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

In the Matter of Policies Regarding Mobile Spectrum Holdings	WT Docket No. 12-269

***Ex Parte* Submission of the United States Department of Justice**

Executive Summary

In this filing, the Department of Justice's Antitrust Division reviews the importance of spectrum to competition and innovation in the wireless industry. The Department believes that a set of well-defined, competition-focused rules for spectrum acquisitions, particularly in auctions, would best serve the dual goals of putting spectrum to use quickly and promoting consumer welfare in wireless markets. The Department notes that bands of spectrum have different characteristics that may affect the competitive landscape. In particular, for instance, the propagation characteristics of lower frequency spectrum permit better coverage in both rural areas and building interiors. A carrier's position in low-frequency spectrum may determine its ability to compete in offering a broad service area, including its ability to provide coverage efficiently in rural areas. Therefore, the Department concludes that rules that ensure the smaller nationwide networks, which currently lack substantial low-frequency spectrum, have an opportunity to acquire such spectrum could improve the competitive dynamic among nationwide carriers and benefit consumers.

I. Introduction

The United States Department of Justice ("Department") provides this filing in response to a Federal Communications Commission ("FCC" or "Commission") Notice of Proposed Rulemaking ("Notice"), published in the *Federal Register* on October 9, 2012.[1] The Notice requests comments to assist the FCC in a comprehensive review of its policies governing mobile spectrum holdings. The last comprehensive review was in 2003. The FCC seeks to ensure that its rules provide "greater certainty, transparency and predictability to make investment and transactional decisions, while also promoting the competition needed" for continued innovation.[2]

The Department of Justice's Antitrust Division, as a federal agency responsible for enforcing the antitrust laws and promoting competition, has significant expertise in telecommunications issues and has participated in prior Commission proceedings that addressed the role of competition in telecommunications.

Over the last thirty years, the Department has helped to facilitate the transformation of the telecommunications industry, either directly in its role as an agency that enforces the antitrust laws or indirectly in its role as competition policy advocate and statutory respondent in cases involving appeals of Commission orders under the Hobbs Act.[3] Thus, from the critical decisions involved in resolution of the AT&T antitrust litigation and the implementation of that consent decree, to the decisions related to the design of the wireless telecommunications marketplace and the implementation of the Telecommunications Act of 1996, the Department has ensured that the preservation of competition in the

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[1] Policies Regarding Mobile Spectrum Holdings, 77 Fed. Reg. 61,330 (proposed Oct. 9, 2012) (to be codified at 47 C.F.R. pt. 20), *available at* www.gpo.gov/fdsys/pkg/FR-2012-10-09/pdf/2012-24790.pdf ("Notice").
[2] *Id.* at 61,334.
[3] Hobbs Anti-Racketeering Act, 18 U.S.C. § 1951.

telecommunications industry has been a key priority.[4] Similarly, with respect to its merger review authority, the Department has evaluated a series of transactions that have reshaped the telecommunications marketplace, including investigations of the evolving roles of broadband Internet access and wireless services.[5]

Most recently, in 2011, after close coordination with the FCC, the Department filed a lawsuit to block a transaction that would have combined two of the only four wireless carriers with nationwide networks, AT&T Inc. and T-Mobile USA, Inc., ultimately leading the parties to abandon the merger.[6]

In 2012, the Department and the Commission reviewed a transaction in which Verizon, the largest wireless carrier in the nation, entered marketing agreements with and acquired spectrum from four of the nation's largest cable companies. The Department obtained limitations on the scope and duration of Verizon's agreements with the cable companies to prevent competitive harm and approved the acquisition of spectrum after

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[4] *See, e.g., United States v. American Telephone & Telegraph Co.*, 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom. Maryland v. United States*, 460 U.S. 1001 (1983) (Modification of Final Judgment requiring Bell System break-up); Reply Comments of the United States Department of Justice, *In re Amendment of the Commission's Rules To Establish New Personal Communications Services*, FCC Gen. Docket No. 90-314, E.T. Docket No. 92-100 (Jan. 19, 1993) (addressing competition between cellular and PCS providers and allocation of PCS spectrum to promote competition); Evaluation of the U.S. Department of Justice, *In re Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc., d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Texas*, FCC CC Docket No. 00-4 (Feb. 14, 2000) (regarding Regional Bell Operating Company entry into long distance services under Section 271 of the Telecommunications Act). More recently, the Department participated in the Commission's initial "net neutrality" proceeding. *Ex Parte* Filing of the United States Department of Justice, *In re Broadband Industry Practices*, FCC WC Docket 07-52 (Sept. 6, 2007).

