[BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY CONFIDENTIAL]

By the end of 2015, growth in data traffic is projected to create a spectrum capacity shortfall that extends well beyond the more densely populated urban core.[56] Nearly all sites have sectors colored red, meaning that, absent deployment of additional spectrum, customers in **[BEGIN HIGHLY CONFIDENTIAL]** **[END HIGHLY CONFIDENTIAL]** would experience major impacts to speed and quality of their service.

[56] *Id.*

[BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY CONFIDENTIAL]

The same capacity constraints also exist in markets in which Verizon Wireless has access to AWS F Block spectrum that it purchased at auction,[57] such as **[BEGIN HIGHLY CONFIDENTIAL] [END HIGHLY CONFIDENTIAL]** This AWS spectrum, which will be deployed **[BEGIN HIGHLY CONFIDENTIAL] [END HIGHLY CONFIDENTIAL]**, will effectively double the ability of cell sites to handle data traffic, meaning that the point at which traffic demand will begin imposing speed and quality limitations will be **[BEGIN HIGHLY CONFIDENTIAL] [END**

[57] *Id.* at ¶ 35.

HIGHLY CONFIDENTIAL]. Even with the additional capacity provided by currently held AWS spectrum in combination with the 700 MHz spectrum, however, Mr. Stone's projections for such markets show that consumers' needs will outstrip capacity.[58] The maps for **[BEGIN HIGHLY CONFIDENTIAL] [END HIGHLY CONFIDENTIAL]**, and other such markets demonstrate that projected growth in data traffic will exhaust all spectrum available in these markets as well.

These spectrum constraints are not confined to large cities but extend to smaller markets as well,[59] as shown by the maps from **[BEGIN HIGHLY CONFIDENTIAL]**

[END HIGHLY CONFIDENTIAL]. The network may also experience constraints in rural and other less densely populated areas despite serving fewer overall customers. The company also plans to introduce new products that are expected to further increase data traffic in rural areas. Data usage on these products is expected to be significantly greater than that of a smartphone, for example, **[BEGIN HIGHLY CONFIDENTIAL]**

[END HIGHLY CONFIDENTIAL]. In many cases, just one customer using increased amounts of capacity can have significant impact on a rural cell site.

D. Verizon Wireless' Industry-Leading Spectral Efficiency Disproves Allegations of Warehousing and Belies Claims that Engineering Solutions Alone Can Solve Its Capacity Constraints.

No commenter supplies technical data or other information that even attempts to demonstrate why Verizon Wireless does not need the spectrum covered by these transactions. The bald and unsupported assertions that the company is "warehousing" spectrum or otherwise

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[58] *Id.*

[59] *Id.* at ¶¶ 36-38.

not fully utilizing its spectrum resources lack any substance and, in any event, are fully rebutted by Mr. Stone's declarations, as well as by the company's spectral efficiency compared to other providers. The Commission should accordingly quickly dismiss these comments.

Verizon Wireless Is an Industry Leader in Spectral Efficiency. Verizon Wireless is today, and post-transaction will continue to be, one of the most efficient users of spectrum. Verizon Wireless currently serves its industry-leading 109 million wireless customer connections using an average of 89 MHz nationwide,[60] with each megahertz of spectrum serving on average 1.23 million customer connections. Post-transaction, these wireless connections would be served using an average of 109 MHz nationwide, with each megahertz of spectrum serving on average almost one million customer connections. Despite the claims of T-Mobile and others to the contrary,[61] this usage makes Verizon Wireless the most spectrally efficient wireless provider currently, and the second most spectrally efficient provider post-transaction (second only to AT&T and tied with MetroPCS).

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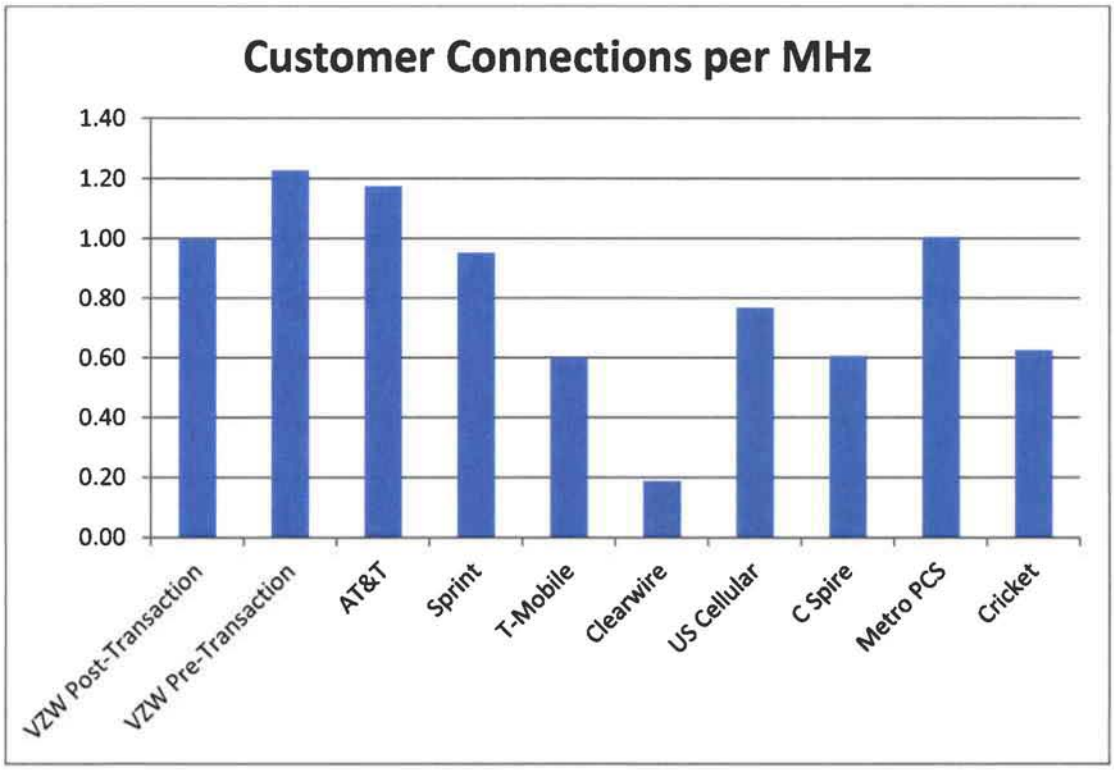
[60] The Applications stated that Verizon Wireless has a national average spectrum depth of 88 MHz. Verizon Wireless-SpectrumCo Public Interest Statement at 15; Verizon Wireless-Cox Public Interest Statement at 14; Initial Stone Declaration at ¶ 14. This figure was rounded down from 88.44 MHz, which was accurate as of a date in the third quarter of 2011. Since these documents were submitted to the Commission, certain small spectrum acquisitions by Verizon Wireless were consummated, raising Verizon Wireless' national spectrum depth average to 88.57 MHz, which is appropriately rounded up to 89 MHz. This small change does not impact the calculation of how many customer connections Verizon Wireless serves per MHz.

