to encourage wide participation by broadcasters. All aspects of the auction process should be as simple and transparent as possible, and the Commission should continue its outreach and educational efforts so broadcasters have sufficient information to make decisions regarding auction participation. The Commission should also adopt its proposal to provide additional options for broadcasters to participate in the reverse auction, as well as auction design specifics that the record demonstrates will increase participation.

⁷ See Phil Goldstein, *Credit Suisse report: U.S. wireless networks running at 80% of total capacity*, FierceWireless (July 18, 2011), <http://www.fiercewireless.com/story/credit-suisse-report-us-wireless-networks-running-80-total-capacity/2011-07-18>.

⁸ See, e.g., Federal Communications Commission, *Mobile Broadband: The Benefits of Additional Spectrum* 17-18 (Oct. 2010), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-302324A1.pdf; National Broadband Plan at 84.

To help ensure adequate spectrum resources for already strained mobile networks, the Commission should promote participation in the forward auction by rejecting calls to limit eligibility by taking a flexible, light touch approach to regulations governing the use of the spectrum. To achieve these goals, the Commission should prioritize the following five core principles:

1) The auction rules should adopt an open eligibility standard that allows any qualified entity to participate in the forward auction, as required by the Spectrum Act, and reject band-specific limits on spectrum aggregation.

2) The auction rules also should facilitate the aggregation of 600 MHz spectrum resources, subject to application of the spectrum screen, by permitting bidders in the forward auction to place package bids.

3) The Commission also should maximize the amount of spectrum that is licensed for mobile broadband services by ensuring that the 600 MHz guard bands are no larger than reasonably necessary to mitigate harmful interference.

4) Further, the Commission should reject regulatory requirements, such as an interoperability mandate, that could discourage auction participation.

5) Finally, the Commission should take steps to ensure that, following the auction, broadcasters will be relocated within a fixed timeframe as soon as possible after the auction ends, and reimbursed for the costs associated with such relocation promptly and efficiently. The statutory requirement for the Commission to make “all reasonable efforts” to preserve broadcaster service areas in the context of repacking must be balanced with the public interest goal of making additional spectrum available for the provision of mobile broadband services to

consumers, and must not be allowed to delay the relocation process. The Commission should undertake international coordination efforts early in the process to ensure that they do not become a gating item that delays access to repurposed spectrum.

Taken together, the approach urged by Mobile Future is most likely to yield the revenues required by the Spectrum Act and additional revenues for a nationwide public safety broadband network and deficit reduction.

II. THE REVERSE AUCTION DESIGN SHOULD ENCOURAGE BROADCASTER PARTICIPATION TO MAXIMIZE SPECTRUM AVAILABLE FOR BROADBAND

It is vital that the Commission design the reverse auction to maximize broadcaster participation, which in turn will maximize the amount of broadcast TV spectrum available to be repurposed.

In order to promote broadcaster participation and clear as much spectrum as possible, the reverse auction design and procedures must be transparent and as simple as possible. Indeed, there is unanimous agreement among the Commissioners that transparency and simplicity are critical.⁹ The spectrum incentive auction is the first of its kind. While broadcasters may have participated in traditional spectrum auctions before, the procedures, economics, and strategy of a reverse spectrum auction all will be new, naturally creating a certain degree of uncertainty and confusion for possible participants and other stakeholders. It is therefore essential that the Commission adopt rules early in the process that reduce the level of uncertainty and confusion.

⁹ *Incentive Auction NPRM*, 27 FCC Rcd at 12547, 12549 (Statement of Chairman Julius Genachowski); *id.* at 12550-51 (Statement of Commissioner Robert M. McDowell); *id.* at 12552 (Statement of Commissioner Mignon L. Clyburn); *id.* at 12555 (Statement of Commissioner Jessica Rosenworcel); and *id.* at 12560 (Statement of Commissioner Ajit Pai).

For example, the Commission should identify, as early in the process as possible, the procedures it will use to collect bids, accept or reject bids, and calculate the compensation due to winning bidders in the reverse auction. Those procedures should be as straightforward, simple, and as clear as possible, based on the record to be developed in this proceeding.

The reverse auction process also must be as transparent as possible to broadcasters in terms of the prices they will be offered during the auction. The Commission should explain how prices associated with individual stations may differ, and how prices offered will differ for relinquishing a 6 MHz channel, moving to a VHF channel, moving to a lower VHF channel, accepting additional interference (if those last two options are adopted as methods of participating in the reverse auction), as well as other contingencies associated with this process. Broadcasters also should be able to understand how prices will decrease in subsequent bidding rounds if the Commission decides to employ a descending clock auction design.