[5] See case filings involving *United States, et al. v. Cingular Wireless Corp., SBC Commc'n Inc., BellSouth Corp., and AT&T Wireless Serv's, Inc., available at* www.justice.gov/atr/cases/cingular.htm; *United States, et al. v. Verizon Commc'n Inc. and Alltel Corp., available at* www.justice.gov/atr/cases/verizon3.htm; *United States v. AT&T Inc. and Dobson Commc'n Corp., available at* www.justice.gov/atr/cases/dobson.htm; *United States et al. v. AT&T Inc. and Centennial Commc'n Corp., available at* www.justice.gov/atr/cases/attcentennial.htm.

[6] *See* Press Release, U.S. Dep't of Justice, Justice Department Issues Statements Regarding AT&T Inc.'s Abandonment of Its Proposed Acquisition of T-Mobile USA Inc. (Dec. 19, 2011), *available at* www.justice.gov/atr/public/press_releases/2011/278406.pdf.

Verizon agreed to sell a significant portion of that spectrum to T-Mobile.[7] In these cases and numerous other matters, the Department coordinated closely with the FCC.

In its Notice, the Commission sets forth a series of important questions. The Notice seeks comments on the Commission's current approach to product market definition in light of changes to technology and consumer demand, its approach to geographic market definition, and the most appropriate means for considering both local and national competitive effects. In addition, the Notice requests comments on how the Commission should approach differing characteristics of spectrum bands and how best to evaluate the spectrum holdings of each licensee.

The Commission also seeks comments on the costs and benefits of a case-by-case analysis of mobile spectrum aggregation to consumers and competition, and it requests comments on how those costs and benefits might differ when applying case-by-case analysis specifically to spectrum auctions. Furthermore, the Commission asks for comments on the application of bright-line limits to initial licenses acquired through competitive bidding.

The Department and the FCC, utilizing their respective expertise and statutory authority, work in complement to foster innovation and efficiency in our nation's telecommunications industry, to the benefit of consumers. For instance, the Commission possesses technical expertise in technology and spectrum, and the Department has broad expertise in analyzing how markets are structured and the dynamics of how they function. Under the federal antitrust laws, the Department's responsibilities include enforcing laws that prohibit transactions or conduct that substantially lessen competition or tend to create

[7] *See* Press Release, U.S. Dep't of Justice, Justice Department Requires Changes to Verizon-Cable Company Transactions to Protect Consumers, Allows Procompetitive Spectrum Acquisitions to Go Forward (Aug. 16, 2012), *available at* www.justice.gov/atr/public/press_releases/2012/286098.pdf.

a monopoly.[8] At the same time, the Commission has a statutory framework vital for managing the Nation's scarce spectrum resources across a variety of essential public and private uses, making it possible for the Commission to more broadly serve the "public interest, convenience, and necessity" in promoting a better competitive environment in wireless markets.[9] As a result, the Department's ability to benefit from the Commission's expertise greatly enhances its review of transactions and conduct in the telecommunications industry, while the Department provides market analysis that assists the Commission in crafting policies that promote competition under its statutory framework.

The Department, the Commission, or both can further the goals of competition in a variety of ways, including: (a) merger enforcement; (b) prohibitions or prosecutions of business practices that thwart innovation; (c) distribution or allocation of public assets (such as spectrum); and (d) other public policies that affirmatively lower entry barriers facing new entrants and new technologies. In this filing, the Department discusses the importance of spectrum to competition and innovation in the wireless industry and the factors the Department considers to be important in assessing the competitive effects of transactions in wireless markets.

II. The Importance of Competition in Wireless Markets

Competition has been a major force in driving innovation in telecommunications, bringing consumers a wider range of choices of products and services and better prices.

[8] 15 U.S.C. § 1 *et seq.*
[9] 47 U.S.C. § 310(d).

Since the breakup of the Bell System in 1984[10] and passage of the Telecommunications Act of 1996,[11] the telecommunications industry has experienced significant technological, economic, and regulatory changes. Technological development has made it possible for providers of traditional telephone and video services to enter each others' markets while also bringing widespread access to mobile wireless data and broadband Internet services. At the same time, since the passage of the 1996 Act, federal laws and government policy increasingly have favored the provision of telecommunications services on a competitive basis. The Department's work with the Commission in support of this development is founded on the belief that competition generally represents the best method of ensuring that consumers receive low-priced, high-quality products and services, greater choice among providers, and important innovation.

Rivalry among competitors provides strong pressures to maintain existing demand and to win over new customers in a number of ways, such as seeking out means for lowering costs or for developing new or better products and services, through new technology, new business methods, or other sources of efficiency. Indeed, competitive forces have been a central driver of innovations that have enabled carriers to expand capacity and improve service quality. For instance, when challenging the proposed merger of AT&T and T-Mobile, the Department noted that AT&T felt competitive pressure from T-Mobile's network improvements, and that AT&T upgraded its own services in response.[12] In the year since the proposed AT&T and T-Mobile transaction was

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[10] *United States v. American Telephone & Telegraph Co.*, 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom. Maryland v. United States*, 460 U.S. 1001 (1983).