[61] *See, e.g.*, T-Mobile at 4-5.

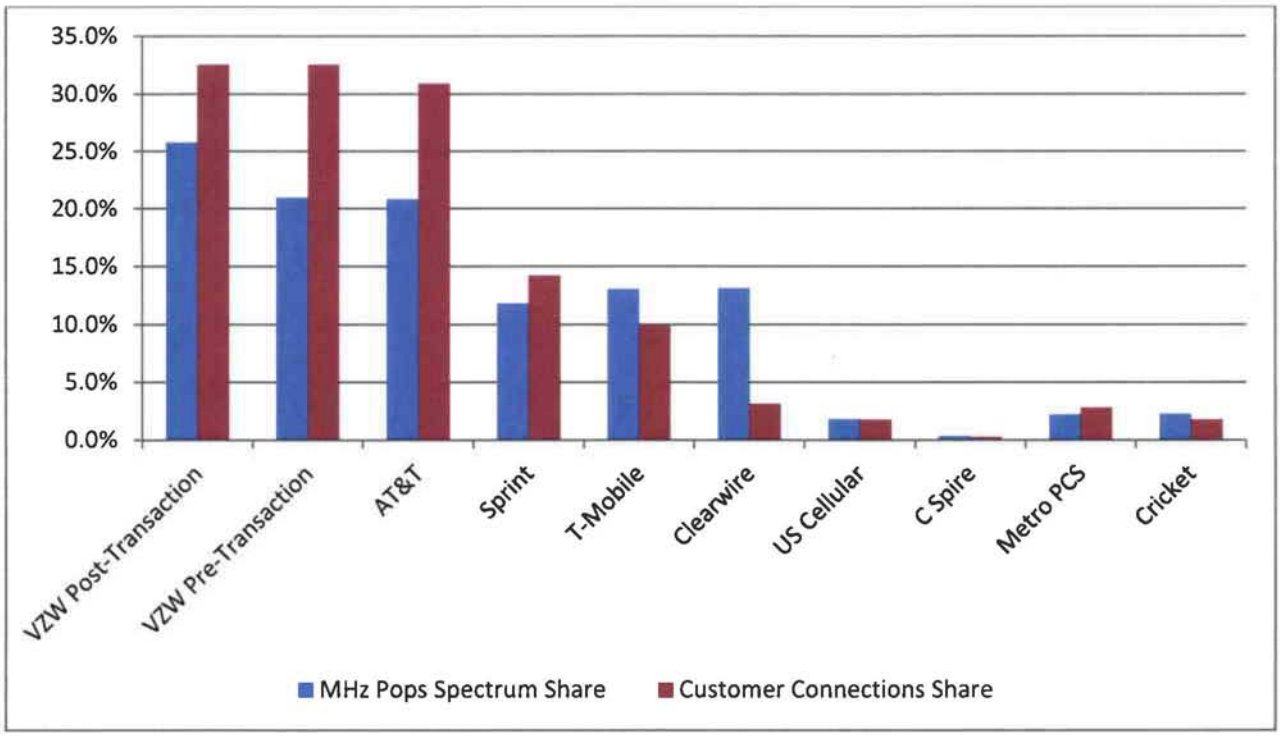
Customer Connections per 1 MHz (in Millions)[62]



[62] Customer connections numbers are based on each company's 4th Quarter 2011 results. In the "Customer Connections per 1 MHz" chart (as with the "Spectrum Share v. Customer Connections Share" chart that follows), Sprint and Clearwire are treated individually even though they share spectrum and Clearwire's spectrum is attributable to Sprint. *See Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Fifteenth Report, 26 FCC Rcd 9664, 9682 n.19 (2011) ("*Fifteenth Report*") ("Throughout this *Report*, we attribute Clearwire to Sprint Nextel when discussing spectrum holdings and network coverage."). If Sprint and Clearwire are treated as a single entity, their customer connections per 1 MHz would be 550,000. Because the chart reflects connections per MHz of spectrum holdings, Sprint's customer connection numbers do not include an estimated 7.2 million customers that use Clearwire's spectrum and network. Instead, these customers are included in Clearwire's customer connection numbers, just as Verizon Wireless mobile virtual network operator ("MVNO") customer connections are included in the Verizon Wireless total. C Spire's customer connections are based on an analyst report's estimate because C Spire does not publicly release customer numbers. Finally, the spectrum calculations use the average MHz per licensed POP of bands included in the spectrum screen (*i.e.*, cellular, PCS, AWS, 700 MHz, 55.5 MHz of BRS/EBS, and SMR/900 MHz). These spectrum calculations (except VZW Pre-Transaction) also presume all known material and pending transactions are closed, including the proposed Verizon Wireless-Leap and T-Mobile-AT&T transactions.