In order to promote transparency and understanding of the reverse auction design, the Commission should undertake substantial efforts to educate potential reverse auction participants so they have sufficient information to consider participating in the reverse auction. The Chairman stated that the Commission is “committed to outreach and education to all broadcasters, including through our new Broadcaster LEARN Program, which is designed to inform and empower broadcaster decision-makers as they participate in our comment process and consider the business decisions that incentive auctions create.”¹⁰ In connection with those efforts, the Commission should commit sufficient staff resources and time in order to continue to

¹⁰ *Id.* at 12548 (Statement of Chairman Julius Genachowski).

facilitate direct outreach, hold workshops and roundtables, convene town hall meetings and engage in other outreach efforts during state broadcaster conventions and the like, to convey salient information to potential participants and, similar to its efforts in connection with the digital television transition, could establish a call center and engage in visits around the country, to provide resources to respond to broadcaster inquiries about the auction.

In addition, the Commission should adopt its proposal to provide additional ways by which broadcasters may participate in the auction if the record demonstrates that those additional measures will increase broadcaster participation. The Spectrum Act envisions three ways in which broadcasters may relinquish spectrum rights in the reverse auction – by relinquishing a 6 MHz channel and going off the air, by agreeing to share a 6 MHz channel with another broadcaster, or by agreeing to move from a UHF channel to a VHF channel. The Commission has proposed to also allow broadcasters to participate in the auction by agreeing to move from a high VHF channel to a low VHF channel, or to accept additional interference.¹¹ Those additional options may entice even more broadcasters who want to remain on the air with a full 6 MHz channel to participate in the reverse auction, providing the FCC with much needed additional flexibility in repacking and allowing the FCC to repack broadcasters more efficiently. These measures therefore may help add to the amount of spectrum that may be repurposed for mobile broadband.

¹¹ *Id.* at 12385-86 ¶¶ 86-87.

The Commission has long recognized that there is “no single competitive bidding design that is optimal for all auctionable services.”¹² The Commission should adopt the reverse auction design that, based upon the record developed in this proceeding, best promotes the policy objective underlying the incentive auction – namely, clearing the maximum amount of broadcast TV spectrum for mobile broadband service “in order to unleash investment and innovation, benefit consumers, drive economic growth, and enhance our global competitiveness...”¹³ The more spectrum cleared, the greater the opportunity will be for wireless innovators and service providers to offer the mobile broadband services, applications and products that consumers demand. This goal can be met only if the Commission adopts an auction design that promotes the fullest broadcaster participation possible in the reverse auction.

Should the record developed in this proceeding reflect that a descending clock auction design would best encourage and facilitate broadcaster participation, Mobile Future would encourage the Commission to adopt that approach. A descending clock auction design appears to simplify the auction process for broadcasters and potentially lower the costs associated with their participation in the auction. In contrast to a sealed-bid approach, the descending clock auction would require the Commission, as opposed to the broadcaster, to calculate an offer price associated with each station, and with respect to each option provided (*e.g.*, relinquishing a 6 MHz channel versus moving to a VHF channel). It also appears to reduce the risk of the associated with a one-time sealed-bid auction that a broadcaster’s bid is not accepted. However,

¹² *Implementation of Section 309(j) of the Communications Act - Competitive Bidding*, Second Report and Order, 9 FCC Rcd 2348, 2360 (1994).

¹³ *Incentive Auction NPRM*, 27 FCC Rcd at 12361-62 ¶ 10.

the process of recalculating the repacking scenarios at each tic of the clock is extremely complex, and much work is needed to ensure that the repacking and bid assignment mechanisms are run accurately in real time. If the record confirms that this can be accomplished, and that the descending clock auction will simplify the process for broadcasters and encourage participation, the Commission should employ a descending clock auction design for the reverse auction.

III. THE COMMISSION SHOULD ENCOURAGE PARTICIPATION IN THE FORWARD AUCTION TO GET SPECTRUM INTO THE HANDS OF CARRIERS THAT WILL PUT IT TO USE FOR CONSUMERS

In light of the revenue requirements associated with the broadcast TV incentive auction, the success of the auction will be heavily dependent on broad participation in the forward auction. The Commission can help ensure that the forward auction generates sufficient proceeds by taking necessary steps to facilitate and promote participation. Specifically, the Commission should adopt open eligibility provisions, reject arbitrary limits on 600 MHz-specific spectrum holdings, permit aggregation of spectrum through package bidding, and continue to take a common-sense and practical approach to regulations governing the use of the spectrum.