[11] Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996), *codified at* 47 U.S.C. § 151 *et seq.*

[12] Complaint at 13-14, *United States et al. v. AT&T Inc., T-Mobile USA, Inc. and Deutsche Telekom AG* (D.D.C. filed Sep. 30, 2011) (No. 11-1560).

abandoned, T-Mobile has continued to develop new plan structures designed to win customers from AT&T, including by offering customers the choice of service plans that do not build in the cost of expensive handset subsidies.[13] In addition, T-Mobile and other carriers have aggressively pursued strategies for addressing their network constraints, such as reclaiming spectrum currently being used for older technologies, utilizing new "small cell" technology, or creating business models for commercializing new spectrum.[14]

Preserving rivalry and limiting or eliminating market power enables competitive forces to work to benefit consumers. The ability to exercise market power can take various forms and harm competition in multiple ways. Market power can lead directly to consumers paying higher prices, can insulate a carrier from the competitive pressures to expand service or improve quality, and can diminish innovation. Moreover, the fewer competitors in a market, the higher the risk that competitors can coordinate or act in concert to the detriment of consumers and innovation.

In its recent merger reviews the Department has found that the four largest wireless carriers (AT&T, Verizon, Sprint, and T-Mobile) compete across many dimensions,

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[13] *See, e.g.*, Salvador Rodriguez, *T-Mobile to ditch phone subsidies, go after AT&T in 2013*, LOS ANGELES TIMES (Dec. 7, 2012), *available at* www.latimes.com/business/technology/la-fi-tn-t-mobile-iphone-subsidize-att-20121206,0,2610892.story (describing T-Mobile's strategy to "aggressively target AT&T" with plans that "offer customers lower rates for their cellular services by disassociating it with the price of a subsidized phone").

[14] *See, e.g.*, Greg Bensinger, *T-Mobile to Pump $4 Billion Into Network, 4G LTE Buildout,* WALL ST. J. (Feb. 24, 2012) (describing T-Mobile's plans to re-deploy some of its spectrum currently dedicated to 2G services in order to launch LTE); Marguerite Reardon, *AT&T execs are confident about spectrum position*, CNET (Nov. 7, 2012), news.cnet.com/8301-1035_3-57546288-94/at-t-execs-are-confident-about-spectrum-position (describing AT&T's efforts to "chart a new path," including AT&T's plan to deploy LTE to cover 300 million Americans, and quoting an AT&T executive saying "AT&T is well-positioned now"); Marguerite Reardon, *4G spectrum spat settled: Sirius and AT&T can coexist after all*, CNET (Oct. 17, 2012), news.cnet.com/8301-13578_3-57534378-38/4g-spectrum-spat-settled-sirius-and-at-t-can-coexist-after-all (describing an agreement between AT&T and Sirius paving the way for WCS spectrum to be used for wireless services); David Goldman, *AT&T's about-face on 4G*, CNN MONEY (Nov. 7, 2012), money.cnn.com/2012/11/07/technology/mobile/att-4g/index.html (noting that AT&T was able to "charter[] a new path" after the merger in part using the WCS spectrum).

including coverage, network speed, network technologies, and price.[15] Moreover, the different arrays of choices offered by each of these carriers are important to consumers, creating an environment in which carriers are forced to compete and reposition themselves to improve and differentiate their offerings. Even though the carriers engage in this competition, the marketplace is not uniformly competitive. Carriers do have the ability and, in some cases, the incentive to exercise at least some degree of market power, particularly given that there is already significant nationwide concentration in the wireless industry. Therefore, the Department believes it is essential to maintain vigilance against any lessening of the intensity of competitive forces.

The Department also believes that spectrum policies that promote competition and enhance the potential for entry and expansion in the wireless market play a vital role in protecting, and indeed enhancing, the competitive dynamic to the benefit of American consumers. We therefore welcome the opportunity to provide our views on the relationship between the work of the Commission as it designs its auction and other spectrum-related rules and the preservation of the competitive forces that are a critical engine for innovation in the wireless market.

III. The Importance of Spectrum to Competition and Innovation

The Department of Justice's principal concern is that acquisitions of spectrum, whether at auction or through subsequent transactions, should not be used to create or enhance market power. For its part, the Department is charged with preventing transactions that are harmful to consumers and competition, including transactions

[15] In some local areas, smaller carriers may also offer alternatives that consumers value; for instance, in some rural areas, a local carrier operating with low-frequency spectrum may offer particularly strong coverage.

involving the acquisition of spectrum. It is equally important, however, that spectrum auctions set the stage for the wireless industry to innovate and for consumers to fully realize the benefits of competition.

A. Spectrum Is a Key Input for Mobile Wireless Services

Our nation's ability to improve the competitive environment in wireless markets hinges on the availability of spectrum. In recent years, mobile wireless markets have undergone tremendous change. Mobile wireless telecommunications devices have evolved into a profusion of smartphones, feature phones, tablets, data cards, e-readers, and other devices, feeding into consumer demand for faster, more reliable mobile broadband connections that drive further innovation. These changes in technology and demand have made spectrum a critically scarce resource. Consequently, the Department strongly supports the Commission in taking on this comprehensive review of its mobile spectrum holdings policies as it also moves to reallocate a considerable array of spectrum and make it available for mobile wireless services.