Verizon Wireless' spectral efficiency is similarly evident when its share of MHz*POPs[63] is compared to its share of customer connections. As demonstrated below, Verizon Wireless' spectrum share is 21 percent, while its customer market share is approximately 33 percent – a ratio of 0.65 – the most efficient ratio among the wireless providers identified below. Post-transaction, Verizon Wireless' spectrum share will increase to nearly 26 percent. When applied to its 33 percent customer market share, this results in a ratio of 0.79 – the second most efficient ratio among the wireless providers identified below (again tied with MetroPCS).

Spectrum Share v. Customer Connections Share[64]



None of these calculations takes into account spectrum that is usable for mobile voice and broadband services but is not currently included in the spectrum screen. For example, Clearwire provides fixed and mobile broadband services using approximately 160 MHz of BRS and EBS

[63] This metric allows the aggregation of spectrum holdings across different areas by multiplying the megahertz of spectrum held in an area by the population in that area.

[64] *See supra* note 62.

spectrum in most markets (although the screen only accounts for 55.5 MHz of BRS spectrum and no EBS spectrum).[65] If this spectrum, for example, were included in the above calculations, Verizon Wireless' national spectrum share would be even lower, and its efficiency in terms of MHz of spectrum per customer would be even higher.

This evidence proves Verizon Wireless is putting its spectrum to use efficiently and effectively and will continue to do so. By comparison, while T-Mobile claims to have implemented techniques to "mak[e] very efficient use of its spectrum,"[66] the facts show that it is using each 1 megahertz of spectrum to serve on average only 600,000 customers (as compared with Verizon Wireless service to 1.23 million customers per megahertz). Despite T-Mobile's fixation with Verizon Wireless' spectrum below 1 GHz,[67] in fact spectrum above 1 GHz (like T-Mobile's) offers wireless providers greater capacity than spectrum below 1 GHz.[68] Thus, Verizon Wireless is using its spectrum (on a per megahertz basis) to serve significantly more customers than T-Mobile even though T-Mobile's spectrum is capable of greater capacity. This evidence also belies any claim that Verizon Wireless is warehousing spectrum.[69]

Requiring Verizon Wireless to uniquely demonstrate its need for additional spectrum would also undermine the Commission's flexible use and secondary market policies, which

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[65] *See infra* note 181.

[66] T-Mobile at 5.

[67] *Id.* at 11-13.

[68] *See infra* notes 193-196 and accompanying text.

[69] *Compare* NTCH at 5; Free Press at 31-36; T-Mobile at 14; Petition to Deny of the Rural Telecommunications Group, Inc. ("RTG") at 11, 20 *with* Declaration of Michael L. Katz ("Katz Declaration"), attached as *Exhibit 4* at ¶¶ 34-37. Dr. Katz also rebuts the findings of Professor Judith Chevalier, demonstrating that her model is based on unrealistic assumptions. Katz Declaration at ¶¶ 38-55.

afford licensees the flexibility and latitude to make their own choices[70] and to assess when and under what conditions they need additional spectrum to best meet the needs of their customers.[71] Moreover, the Commission previously has found that need-based spectrum showings are not necessary to address warehousing concerns when buildout requirements apply to the licenses at issue.[72] Here, Verizon Wireless intends to comply with the substantial service requirement associated with the AWS licenses and is not seeking any extension or waiver of this performance metric.[73] Accordingly, the Commission should decline to impose any need-based spectrum showings on Verizon Wireless in the context of these transactions.[74]

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[70] *Promoting More Efficient Use of Spectrum Through Dynamic Spectrum Use Technologies*, Notice of Inquiry, 25 FCC Rcd 16632, 16644 ¶ 36 (2010) ("In adopting flexible use licensing authorizations for commercial spectrum – including policies and rules that facilitate the development of secondary markets – the Commission has sought to remove regulatory barriers and thereby permit more efficient use of licensed spectrum.... Under these policies, licensees and spectrum lessees already have wide latitude to adopt and implement spectrum management techniques to manage access to and use of their spectrum ....").

[71] *Fifteenth Report*, 26 FCC Rcd at 9828 ¶ 282 ("The Commission's secondary market policies allow existing licensees to obtain additional spectrum capacity and expand their coverage areas to better meet the needs of their customers ....").

[72] The Commission, in eliminating certain requirements to ensure efficient spectrum use by CMRS licensees, concluded that "a strong regulatory emphasis on construction timetables and coverage requirements in lieu of loading requirements" will be "sufficient to protect against spectrum warehousing in CMRS services." *Implementation of Sections 3(n) and 332 of the Communications Act*, Third Report and Order, 9 FCC Rcd 7988, 8081 ¶ 190 (1994).

[73] *See Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands*, Report and Order, 18 FCC Rcd 25162, 25192 ¶ 75 (2003) ("*AWS-1 Service Rules Order*"). "Substantial service" is defined as "service which is sound, favorable and substantially above a level of mediocre service which just might minimally warrant renewal." 47 C.F.R. § 27.14(a). To the extent that petitioners believe the AWS performance requirement is insufficient, that issue should be examined in the context of an industry-wide proceeding and not imposed in the context of these transactions as an obligation unique to Verizon Wireless. *See, e.g.*, *General Motors Corp. and Hughes Electronics Corp.*, Memorandum Opinion and Order, 19 FCC Rcd 473, 534 ¶ 131 (2004) ("*GM-Hughes Order*") (declining to "single Applicants out for special treatment unwarranted by any likely adverse consequences of the transaction").