A. The Commission Should Adopt Open Eligibility, and Reject Limits on 600 MHz-Specific Spectrum Holdings to Ensure the Widest Range of Bidders

To ensure the auction process has the best chance to succeed, and most effectively serve the interests of America's wireless consumers, the Commission should adopt its proposal to apply an open eligibility standard to the auction of the 600 MHz band spectrum. As noted in the *Incentive Auction NPRM*, "opening the 600 MHz band to as wide a range of licensees as possible will encourage efforts to develop new technologies, products and services, while helping ensure

efficient use of this spectrum.”¹⁴ In addition, an open eligibility standard is consistent with the Spectrum Act, which prohibits the Commission from excluding from the forward auction any entity who complies with Commission procedures and other requirements that are established to protect the auction process, and is otherwise qualified to hold FCC licenses.¹⁵

Similarly, the Commission should reject any proposals to specifically limit 600 MHz holdings.¹⁶ Instead, the Commission should apply its spectrum screen to proposed 600 MHz spectrum holdings. As Mobile Future recently explained in response to the *Mobile Spectrum Holdings NPRM*,¹⁷ the Commission should continue to use a spectrum screen, but update it to reflect *all* spectrum that is suitable and available for mobile telephony and broadband services, and to be predictable, transparent and flexible.¹⁸ The screen should act as an absolute safe harbor when proposed spectrum holdings fall below a specified threshold, with overages subject to case-specific assessment. Such an approach would provide service providers the needed level of certainty to participate in the auction in order to acquire much needed spectrum to serve the rapidly growing service needs of their customers.

In contrast, imposing a hard cap on 600 MHz band spectrum, or adopting additional conditions that would be automatically triggered if a licensee acquires 600 MHz spectrum over a particular threshold, would undermine the benefits of an open eligibility standard, and could put

¹⁴ *Id.* at 12483 ¶ 381.

¹⁵ See Spectrum Act § 6404, 126 Stat. at 230.

¹⁶ See *Incentive Auction NPRM*, 27 FCC Rcd at 12484 ¶ 384.

¹⁷ *Policies Regarding Mobile Spectrum Holdings*, Notice of Proposed Rulemaking, 27 FCC Rcd 11710 (2012) (“*Mobile Spectrum Holdings NPRM*”).

¹⁸ See Comments of Mobile Future, WT Docket No. 12-269 (Nov. 28, 2012).

at risk the success of the auction process itself. Such limits would negate the ability of operators to acquire spectrum that is desperately needed to meet consumer demand for mobile broadband services. It is well documented in the *Mobile Spectrum Holdings* proceeding that “rigid spectrum caps will deter efficient competitors from expanding, thereby reducing the competitive pressures that other market participants face ... [and] artificially increase costs and decrease investment returns, thus stifling welfare-enhancing investment and innovation.”¹⁹ Indeed, imposing an inflexible hard cap in the dynamic wireless marketplace could arbitrarily prohibit pro-competitive spectrum acquisitions and introduce greater inefficiencies into the market.²⁰ In this case, limiting participation in the forward auction likely would reduce the amount of proceeds, which may limit the Commission’s ability to achieve its “closing conditions.”

B. The Commission Should Allow Package Bidding to Provide Flexibility to Auction Bidders and Promote Participation

The Commission can further encourage participation in the forward auction by allowing bidders to use package bidding procedures to submit single, all-or-nothing bids for a group of licenses in a particular geographic area and/or the same block in multiple geographic areas.²¹ As the Commission has long acknowledged, package bidding allows auction participants “to better express the value of any synergies (benefits from combining complementary items) that may

¹⁹ Mark A. Israel and Michael L. Katz, *Economic Analysis of Public Policy Regarding Mobile Spectrum Holdings*, at 7 (Nov. 28, 2012), attached to Comments of AT&T Inc., WT Docket No. 12-269 (Nov. 28, 2012).

²⁰ See Declaration of Allan L. Shampine, Compass Lexecon, at 20-21 (Nov. 26, 2012), attached to Comments of Verizon Wireless, WT Docket No. 12-269 (Nov. 28, 2012).