For each wireless carrier—whether an incumbent national provider, a small carrier looking to expand into new markets or services, or a new entrant—spectrum in part determines the carrier's capacity. Therefore, carriers will need to acquire additional spectrum and make more efficient use of spectrum if they are to respond to growing consumer demand for a wide array of wireless services and devices.[16]

B. Spectrum Acquisitions Should Lead to Efficient Use of Spectrum

The goal in assigning licenses to spectrum reallocated for commercial services

[16] *See* Notice at 8 (citing the Council of Economic Advisers' finding that "the spectrum currently allocated to wireless is not sufficient to handle the projected growth in demand, even with technological improvements allowing for more efficient use of existing spectrum and significant investment in new facilities." Council of Economic Advisers, The Economic Benefits of New Spectrum for Wireless Broadband, at 5 (Feb. 2012)).

should be to ensure that it generates the greatest ultimate benefit to the consumers of those services. However, due to the scarcity of spectrum, the Department is concerned that carriers may have incentives to acquire spectrum for purposes other than efficiently expanding their own capacity or services.[17] Namely, the more concentrated a wireless market is, the more likely a carrier will find it profitable to acquire spectrum with the aim of raising competitors' costs. This could take the shape, for example, of pursuing spectrum in order to prevent its use by a competitor, independent of how efficiently the carrier uses the spectrum. Indeed, a carrier may even have incentives to acquire spectrum and not use it at all. The result is that spectrum may not be put to its most efficient use, which harms all consumers of wireless services and can have an exclusionary effect on the carrier's competitors.

Put another way, as the Department has explained previously,[18] once new spectrum is identified and freed up for broadband, there remains the issue of how to assign it to individual providers. When market power is not an issue, the best way to pursue this goal in allocating new resources is typically to auction them off, on the theory that the highest bidder, i.e., the one with the highest private value, will also generate the greatest benefits to consumers. But that approach may not lead to market outcomes that would ordinarily maximize consumer welfare due to the presence of strong wireline or wireless incumbents, since the private value for incumbents in a given locale includes not only the revenue from use of the spectrum but also any benefits gained by preventing rivals from improving their services and thereby eroding the incumbents' existing businesses. The latter might be

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[17] *See Ex Parte* Submission of the United States Department of Justice, *In the Matter of Economic Issues in Broadband Competition: A National Broadband Plan for Our Future*, FCC GN Docket No. 09-51 (January 4, 2010) (hereinafter "U.S. Dep't of Justice Broadband Comments"), at 23-24.
[18] *Id.*

called "foreclosure value" as distinct from "use value." The total private value of spectrum to any given provider is the sum of these two types of value. However, the "foreclosure value" does not reflect consumer value; to the contrary, it represents the private value of foreclosing competition by, for instance, forestalling entry or expansion that threatens to inject additional competition into the market.

The Department believes that consideration of the role that "foreclosure value" might play in how spectrum is used is crucial because local mobile wireless markets across the nation are relatively concentrated. In a highly concentrated industry with large margins between the price and incremental cost of existing wireless broadband services, the value of keeping spectrum out of competitors' hands could be very high. For example, if competitors acquire spectrum to provide broader service offerings, expand coverage, or increase capacity, prices for existing customers would fall, threatening the margins being earned. Also, a competitor's lack of spectrum may require higher capital expenditures, such as having to build more cell towers, in order to provide competitive service. Thus, a large incumbent may benefit from acquiring spectrum even if its uses of the spectrum are not the most efficient if that acquisition helps preserve high prices. Accordingly, the Commission should consider the potential that the acquisition of specific blocks of spectrum may have to foreclose or raise the costs of competitors in its policies on spectrum acquisition.

This potential risk, in turn, underscores the need for additional spectrum. Based on the Department's experience with highly concentrated telecommunications markets, and more generally, there are substantial advantages to making available new spectrum in order to enable smaller or additional providers to mount stronger challenges to large wireless

incumbents.[19] Absent compelling evidence that the largest incumbent carriers are already using their existing spectrum licenses efficiently and their networks are still capacity-constrained, the Department would normally expect the highest use value for new spectrum that is in the public interest to come from rivals to the leading firms that could effectively make use of additional spectrum to expand capacity, improve coverage, or introduce new services in an effort to challenge the dominant firms.