[74] *See* Petition to Deny of MetroPCS Communications, Inc. ("MetroPCS") at 3 n.8, 4 (citing Ex *Parte* Notice from Carl W. Northrop, Counsel for MetroPCS Communications, Inc. to Marlene

Proposed Engineering Solutions Cannot Solve Capacity Needs. Notwithstanding Verizon Wireless' industry-leading spectral efficiency, some commenters seek to substitute their own ideas for Verizon Wireless' business judgment as to how to serve its customers most effectively and efficiently.[75] Many of these parties are not wireless providers and have never built a network, and their claims should be dismissed as lacking basis in experience. In fact, historically Verizon Wireless has used multiple methods to increase spectral efficiency, and it will continue to do so in the LTE network. As noted above, the company intends to deploy LTE small cells extensively once they become available and will undertake other investments to increase LTE capacity. But, as Mr. Stone explains in detail, Verizon Wireless cannot simply engineer its way to sufficient capacity to meet burgeoning demand.[76] Dr. Borth's expert opinions reinforce the conclusion that engineering solutions are insufficient to ameliorate Verizon Wireless' need for additional spectrum to meet demand.[77]

Some parties advocate that Verizon Wireless rely on "cell splitting" in lieu of acquiring new spectrum. Verizon Wireless has always used cell splitting of macro cells and, looking ahead, the company will continue to apply cell splitting as a spot solution when feasible for individual cells that become constrained. But the notion that cell splitting can solve Verizon Wireless' future capacity constraints, given the massive increase in data demands, particularly in urban areas, is simply not realistic. To obtain the maximum capacity gains from cell splitting, a carrier must be able to locate a new cell in a relatively specific spot or small geographic area. Cell splitting therefore depends on the availability of structures or the ability to construct a

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H. Dortch, Secretary, FCC, WT Docket 12-4, at 2 (filed Jan. 27, 2012)); RCA at 19-23; *see also* T-Mobile at 13-15.

[75] *See* Free Press at 31; Public Knowledge at 32-33.

[76] Supplemental Stone Declaration at ¶¶ 39-46.

[77] Borth Declaration at ¶¶ 18-33.

tower. In addition, as Verizon Wireless places more and more sites close together, the benefits of additional sites decline, particularly relative to the zoning, equipment, construction and other steps necessary to deploy them. As many cells within a market become spectrum constrained, it is much more effective to add additional spectrum to serve customer demand.[78]

The alternative suggestion that femto cells can solve capacity constraints is also infeasible.[79] As noted above, Verizon Wireless intends to deploy an LTE small cell capacity strategy, but femto cells operate at lower power and have much smaller coverage areas (typically on a customer's premises). While femto cells can provide some congestion relief, they will never be able to meet the skyrocketing demand detailed above because they offload only a small fraction of a sector's traffic.[80]

Others propose that Verizon Wireless should refarm its spectrum that is currently being fully used to provide 3G service using EVDO technology.[81] While refarming existing spectrum is an ultimate goal for the company, it would not cede sufficient spectrum in the timeframe necessary to address the constraints identified above. As an initial matter, 3G data usage continues to grow even as customers migrate from 3G to 4G, and the spectrum used for 3G capacity is servicing the growing 3G data demand. While it is possible the company could reclaim individual PCS channels (1.25 MHz) in some markets after the next several years, this will only free up 1.25x1.25 MHz channels on a piecemeal basis. The channels can only support

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[78] *See* Supplemental Stone Declaration at ¶¶ 43-44; Borth Declaration at ¶ 19.

[79] *See* Public Knowledge at 33.

[80] Supplemental Stone Declaration at ¶ 45; Borth Declaration at ¶ 20. Parties also reference Wi-Fi offloading. *E.g.*, Free Press at 31. Verizon Wireless invests in Wi-Fi networks on a limited basis where spectrum constraints are extremely severe – for instance, in stadiums and concert halls – but generally does not view Wi-Fi offloading as a viable stand-alone solution to congestion. Supplemental Stone Declaration at ¶ 46; Borth Declaration at ¶¶ 21-22.

[81] *E.g.*, Free Press at 31, 33.

peak speeds that are one-eighth of the peak speeds on a 10x10 MHz channel – the company's current LTE service. As a result, spectrum will simply not be available to support LTE when that capacity is needed – as soon as 2013 – because Verizon Wireless will require, at a minimum, 5x5 MHz channelization for LTE deployment in PCS spectrum.[82]

E. The Commission Has Repeatedly Found that Assignments of Spectrum Not Being Used to Provide Service to Customers Serve the Public Interest by Putting Spectrum to Work.

While neither SpectrumCo nor Cox Wireless is currently using the AWS licenses to provide service to customers, each undertook significant efforts to develop the spectrum, but determined over time, as a business matter, that building out a network to provide a stand-alone facilities-based service would not provide a return that would warrant incurring the substantial costs and risks involved.[83] As a result, each made the business decision to sell the spectrum to Verizon Wireless, a provider that would make efficient and effective use of it. In similar circumstances – where licensees tried to develop their spectrum but the business case ultimately did not materialize – the Commission has found that assignment of licenses to a party able to put the spectrum to use would serve the public interest and would not harm competition. For example:

- *AT&T-Qualcomm*. From 2003 to 2008, Qualcomm acquired Lower 700 MHz D and E Block licenses through auction and the secondary market.[84] While Qualcomm

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[82] *See* Supplemental Stone Declaration at ¶¶ 47-48; Borth Declaration at ¶¶ 23-25.

[83] *See* Verizon Wireless-SpectrumCo Public Interest Statement at 20-23; Verizon Wireless-SpectrumCo Application, Exh. 4 (Declaration of Robert Pick, Chief Executive Officer of SpectrumCo, LLC) ("Pick Declaration") at ¶¶ 3-16; Verizon Wireless-Cox Wireless Application, Exh. 1 ("Verizon Wireless-Cox Wireless Public Interest Statement") at 18-20; Verizon Wireless-Cox Wireless Application, Exh. 4 (Declaration of Suzanne Fenwick, Executive Director for Corporate Development for Cox Communications, Inc.) ("Fenwick Declaration") at ¶¶ 3-7.