²¹ See *Incentive Auction NPRM*, 27 FCC Rcd at 12378 ¶ 62.

exist among licenses and to avoid the risk of winning only part of a desired set.”²² Moreover, package bidding is “important to bidders who anticipate significant economies of scale and scope in deploying new infrastructure, or who expect customer demand to depend on total network coverage.”²³ For those bidders whose business plans are predicated on realizing economies of scale associated with winning a certain group of licenses at auction, package bidding helps address the “exposure problem” associated with the risk of winning less than the number of licenses needed to support the aggregate bid.²⁴ The Commission’s own economists have found that package bidding is advantageous in terms of addressing this risk, as well as in terms of efficiency and revenue.²⁵

Enabling bidders to submit package bids that take advantage of economies of scale and other efficiencies will promote participation in, and enhance revenues generated by, the forward auction. While package bidding can add some complexity to a spectrum auction, the Commission has extensive experience in designing auction procedures to reduce that complexity,

²² *High-Cost Universal Service Support*, Notice of Proposed Rulemaking, 23 FCC Rcd 1495, 1510 (2008).

²³ *Id.*

²⁴ See *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Second Report and Order, 22 FCC Rcd 15289, 15396 (2007) (“700 MHz Second Report and Order”); see also Peter Cramton, *Why Large Licenses are Best for the 700 MHz Spectrum Auction*, at 9 (Apr. 17, 2007), attached to Letter from Charla M. Rath, Exec. Dir. – Spectrum and Pub. Pol’y, Verizon Wireless, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 06-150 (Apr. 17, 2007) (noting the efficiencies in aggregating certain licenses together).

²⁵ See, e.g., Jacob K. Goeree, Charles A. Holt, and John O. Ledyard, *An Experimental Comparison of Flexible and Tiered Package Bidding* (May 25, 2007), available at http://wireless.fcc.gov/auctions/data/papersAndStudies/fcc_report_052507_final.pdf; Jacob K. Goeree, Charles A. Holt, and John O. Ledyard, *An Experimental Comparison of the FCC’s Combinatorial and Non-Combinatorial Simultaneous Multiple Round Auctions* (July 12, 2006), available at http://wireless.fcc.gov/auctions/data/papersAndStudies/fcc_final_report_071206.pdf.

and has previously successfully conducted auctions employing package bidding.²⁶ The Commission concluded that the availability of package bidding in the Upper 700 MHz auction would minimize the exposure problem and facilitate entry of parties whose business plans are premised on economies of scale without imposing disadvantages on parties that wish to bid on individual licenses.²⁷ That same conclusion should apply to the forward auction.

C. The FCC Should Reject an Interoperability Mandate that Could Depress Spectrum Value

The Commission should not impose an interoperability mandate in the 600 MHz band.²⁸ An interoperability mandate would undermine the technical standards-setting process for equipment and devices, substituting its own regulatory judgment for the painstakingly achieved broad technical consensus in the standards process. The standards-setting process is a well-established, transparent process that involves the close collaboration of all interested industry participants representing equipment manufacturers and carriers alike. It also complements and promotes the Commission's efforts to move toward a flexible use licensing regime by providing manufacturers and operators more flexibility to innovate and design new devices and services for consumers. The standards-setting process, which is a significant undertaking, takes into consideration a wide range of engineering, design and technical matters that are unique to each spectrum band, and decisions are made based on a balancing of those factors. An interoperability mandate across the 600 MHz band, without room for consideration of those

²⁶ For example, package bidding has been used successfully by bidders in Auction No. 51 (Narrowband PCS) and Auction No. 73 (Upper 700 MHz C Block).

²⁷ *700 MHz Second Report and Order*, 22 FCC Rcd at 15397.

²⁸ *See Incentive Auction NPRM*, 27 FCC Rcd at 12415 ¶ 162.

factors, would hamper the standards-setting process. This could impact use of this spectrum and impose significant additional development and operational costs on the industry, further deterring innovation and investment in, and delaying deployment of, the 600 MHz band – all to the detriment of consumers. The standards-setting process has functioned successfully for the entire history of the domestic wireless industry, and there is no basis for upsetting that process for the 600 MHz band.²⁹

In addition, it is not necessary to require interoperability. Since the proposed band plan for 600 MHz spectrum would not place mobile operations adjacent to broadcast operations, the issues that have hindered interoperability from a technical perspective in the 700 MHz band should not be present here.