C. The Competitive Significance of Different Spectrum

To determine whether a transaction will result in competitive harm in any relevant markets, the Department assesses each carrier's ability to compete, including its capacity to meet consumer demand. Since each carrier's portfolio of spectrum holdings in part determines its capacity, the differing characteristics of bands of spectrum are important. In its review of mergers involving spectrum transfers, the Department considers the characteristics of the spectrum being acquired and the capacity needs of the acquirer. For example, low-frequency spectrum (usually referring to frequencies below 1 GHz) has superior propagation characteristics, permitting better coverage in both rural areas and buildings. To the extent carriers have low-frequency spectrum available, often they seek to allocate at least some of that spectrum to each of their deployed technologies (as has been the case with 2G, 3G, and 4G) to ensure that customers with handsets utilizing each technology can maintain excellent coverage throughout the network. On the other hand, when a carrier is attempting to augment the capacity of its network in dense urban areas,

[19] In the AT&T-Cingular merger, the Department required divestitures of bare spectrum in several markets. The Department was particularly concerned that, without the divestitures, the merged entity would control too much spectrum in those areas and therefore there would not be sufficient competition for new third generation high-speed data services. Competitive Impact Statement at 14-15, *United States et al. v. Cingular et al.* (D.D.C. filed Oct. 29, 2004) (No. 04-1850).

for example, higher-frequency spectrum may be just as effective as low-frequency spectrum. Therefore, the Department believes it is important to consider the differing characteristics of spectrum in determining its contribution to a carrier's competitive position.

The value of any particular block of spectrum also depends on the availability of networking equipment and consumer devices that support the use of that spectrum. When new spectrum first becomes available, it may be years before original equipment manufacturers can accommodate the spectrum in handsets. Because supporting each additional spectrum band class adds weight and cost to consumer devices, carriers usually seek to meet their capacity needs using as few different types of spectrum as possible. For the same reason, carriers may favor spectrum that is harmonized with the frequencies used by carriers in other countries, so that customers may continue to use their devices when travelling internationally. In addition to differences in propagation and device availability, spectrum can have a number of other characteristics that affect its value to a carrier, such as differing interference problems or regulatory obligations.

IV. Technical Considerations for Competitive Analysis of Wireless Markets

A. Considerations for Analyzing the Competitive Significance of Spectrum

1. Carriers will be most competitive with at least some low-frequency spectrum to provide a good coverage layer

As noted above, different bands of spectrum have characteristics that may have a crucial bearing on how the allocation of spectrum affects the competitive landscape. In particular, the propagation characteristics of low-frequency spectrum permit better coverage in both rural areas and building interiors. In previous wireless investigations, the

Department has paid careful attention to whether merging wireless carriers had a particularly strong position in low-frequency spectrum.[20] This factor is particularly important for determining a carrier's ability to compete in offering coverage across a broad service area, including its ability to provide coverage efficiently in rural areas. As such, the Department believes it is important that the Commission devise policies that address the allocation of low-frequency spectrum in particular so that acquisitions of such spectrum do not hamper the ability of carriers to compete in markets where that spectrum is important. Particularly if low-frequency spectrum remains scarce, the Commission must ensure that the allocation of spectrum at auction does not enable carriers with high market shares to foreclose smaller carriers from improving their customers' coverage. Today, the two leading carriers have the vast majority of low-frequency spectrum,[21] whereas the two other nationwide carriers have virtually none. This results in the two smaller nationwide carriers having a somewhat diminished ability to compete, particularly in rural areas where the cost to build out coverage is higher with high-frequency spectrum.[22] The Commission's policies, particularly regarding auction of new low-frequency spectrum, can potentially improve the competitive landscape by preventing the leading carriers from foreclosing their rivals from access to low-frequency spectrum.

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[20] *See, e.g.*, Competitive Impact Statement at 10, *United States, et al. v. Verizon Commc'n Inc. and Alltel Corp.* (D.D.C. filed Oct. 30, 2008) (No. 08-1878) (noting that the merging parties owned the only two 850 MHz cellular licenses—the only low-frequency spectrum in use at the time—in a number of areas, and thus were one another's closest competitors for a significant number of customers in those markets).

[21] According to the most recent Commission report, the two leading carriers have 78% of low-frequency (cellular and 700 MHz) spectrum. *See Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services*, WT Docket No. 10-133, Fifteenth Report, 26 FCC Rcd 9664, ¶ 298 (2011). Even this may understate the dominant position the two leading carriers hold in low-frequency spectrum given that the figure does not account for more recent transactions, and that there are interference and other concerns with a significant portion of the 700 MHz spectrum held by other carriers.

[22] A lack of low-frequency spectrum may also impair the ability of a local or regional carrier to provide an additional, significant, competitive option in particular local areas.

2. There are cost efficiencies associated with owning larger blocks of spectrum

Although a wireless carrier with a large market share may have the ability and incentive to harm competition by buying up significant quantities of spectrum independent of its need for that spectrum or its intention to use it in a timely manner, as described above, the Department also recognizes that there may be substantial efficiencies associated with ownership of relatively large blocks of spectrum. Specifically, due to the nature of wireless technology, for example, twice the spectrum may under certain conditions provide over twice the amount of capacity.