[84] Application of Qualcomm Incorporated and AT&T's Mobility Spectrum LLC for Assignment of Authorization, File No. 0004566825, Declaration of David Wise, ¶¶ 4-6 (filed Jan. 13, 2011, amended Feb. 9, 2011).

initially offered a service (FLO TV) focused on delivery of mobile video content, the service proved not to be viable.[85] Qualcomm proposed to sell the spectrum to AT&T.[86] The Commission approved the transfer in December 2011, concluding it "would facilitate the transition of underutilized unpaired 700 MHz spectrum towards mobile broadband use, thereby supporting [the Commission's] goal of expanding mobile broadband deployment throughout the country."[87]

- *Aloha-AT&T*. Aloha Partners acquired Lower 700 MHz C Block licenses at auction between 2002 and 2005, as well as through the secondary market.[88] It conducted two trials but did not use the licenses to provide commercial wireless service.[89] Aloha found that it would need to partner with a "national wireless carrier or other companies that have the financial ability and expertise … to ensure the roll out of a 700 MHz network and associated services as an economically valuable enterprise."[90] It had not found such a partner at the time it decided to sell the spectrum licenses to AT&T.[91] Finding that the proposed transaction would serve the public interest, the Commission approved the transaction in January 2008.[92]

- *NextWave-Cingular*. In 2003, NextWave agreed to sell disaggregated portions of certain 30 MHz PCS C Block licenses to Cingular Wireless.[93] NextWave had obtained the licenses at auction in 1996 and 1997, but they were tied up in litigation for many years.[94] The Commission noted that, while Cingular was acquiring additional spectrum in areas where it already operated, the spectrum acquisition would not "affect the number of [then] active competitors in any of the markets

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[85] *Id.* at ¶¶ 8, 10.

[86] *Id.* at ¶ 13.

[87] *AT&T-Qualcomm Order* at ¶¶ 94, 96.

[88] *Aloha Spectrum Holdings Company LLC and AT&T Mobility II LLC,* Memorandum Opinion and Order, 23 FCC Rcd 2234, 2235 ¶ 4 (2008) ("*Aloha-AT&T Order*"); *see also Lower 700 MHz Band Auction Closes*, Public Notice, 17 FCC Rcd 17272, Attachments A, B (WTB 2002); *Lower 700 MHz Band Auction Closes*, Public Notice, 18 FCC Rcd 11873, Attachments A, B (WTB 2003); *Auction of Lower 700 MHz Band Licenses Closes*, Public Notice, 20 FCC Rcd 13424, Attachments A, B (WTB 2005).

[89] Application to Assign Licenses Held by Aloha Spectrum Holdings Company LLC to AT&T Mobility II LLC, File No. 0003205282, Declaration of Charles C. Townsend, President and CEO, Townsend Enterprises II, ¶¶ 4, 6 (filed Oct. 23, 2007, and subsequently amended).

[90] *Id.* at ¶ 8.

[91] *Id.*

[92] *Aloha-AT&T Order*, 23 FCC Rcd at 2237-38 ¶¶ 13-14.

[93] *NextWave Personal Communications, Inc. and Cingular Wireless LLC*, Memorandum Opinion and Order, 19 FCC Rcd 2570, 2572-73 ¶¶ 4-5 (2004) ("*NextWave-Cingular Order*").

[94] *Id.* at 2571 ¶ 2.

> involved given the fact that NextWave … ha[d] limited operations and trial (non-paying) customers in [those] markets."[95] The Commission approved the transaction in February 2004.[96]

In this circumstance, like those above, approval of the license assignments to facilitate putting this spectrum to efficient use to serve consumers will advance the public interest. Nonetheless, various commenters assert that SpectrumCo and Cox engaged in trafficking of spectrum or improperly warehoused their spectrum. These assertions can be readily dismissed.

1. SpectrumCo Complied with All Relevant Commission Rules.

As explained in the Public Interest Statement, SpectrumCo did not acquire the AWS licenses for the principal purpose of speculation or profitable resale and has complied fully with the Commission's anti-trafficking rules. Rather, SpectrumCo engaged in extensive and time-consuming efforts to investigate the provision of mobile broadband service, and ultimately concluded that provision of such service on a stand-alone basis did not make operational and economic sense.

SpectrumCo's Members Investigated Opportunities to Develop an Advanced Wireless Network But Ultimately Determined to Sell the Spectrum Licenses. SpectrumCo acquired the AWS licenses at auction in 2006 to put its owners in a position to provide their customers with a wireless service. Since then, SpectrumCo has expended significant efforts, including spending more than $20 million and conducting onsite inspections around the country, to clear or confirm the clearance of more than 500 incumbent wireless point-to-point microwave links from the AWS spectrum, including links that affected the spectrum that was transferred to Cox Wireless.[97] As Dr. Borth explains in the attached declaration, "the need to identify, negotiate, and relocate

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[95] *Id.* at 2584 ¶ 31 (quoting the parties' application at 11-12).

[96] *Id.* at 2591 ¶ 48.

[97] Pick Declaration at ¶ 3.

incumbent users is critical to making the spectrum commercially usable, but adds to the time needed to start up a new system operating in the AWS spectrum."[98]

The AWS band was in its infancy at the time of the auction, and there were many unanswered questions about the spectrum and no off-the-shelf equipment available for use in the band. As a result, it was necessary for SpectrumCo to undertake significant testing and analysis of the spectrum. Between 2007 and 2009, SpectrumCo created and operated an AWS 4G technology test bed in King of Prussia, Pennsylvania to evaluate the three leading 4G technology candidates at that time: WiMAX, Ultra Mobile Broadband ("UMB"), and Long Term Evolution ("LTE"). Among other things, SpectrumCo subjected each 4G technology to a set of live, operational tests over a period of several months, installing transmission equipment at several outdoor cell sites and testing prototype handsets with each 4G technology.[99] After the King of Prussia tests, SpectrumCo also collaborated with Nortel on LTE testing in the AWS band. SpectrumCo obtained performance data from the multi-site LTE system at Nortel's Ottawa, Canada research and development facility. SpectrumCo also leased spectrum to original equipment manufacturers, including Qualcomm, Nokia, and Samsung, to test devices for use in the AWS band.