Finally, an interoperability mandate could reduce auction proceeds. A rule requiring interoperability could act as a disincentive to potential bidders, which may reduce auction revenue and the amount of spectrum ultimately cleared in the incentive auction process. The record shows that imposing additional regulatory mandates on auctioned spectrum can significantly diminish bidding on that spectrum.³⁰ The Commission should ensure that such a

²⁹ Even if one argues that the standards-setting process did not work to the benefit of all operators in the 700 MHz band, that situation is unlikely to be repeated, since the Commission's proposed and alternative band plans for the 600 MHz band all include either guard bands, or other operations, that would separate TV broadcast operations from those in the 600 MHz band.

³⁰ For example, the upper 700 MHz band D Block failed to receive a minimally qualifying bid in Auction 73 due to the additional obligations associated with the public-private partnership, including the construction of a public safety network. In the same auction, open access requirements resulted in the lowest winning bids for the upper 700 MHz band C Block (on a MHz/POP basis) of the spectrum included in that auction. See Coleman Bazelon, *Too many goals: Problems with the 700 MHz auction*, 21 INFO ECON. & POL'Y, no. 2, June 2009, at 115-127.

result does not occur in the forward auction given the high stakes for the country – and for consumers – of a successful auction.

D. Guard Bands Should Only be as Large as Necessary to Prevent Interference

The Commission can further promote participation in the forward auction by ensuring that the 600 MHz band plan complies with the Spectrum Act by including guard bands that are “no larger than is technically reasonable to prevent harmful interference between licensed services.”³¹ Unlicensed spectrum serves a useful purpose – particularly in certain spectrum bands such as 900 MHz, 2.4 GHz, and 5 GHz. However, the 600 MHz band is prime spectrum for the provision of mobile broadband services, so the guard bands should be limited in size to what is necessary to mitigate harmful interference between dissimilar adjacent high power operations, rather than attempting to maximize unlicensed spectrum use. Moreover, an increase in the size of the 600 MHz guard bands could undercut the goal of the auction by reducing the amount of spectrum available for commercial wireless services, and may reduce the proceeds generated by the forward auction.

IV. THE REPACKING PROCESS SHOULD REFLECT THE OVERALL GOAL OF FREEING SPECTRUM RESOURCES

A. The Commission Must Take into Consideration that it May Not be Feasible or Reasonable to Maintain Broadcasters’ Exact Coverage Area

The Commission’s repacking rules must be consistent with the Spectrum Act and the public interest. The rules should reflect a thoughtful balance of the potential incremental loss of a small number of viewers of some broadcast TV stations with the public interest benefits

³¹ See Spectrum Act § 6407(b), 126 Stat. at 231; see also *Incentive Auction NPRM*, 27 FCC Rcd at 12412 ¶ 152.

associated with the provision of new and expanded mobile broadband services to large populations of underserved consumers. For the benefit of the more than 300 million U.S. wireless subscriptions, and the nation's economy in general, the Commission should not allow isolated, small instances of coverage loss to delay or undermine the repacking process.

The Commission is not required to achieve the same coverage “replication” or “maximization” for which the Commission strove in the digital television (“DTV”) transition. The Spectrum Act requires the Commission to take “reasonable efforts” to preserve the coverage area and population served of broadcast stations that are repacked.³² The *Incentive Auction NPRM* indicates that the Commission does not foresee changes to broadcaster coverage areas exceeding two percent in most cases, which was the standard employed by the Commission in the context of the DTV transition.³³ However, in contrast to the DTV transition, where the Commission aimed to have broadcaster service areas replicated, the Spectrum Act requires only “reasonable efforts” to preserve service areas. Thus, the Commission should be open to going beyond two percent coverage loss when ensuring that its repacking rules are consistent with the Spectrum Act.

The Commission's repacking rules also should recognize that circumstances vary from market-to-market. Thus, what may be reasonably achievable in one market may differ from what is reasonable in another market. In addition, as suggested in the *Incentive Auction NPRM*, it may be reasonable to permit more substantial changes to broadcasters' coverage areas in

³² Spectrum Act § 6403(b)(2), 126 Stat. at 226.

³³ See *Incentive Auction NPRM*, 27 FCC Rcd at 12391¶ 101.

markets where multichannel video programming distributors (“MVPDs”) have a high penetration rate because the change in coverage will impact fewer consumers.³⁴

As the Commission considers repacking rules, it must not allow those instances where it cannot, after reasonable efforts, maintain a broadcaster’s coverage area within a certain metric to undermine the primary goal of the Spectrum Act to free-up additional spectrum for the provision of mobile broadband services to consumers. Signal propagation characteristics can vary from channel to channel, and it may be difficult, if not impossible, in some cases to construct new transmitting antenna to match, or approximate within a certain percentage, the antenna pattern of a broadcaster’s prior system.³⁵ The amount of spectrum freed for the provision of mobile broadband services would be reduced if the Commission attempts to maintain each and every broadcaster’s coverage within a uniform percentage margin of error in all areas, which would have a significant impact on the overall cost of clearing the broadcast TV spectrum. The Commission’s repacking rules must be flexible enough to address those circumstances without allowing them to slow or undercut the relocation process.