Similarly, there may be capital cost efficiencies associated with deploying larger blocks of spectrum. Running a wireless network typically involves high fixed capital investments in towers and radio equipment and comparatively lower costs on the ongoing maintenance and operation of the network.[23] Even if a carrier has not yet identified a use for specific spectrum to accommodate its customers' data consumption, deploying the spectrum can provide a significant increase in user throughput at relatively low cost.

Thus, the Commission should develop policies on spectrum holdings with the above considerations in mind, but should not needlessly prevent carriers from assembling spectrum portfolios that can take advantage of these efficiencies.

3. The efficiencies associated with owning larger blocks of spectrum taper off

However, the benefits of large blocks of spectrum may become more limited for larger and larger blocks of spectrum. For instance, although in some circumstances a carrier may be able to add incremental spectrum to existing cell sites to provide a

[23] Some capital equipment, for example, base station controllers, can accommodate significant spectrum bandwidth at little or no incremental cost.

significant increase in capacity and peak user throughput at very low cost, beyond a certain point, deploying more spectrum may require sizeable investments in equipment at each site. Without a pressing capacity need, carriers may have limited incentive to incur the incremental costs of fully deploying such great quantities of spectrum and may instead leave some of it unused solely to keep it from rivals.[24]

Over time, the Department expects that carrier aggregation technology currently under development will permit wireless carriers to realize some of the efficiencies described above even with small, non-contiguous blocks of spectrum in different bands. This technology will enable carriers to achieve many of the capacity and peak throughput advantages previously attainable only with large blocks of contiguous spectrum by instead pairing small blocks of spectrum currently being used for older technologies with relatively small blocks of newly-allocated spectrum. Accordingly, larger incumbent carriers may be able to take significant advantage of economies of scale by acquiring relatively small blocks to pair with their existing holdings rather than acquiring large contiguous blocks. The Commission, therefore, may want to enable the acquisition of such smaller blocks even if it seeks to restrict the acquisition of larger blocks.

B. Measuring and Balancing Efficiencies

In addition, the Commission should consider the serious potential, described above, that carriers with large market shares could pursue an input foreclosure strategy at auction. We urge the Commission to weigh the risk of consumer harm from an input foreclosure strategy. Economies of scale should be balanced against those risks.

In numerous wireless transactions, including most recently in the proposed

[24] *Cf. In re Applications of Cellco Partnership d/b/a Verizon Wireless and SpectrumCo LLC and Cox TMI, LLC*, FCC Docket No. 12-175, ¶¶ 108-109 (released Aug. 23, 2012) (questioning whether Verizon Wireless would use more than 40 MHz of AWS spectrum in any market in the near term).

AT&T/T-Mobile merger and Verizon Wireless's acquisition of spectrum from a consortium of cable companies, the Department carefully considered assertions that the economies of scale arising from greater spectrum concentration will ultimately yield substantial benefits for consumers. As in any transaction, the key to this analysis is whether the efficiencies that could be realized as a result of the acquisition would reduce the marginal cost of service sufficiently to outweigh the often substantial benefits of additional competition.[25] Notably, the economies of scale often present in wireless networks are significantly tempered compared to those the Department has encountered when analyzing competition among wireline networks, since it is easier and less costly to expand capacity over a fixed amount of spectrum than it is, for example, to reduce the cost of constructing the physical "last-mile" link to each premises.[26]

Therefore, in the Department's experience in these and other matters, it is important that the efficiencies described above are assessed accurately, including accounting for all alternative means for carriers to use their existing spectrum resources to expand capacity or launch new services. For example, in the course of investigating the proposed transaction between AT&T and T-Mobile, the Department cast doubt on the parties' claims that there were few alternatives to deal with spectrum shortages. Since abandoning the transaction, both companies have announced plans to deploy LTE more extensively than they had earlier suggested would be possible by, for instance, deploying spectrum previously dedicated to older technologies.

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[25] *See* U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES § 10 (2010), *available at* www.usdoj.gov/atr/public/guidelines/hmg-2010.pdf (hereinafter Merger Guidelines).

[26] *See* U.S. Dep't of Justice Broadband Comments, at 13-14 (noting that "[t]he enormous sunk cost of wireline broadband networks makes it unlikely that additional wired broadband competitors will enter many geographic areas" but that "the sunk costs associated with deploying [wireless] networks are far less than those for wireline facilities").

As stated above, spectrum is a scarce resource and a key input for mobile wireless services. The Commission has an opportunity through its policies on spectrum holdings to preserve and promote competition and to ensure that the largest firms do not foreclose other rivals from access to low-frequency spectrum that would allow them to improve their coverage and make them stronger, more aggressive competitors.

C. The Appropriate Market Analysis for Promoting Competition

The Commission is seeking comment on the appropriate product and geographic markets for evaluating wireless spectrum holdings, and specifically whether it should modify the relevant market definition to reflect differentiated service offerings, devices, and contract features.