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[98] Borth Declaration at ¶ 37; *see AWS-1 Service Rules Order*, 18 FCC Rcd at 25190 ¶ 70 ("[G]iven the relocation and band clearance issues associated with these bands, it makes sense to adjust our usual ten-year license term … [to 15 years].") RCA argued in 2003 that "because the … [AWS] spectrum is heavily encumbered by Federal and non-Federal users that need to be relocated, and in recognition of other obstacles to deployment of the spectrum, … the Commission should set initial license terms at 15 years." Comments of the Rural Cellular Association, WT Docket No. 02-353, at 8 (filed Feb. 7, 2003). RCA cannot now credibly claim that SpectrumCo's band clearing efforts were not serious and substantial and in furtherance of putting this spectrum to use. *See* RCA at 16-19.

[99] Borth Declaration at ¶¶ 43-44. As Dr. Borth observes, "[t]he amount of time and resources devoted to the King of Prussia tests demonstrates that SpectrumCo was very serious about

SpectrumCo also explored the costs of building a wireless network and concluded that they were substantial – possible capital expenditures and cumulative negative net operating costs of approximately $10-11 billion.[100] In addition, to be competitive with other providers, SpectrumCo would need to purchase from manufacturers the devices most attractive to consumers at cost-effective prices, and would also need to secure nationwide roaming agreements.

SpectrumCo also investigated a number of alternative ways that its owners might use the AWS spectrum to provide their customers with advanced wireless services, including acquisitions, joint ventures, and network sharing arrangements with other wireless companies. Ultimately, SpectrumCo entered into business arrangements with two nationwide wireless companies, Sprint Nextel and Clearwire. However, the arrangements with Sprint Nextel and Clearwire did not include use of the AWS spectrum. SpectrumCo determined, for a variety of reasons, that the Sprint Nextel/Clearwire arrangements would not provide a comprehensive and viable long-term wireless solution.

For all of these reasons, SpectrumCo's members reasonably concluded that, given the costs and complexities involved, there was no strategic or financial value in undertaking the very large investments and corresponding business risks necessary to become an additional facilities-based competitor in a crowded and competitive wireless marketplace. In addition, they had not been able to reach an agreement that made business sense with any other party for use of the

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[100] *See* Verizon Wireless-SpectrumCo Public Interest Statement at 21; Pick Declaration at ¶ 11. In the attached declaration, Dr. Borth further describes the significant undertakings associated

spectrum. As a result, SpectrumCo decided that selling the AWS licenses to Verizon Wireless was the best option and an efficient way to put the spectrum to use for the benefit of consumers.

Assertions that SpectrumCo "Trafficked" in the AWS Spectrum Are Baseless and Refuted By the Record. Nor do commenters provide any evidence to support a claim that SpectrumCo improperly "trafficked" in the AWS spectrum. The Commission has found that Congress "was not concerned with the trafficking and warehousing of licenses awarded in competitive auctions, which guarantee a price set by market forces" and was instead "confident that '[i]n the system of open competitive bidding, trafficking in licenses should be minimal, since the winning bidder would have paid a market price for the license.'"[101] The Commission further explained that "the auction process, by requiring initial licensees to pay market value for their authorizations, effectively safeguards against … speculation."[102] Accordingly, the Commission has properly rejected trafficking claims in recent wireless transactions involving auctioned licenses.[103] The Commission should do the same here, especially given the record of SpectrumCo's significant efforts, as described in the last section, to develop the AWS band and the significant market developments that occurred after the auction.[104]

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[101] *AT&T Inc. and Cellco Partnership d/b/a Verizon Wireless*, Memorandum Opinion and Order, 25 FCC Rcd 8704, 8768-69 ¶ 152 (2010) ("*AT&T-Verizon Wireless Order*") (citing H.R. REP. NO. 103-111 at 257 (1993), *reprinted in* 1993 U.S.C.C.A.N. 378, 584).

[102] *Forbearance From Applying Provisions of the Communications Act to Wireless Telecommunications Carriers*, First Report and Order, 15 FCC Rcd 17414, 17429 ¶¶ 32-33 (2000).

[103] *See, e.g.*, *AT&T-Verizon Wireless Order*, 25 FCC Rcd at 8769 ¶ 153 ("[T]he transfer of licenses awarded pursuant to competitive bidding will seldom raise any trafficking concerns.").

[104] In its effort to manufacture a claim of trafficking, RCA relies almost exclusively on stray statements of Comcast executives – specifically, a single remark by Comcast CFO Michael Angelakis in responding to a question at the Citi Media conference in January. *See* RCA at 17; *see also* MetroPCS at 3 n.9. He said that "[w]e never really intended to build that spectrum." This remark was meant to convey the thought process following the years of evaluation and analysis, not SpectrumCo's intentions at the time the AWS licenses were acquired.

2. Cox Similarly Complied With All Relevant Commission Rules.

Contrary to the suggestions of some parties,[105] Cox Wireless and its parent company, Cox, did not warehouse its spectrum, and in fact invested considerable resources in deploying a wireless service. Cox ultimately was unsuccessful, but continues to have a strong commitment to the wireless marketplace and to pursue mobile opportunities for its customers.

Cox Devoted Significant Resources to Developing a Wireless Service for Its Customers. Cox acquired its spectrum licenses in 2008 and 2009, through participation in the Commission's 700 MHz auction (where it won a total of 22 licenses that are not part of this proceeding) and by redeeming its interests in SpectrumCo (which provided Cox with approximately 30 AWS licenses covering much of its cable service area). In October 2008, Cox announced its plan to add wireless to its bundle of communications and entertainment services. Cox's research had shown that consumers wanted an easy-to-use wireless service that provided seamless access to content while improving productivity through enhanced voice and data applications. Cox planned to use the AWS spectrum for a 3G CDMA-EVDO network in key locations and then to deploy a 4G service using a combination of AWS and 700 MHz spectrum. Cox undertook an

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SpectrumCo's actions, described above, speak for themselves. In addition, Mr. Angelakis has spoken many times on SpectrumCo's strategic thinking and his comments demonstrate that SpectrumCo was fully engaged in exploring ways to use the AWS spectrum. For example, in 2009, he stated that SpectrumCo was looking into how to take existing data, voice and video products "and add mobility to them to enhance the product set." Statement of Michael J. Angelakis, CFO & EVP, Comcast Corporation, Goldman Sachs Communacopia Conference, Transcript at 5 (Sept. 16, 2009). Time Warner Cable's CEO has said the same. Statement of Glenn Britt, CEO, Time Warner Cable Inc., Q4 2010 Time Warner Cable Inc. Earnings Conference Call (Jan. 27, 2011) ("On wireless … I think we've been pretty consistent. We are basically exploring whether packaging wireless data with our wireline offerings is something that consumers want and if there's a formula that people want. So we're trying different models, different products, what have you ...."). These statements are fully consistent with the record of SpectrumCo's actions over the past five years to clear the AWS spectrum, develop it, and explore potential uses of it as part of a viable long-term business plan.