The Commission also should hasten to complete international coordination efforts with the governments of Canada and Mexico in order to avoid delay in relocating broadcasters after the auction. International coordination efforts will be critical in understanding the flexibility the Commission will have to repack broadcasters near international borders. It is therefore important that the Commission engage in the coordination process now and have a clear understanding of

³⁴ For example, the *Incentive Auction NPRM* suggests a 70% MVPD penetration rate. *See id.* at 12396 ¶ 110.

³⁵ *See id.* at 12391 ¶¶ 100-02.

the potential for repacking in those areas before the auction in order to effectuate relocations promptly following the auction.

B. The Commission Should Expedite the Spectrum Clearing Process

Once the reverse and forward auctions are complete, the spectrum licensed for mobile broadband services should be promptly cleared and accessible to operators so they can expand or enhance the mobile services being provided to consumers. The lack of sufficient spectrum for mobile broadband services already is having a profound consumer impact in key markets across the country.³⁶ As explained in a Mobile Future report by Rysavy Research, lack of access to sufficient spectrum resources can further:

...diminish[] the value and appeal of mobile connectivity. Ultimately, congestion will have a significantly negative effect on the wireless market. Consumers will use the service less. Minorities and lower income groups that increasingly rely on wireless to access the Internet will be particularly affected by approaches that could limit demand including usage caps, higher pricing and other tools that place a heavy emphasis on data offload, which requires an underlying wireline broadband subscription. This will be especially true in urban areas where there are a higher percentage of minorities and people living below the poverty level than the national average. Lower usage also will detract from the investment case across the wireless sector, curbing the growth potential of application developers, mobile device vendors, service providers and operators.³⁷

³⁶ See, e.g., *id.* at 12547 (Statement of Chairman Julius Genachowski) (“The spectrum crunch is a major headache for consumers, who have to deal with dropped connections or spinning pinwheels when they’re checking the web on the go.”).

³⁷ Rysavy Research, *The Spectrum Imperative: Mobile Broadband Spectrum and its Impacts for U.S. Consumers and the Economy, An Engineering Analysis*, at 20-21 (Mar. 16, 2011), available at <http://www.mobilefuture.org/page/-/rysavy-spectrum-effects-301611.pdf>.

That impact will only intensify the longer it takes to repurpose 600 MHz spectrum to mobile broadband use, putting at risk the economic, public safety, health care and educational benefits flowing from mobile broadband services.

The Commission should establish a fixed deadline for broadcasters to rapidly receive money and clear the reallocated spectrum as soon as possible following the close of the auction to help expedite the spectrum clearing process.³⁸ Specifically, broadcasters should be required to vacate the mobile broadband spectrum by the deadline regardless of whether they are ceasing transmissions, implementing channel sharing arrangements, relocating to the VHF band, or relocating through the repacking process. Setting such a deadline would provide the wireless industry with much needed certainty regarding the availability of the spectrum. This will help the industry timely establish equipment standards for the 600 MHz band, manufacturers to design and produce equipment, and wireless operators to formulate and implement business plans for new or expanded mobile broadband services for consumers.

Regardless of the specific deadline, the Commission should strongly encourage broadcasters to clear the spectrum as quickly as possible. For example, the incentive auction rules should provide that broadcasters may be reimbursed through the Broadcaster Relocation Fund immediately after the conclusion of the auction in order to accelerate the repacking process.³⁹ The Commission also should consider whether there are any other ways or resources that might facilitate broadcasters' quick transition.

³⁸ *Incentive Auction NPRM*, 27 FCC Rcd at 12464-65 ¶ 322.

³⁹ *See id.* at 12465 ¶ 323.

V. CONCLUSION

To help achieve the bold and critically important goals for America's broadband future set forth by President Obama, as elaborated in the Commission's own National Broadband Plan, Mobile Future urges the Commission to design the reverse and forward auctions to encourage maximum participation by broadcasters and wireless service providers, and to ensure that as much 600 MHz spectrum is made available for mobile broadband services as promptly as possible so that wireless users are able to access the services they demand and increasingly rely on.

Respectfully submitted,

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