The Department evaluates mergers under Section 7 of the Clayton Act, which prohibits acquisitions the effect of which "may be substantially to lessen competition, or to tend to create a monopoly." The Department analyzes wireless mergers essentially the same way it does transactions in other industries, as explained in the *Horizontal Merger Guidelines* jointly issued by the Department of Justice and Federal Trade Commission. The Department's legal role is fundamentally one of enforcement, on a case-by-case basis, rather than an exercise in prospective rule-making, and it investigates mergers when they are proposed and examines the specific circumstances surrounding each transaction.

The Department believes that competition typically is best served by a thorough, case-by-case analysis of the competitive effects of each transaction. In past proceedings, the Department has recommended that the Commission develop a classification for evaluating the degree of competition in different markets using a method of analysis

similar to that set forth in the *Horizontal Merger Guidelines*.[27] Over time, the Commission and the Department have aligned more closely their respective processes for analyzing transactions.

As part of its review of each transaction, the Department considers any and all factors relevant to the question of whether a transaction may give the parties the ability to exercise market power in any relevant antitrust market. Under the *Horizontal Merger Guidelines*, the touchstone for this inquiry should be the functional experience from the perspective of the customer, not the particular technologies used by the provider. Thus, when the Department evaluates a "market" for antitrust purposes, it assesses the extent to which consumers view various services as substitutes.[28] As the Department explains in the *Guidelines*, this involves defining the relevant geographic and product markets for the transaction.

For many wireless transactions, the Department has identified geographic areas of concern for mobile wireless telecommunications services via a fact-specific, market-by-market analysis. This analysis has included consideration of a number of factors, including, but not limited to, the number of mobile wireless service providers and their competitive strengths, weaknesses, and market shares; whether additional spectrum is likely to be currently or imminently available; whether any providers are limited by insufficient spectrum or other factors in their abilities to add new customers; the breadth and depth of coverage by different providers in each area and in surrounding areas; each carrier's network coverage in relation to the population density of the license area; each provider's retail presence; local wireless number portability data; the likelihood that any

[27] U.S. Dep't of Justice Broadband Comments, at 13. A screen on spectrum consolidation in conjunction with a case-by-case analysis can also be effective.
[28] Merger Guidelines § 4.

provider would expand its existing coverage or that new providers would enter; and other market characteristics.[29]

Generally, mobile wireless telecommunications services are sold to consumers in local markets, though these markets are affected by nationwide competition among the larger service providers. It is therefore appropriate both to identify local markets and to identify the nature of nationwide competitive effects affecting local markets. In its wireless investigations, the Department has typically considered the Cellular Market Areas (CMAs) that the Commission has identified and used to license mobile wireless services for certain spectrum bands as approximations of the local areas within which customers have the same competitive choices.[30]

In recent investigations of transactions involving mobile wireless carriers, the Department has defined mobile wireless telecommunications services as a relevant product market. For example, in its lawsuit challenging AT&T Inc.'s proposed acquisition of T-Mobile USA, Inc., the Department found that there are no cost-effective alternatives to mobile wireless telecommunications services: because neither fixed wireless services nor wireline services are mobile, they are not regarded by consumers of mobile wireless telecommunications services as reasonable substitutes.[31] However, because markets are dynamic, so are definitions of antitrust product markets: as wireless services have expanded to include offerings such as broadband access, consumer demand for new services can dictate different relevant product markets. This is one way the Department's

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[29] *See, e.g.*, Competitive Impact Statement at 10, *United States, et al. v. Verizon Commc'n Inc. and Alltel Corp.* (D.D.C. filed Oct. 30, 2008) (No. 08-1878).
[30] *See, e.g.*, Complaint at 9-10, *United States et al. v. AT&T Inc., T-Mobile USA, Inc. and Deutsche Telekom AG* (D.D.C. filed Sep. 30, 2011) (No. 11-1560); Complaint at 7, *United States v. Verizon and Alltel* (D.D.C. filed Oct. 30, 2008) (No. 08-1878).
[31] Complaint at 7, *United States v. AT&T and T-Mobile.*

competitive analysis accounts for changes in technology and consumer demand.