[105] *See, e.g.*, Petition to Deny of the New Jersey Division of Rate Counsel ("New Jersey Division of Rate Counsel") at 14.

ambitious construction effort, coupled with a "quick to market" strategy as an MVNO to offer 3G service to consumers in Cox's cable footprint. Cox invested hundreds of millions of dollars in network planning, equipment and device purchases, cell tower construction and leasing, and back office and customer facing systems. In 2009 and 2010, Cox entered into vendor contracts, accelerated hiring of wireless personnel, leased and constructed cell sites, and began network trials.[106]

Key milestones in Cox's construction efforts include the following:

- March 2009 – Selected a cell site acquisition, design, and construction vendor to help with network construction.
- March 2009 – Selected a network equipment provider to provide an end-to-end CDMA solution.
- May 2009 – Announced an agreement with a provider of data management products and service controller functions.
- January 2010 – Announced successful trials in San Diego and Phoenix of IMS-based voice calling and high-definition video streaming over a 4G LTE network using Cox's AWS and 700 MHz spectrum.[107]
- January 2010 – Selected a vendor to support Cox's CDMA network by providing a broad suite of mobile messaging, roaming, and network solutions.

To build a customer base large enough to support its planned wireless network, Cox also moved quickly to enter the wireless market as an MVNO provider, launching retail services in three markets in November 2010 on Sprint's CDMA-EVDO network.[108] The launch of Cox

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[106] During this time, Cox was a leader in a consortium of smaller wireless service providers formed to address 700 MHz spectrum, equipment, and policy issues, whose work facilitated the development and modification of the Third Generation Partnership Project ("3GPP") standards for Long Term Evolution for Band Class 12 operations.

[107] Press Release, Cox, Cox Successfully Demonstrates the Delivery of Voice Calling, High Definition Video Via 4G Wireless Technology (Jan. 25, 2010), http://cox.mediaroom.com/index.php?s=43&item=469.

[108] Press Release, Cox, Cox Unveils Unprecedented 'Unbelievably Fair (SM)' Wireless Plans, Bringing More Value to the Bundle (Nov. 19, 2010), http://cox.mediaroom.com/

Wireless was the culmination of substantial effort, including negotiations with handset manufacturers, in-depth market research, product design, and employee training. Providing service as an MVNO also allowed Cox to develop business processes to support its own network-based wireless offering.

Despite Substantial Effort and Expenditure, Cox Found It Uneconomic to Provide Its Own Wireless Service. Notwithstanding Cox's extensive efforts, it soon became clear that Cox "would not be able to deploy a 3G mobile service on the AWS spectrum without sustaining unacceptably large losses."[109] Specifically, Cox's business plan, which relied on selling wireless service to customers within its cable footprint in 19 states spread across the country, ultimately was incompatible with the changing marketplace. Product differentiation and consumer acceptance depended heavily on bundling 3G wireless with Cox's video and high speed Internet services, but the transition to 4G occurred much faster than Cox anticipated. Cox realized that demand for 4G services would far outpace Cox's 3G network deployment efforts. As the Commission has recognized, "economics of scale are important in the mobile wireless industry."[110] Such scale was simply not achievable within Cox's service territory as consumer interest shifted to 4G service, rendering it impossible for Cox to recoup its costs.

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index.php?s=43&item=516. Cox continued to roll out resold service through mid-2011, ultimately offering service in eight markets. *See, e.g.*, Press Release, Cox, Cox Launches Wireless in Oklahoma (Mar. 29, 2011), http://cox.mediaroom.com/index.php?s=43&item=538; Press Release, Cox, Cox Launches Wireless in Rhode Island, Connecticut, Cleveland (May 17, 2011), http://cox.mediaroom.com/index.php?s=43&item=543; Press Release, Cox, Cox Launches Wireless in Roanoke and Northern VA (July 14, 2011), http://cox.mediaroom.com/index.php?s=43&item=549.

[109] Fenwick Declaration at ¶ 7.

[110] *Fifteenth Report*, 26 FCC Rcd at 9715 ¶ 61.

Thus, in May 2011, Cox decided to decommission its 3G network and focus on the MVNO and its effort to deploy 4G service in the future.[111] Six months later, Cox realized that it would be unable to achieve the necessary scale as an MVNO; on November 15, 2011, Cox announced that it was discontinuing its Cox Wireless service altogether and would transition existing customers to other networks.[112] That process will conclude by March 30, 2012. As summarized in the declaration of Suzanne Fenwick, the Executive Director for Corporate Development at Cox Communications, attached to the Public Interest Statement, "[t]he decision to discontinue the Cox Wireless 3G service was based on the lack of wireless scale necessary to compete in the marketplace; the acceleration of competitive 4G networks in Cox's territories, where Cox Wireless was limited by its MVNO agreement to providing 3G services; as well as the cost and complexities associated with obtaining wireless devices most attractive to consumers."[113]

3. SpectrumCo and Cox Wireless Have Fully Complied with the Commission's Buildout Rules.

Two commenters, Free Press and The New Jersey Division of Rate Counsel, improperly seek to use this proceeding to challenge the Commission's AWS buildout rules, arguing that the 15-year initial license period is too long and flexible.[114] These challenges to the existing buildout rules are beyond the scope of the Commission's analysis of these transactions.