In addition, for some matters the Department also has considered whether business or government customers constitute a distinct set of customers. (In various industries, the Department has denoted such customers as "enterprise customers.") For these customers, in addition to effects in local markets, the Department also analyzes the extent to which such customers value a carrier that can provide services to employees, facilities, and devices that are geographically dispersed, including whether these customers require services that are national in scope. As such, the Department considers the potential for transactions to have broader geographical competitive effects, including at a national level. Consequently, the same transaction can require competitive analysis in both local markets and regional or national markets to ensure competition is fully protected.[32]

D. Spectrum Allocation Should Provide Certainty and Predictability

The Commission is seeking comment on whether a case-by-case analysis affords auction participants sufficient certainty to determine whether they would be allowed to hold a given license post-auction. In considering the appropriate policy for evaluating purchases at auction, the Commission should weigh the time and resources involved in conducting a thorough case-by-case review against the advantages to competition of a quick allocation of spectrum pursuant to an easily administered rule. Secondary market transactions typically come before the Commission and the Department one at a time, permitting staff to carefully evaluate the likely competitive consequences of the transaction. However, a case-by-case review of every acquisition by a winning bidder in a

[32] Complaint at 8, *United States v. AT&T and T-Mobile*; *see also* Competitive Impact Statement at 10, *United States v. Verizon and Alltel*; Competitive Impact Statement at 11, *United States, et al. v. Verizon Commc'n Inc., CellCo P'ship d/b/a Verizon Wireless, Comcast Corp., Time Warner Cable Inc., Cox Commc'n, Inc., and Bright House Networks, LLC* (D.D.C. filed Aug. 16, 2012) (No. 12-1354).

large auction could strain the agencies' resources and delay the quick allocation of spectrum critical for innovation and increased competition. As the Commission has found, the exploding demand for wireless broadband use and the time and resources historically involved in allocating spectrum to new use urge a more expedient process that increases clarity and predictability.[33] Therefore, in allocating spectrum at auction, the Commission's approach should reduce the time to make available scarce, much-needed spectrum while also preventing the transfers most likely to harm competition and minimizing the potential risk that procompetitive acquisitions would be erroneously prevented.

Moreover, for spectrum auctions the Department believes that predictability is especially important. On the occasions that the Commission auctions off significant quantities of spectrum—with different frequency bands auctioned by different geographic boundaries—the Commission may put specific regulatory restrictions on the use of some bands of spectrum being auctioned, but not on others. In addition, the value to any wireless carrier of any particular spectrum license depends in part on how complementary that license is to the carrier's other wireless holdings. For example, operating a network using too many different spectrum band classes increases the cost of handsets and radio network equipment, since the devices require hardware to support all of the band classes. Carriers also seek enough spectrum to meet their needs in all of the geographic areas within their networks.

For these reasons, before crafting a bid on one license in an auction, a wireless carrier considers all alternative licenses available and the likelihood that the carrier may be able to purchase any of those licenses. A carrier might, for example, be willing to bid

[33] FED. COMMC'NS COMM'N, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN 79 (2010) (highlighting that reallocations of spectrum historically have taken 6-13 years); *see also* FCC National Broadband Plan, September Commission Meeting, at 63, 66, 71, 73-74 (Sept. 29, 2009).

more on a particular block of spectrum if it knows it will also be permitted to acquire an adjacent block. Alternatively, if a carrier knows in advance it will only be permitted to purchase one of the available blocks of spectrum, it may be willing to bid higher to ensure that it is able to secure the block most complementary to its existing holdings. These complex interdependencies demonstrate that carriers' certainty of what spectrum they will be permitted to acquire can have a significant effect about whether the spectrum auction can achieve allocations that best serve the public interest.

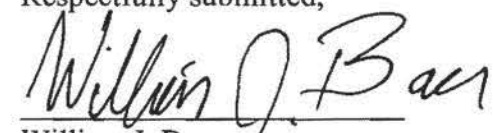
Therefore, the Department believes that a set of well-defined rules for spectrum acquisitions in auctions would best serve the dual goals of putting spectrum to use quickly and promoting competition in wireless markets.[34] Such rules could both provide predictability and prevent foreclosure of entry or expansion. Given the characteristics of different spectrum bands, as discussed above, different rules, weights, or caps could, for example, apply based on the kinds of spectrum frequency put up for auction. For instance, rules that ensure that the two smaller nationwide carriers are not foreclosed from access to more spectrum, and particularly low-frequency spectrum, could benefit consumers. Auction rules of this nature would ensure the smaller nationwide networks, which currently lack substantial low-frequency spectrum, would have an opportunity to acquire it. Such an outcome could improve the competitive dynamic among nationwide carriers. As such, using a pre-announced set of rules would allow the Commission to realize substantial benefits to competition from quick allocation of new spectrum while minimizing the potential risk that procompetitive acquisitions would be prevented.

[34] In the context of mergers and other secondary market transactions, spectrum guidelines or screens can provide useful guidance while maintaining the flexibility inherent in a case-by-case analysis. *See supra* Part IV.C.

V. Conclusion

In this proceeding, the Commission reaffirms its interest in crafting rules that address spectrum aggregation in a manner that promotes competition and innovation in telecommunications markets. The Department strongly supports this effort, and commends the FCC in taking on this comprehensive review of its mobile spectrum holdings policies as it also moves to reallocate a considerable array of spectrum to make it available for mobile wireless services. The Department looks forward to working with the Commission in this and other proceedings as the Commission develops policies that ensure that the allocation of spectrum continues to support growth and innovation in the nation's economy.

Respectfully submitted,



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