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[111] *See* Fenwick Declaration at ¶ 5. Although Cox had initiated successful network trials in two markets, Cox had not deployed commercial service over the 3G network. *See id.*

[112] Contrary to the suggestion of Free Press, this decision came before Cox's agreements with Verizon Wireless. *See* Free Press at 24 n.33.

[113] Fenwick Declaration at ¶ 7; *see also* Press Release, Cox, Cox Communications to Discontinue Cox Wireless Service, Effective March 30, 2012 (Nov. 15, 2011), http://cox.mediaroom.com/index.php?s=43&item=569.

[114] Free Press at 36; New Jersey Division of Rate Counsel at 10-17.

As noted, the Commission properly determined that an initial term of 15 years was appropriate for AWS licenses due to the significant time and resources required to relocate incumbent users from the spectrum, to test and develop compatible technologies, and to implement other aspects of wireless deployment.[115] At the end of this initial 15-year period, upon application for renewal, AWS licensees must show that they are providing "substantial service" in their license areas.[116] The fact that SpectrumCo and Cox Wireless are not at this time providing service – after only one-third of their 15-year initial license periods – presents no compliance issue under the buildout rules.

II. THE TRANSACTIONS WILL NOT REDUCE COMPETITION.

The spectrum transactions before the Commission involve only the assignment of spectrum – nothing more. In such spectrum-only transactions – despite the entreaties of some commenters – the Commission appropriately limits its competitive analysis to the impact of the spectrum acquisition. As the Commission explained in its December 2011 *AT&T-Qualcomm Order*: "This transaction does not result in the acquisition of wireless business units and customers or change the number of firms in any market, so our competitive analysis considers only the competitive effects associated with the increases in spectrum that would be held by AT&T post-transaction."[117] The same approach governs here.

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[115] *See supra* note 98.

[116] *See* 47 C.F.R. § 27.14(a) (defining "substantial service" as "service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal"). In the *AWS-1 Service Rules Order*, the Commission agreed with RCA, the sole commenter on the issue, and specifically declined to adopt interim performance requirements "to provide flexibility to licensees to implement their business plans." *AWS-1 Service Rules Order*, 18 FCC Rcd at 25193 ¶ 77. The Commission determined a substantial service requirement would provide AWS licensee with "the flexibility required to accommodate the new and innovative services that … will be forthcoming in these bands." *Id.* at 25192 ¶ 75.

[117] *AT&T-Qualcomm Order* at ¶ 29; *see also* Katz Declaration at ¶¶ 11-19.

A. The License Assignments Will Not Cause Potential Competitive Harms in Any Affected Local Wireless Market.

While commenters make general claims about diminution of competition,[118] they fail to present specific facts or data about the impact of the transactions in any affected market – the lodestar of the Commission's competitive analysis of wireless transactions. In disposing of generalized claims similar to those raised by the same parties here, the Commission recently made clear that petitions to deny will be rejected where, as here, they fail to present "facts or evidence" that "specific competitive harm" would result in the markets at issue:

> RTG fails to raise any substantive issues, or discuss any specific competitive harm, that would result from our approval of the particular transaction before us involving any of these [affected markets]. Instead, RTG raises, in general terms, its concern[s] ....
>
> ... RTG and RCA have provided no specific allegations of fact with respect to the instant transaction.[119]

Accordingly, commenters' speculative claims about competitive harms must be rejected. That commenters do not contest the facts and data presented by Applicants or address the competitive conditions in the markets at issue only underscores the lack of any potential competitive harm.[120]

As explained in the Applications, the Commission uses three "screens" to identify markets where there may be potential competitive harms and thus warrant analysis. Two of the screens, which both pertain to changes to the post-transaction Herfindahl-Herschman Index

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[118] *See, e.g.*, Free Press at 14, 20-24; New Jersey Division of Rate Counsel at 19-21, 30; NTCH at 1-2, 4-5; Public Knowledge at 22-23; RCA at 8-10, 26-30; RTG at 11-15; Petition to Deny of Members of the Rural Broadband Policy Group *et al.* ("Rural Broadband Policy Group") at 2; Sprint Nextel at 16.

[119] *New Cingular Wireless PCS, LLC and D&E Investments, Inc.*, Order, DA 12-232, ¶¶ 6-7 (WTB rel. Feb. 16, 2012) ("*New Cingular-D&E Order*"); *see also AT&T Mobility Spectrum LLC and BTA Ventures II, Inc.*, Order, DA 12-234, ¶¶ 6-8 (WTB rel. Feb. 16, 2012) ("*AT&T-Mobility-BTA Ventures Order*").

[120] One commenter seeks granular market-by-market data, yet offers no basis as to why such data is necessary. *See* RCA at 21-22.

("HHI"), do not apply here because these are spectrum-only transactions.[121] The third screen is designed to "identify markets where the spectrum amounts held by a transferee post-transaction provide reason for further competitive analysis of spectrum concentration."[122] This "spectrum" screen is 145 MHz in nearly all markets nationally,[123] which is approximately one-third of the spectrum deemed "suitable" for mobile telephony/broadband services.[124] Where this screen is not exceeded, the Commission conducts no further inquiry: "[T]he purpose of this initial screen is to *eliminate from further review* those markets in which there is clearly no competitive harm relative to today's generally competitive marketplace."[125]

The overwhelming majority of the markets at issue are below the spectrum screen: 121 of the 136 markets included in these transactions[126] – or approximately 89 percent – are below

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[121] *See AT&T-Qualcomm Order* at ¶ 31 n.91 (holding that, "[b]ecause the instant transaction does not result in the acquisition of wireless business units and customers or change the number of firms in any market, we do not apply an initial screen based on the size of the post-transaction Herfindahl-Hirschman Index ('HHI') of market concentration and the change in the HHI").

[122] *AT&T-Qualcomm Order* at ¶ 31; *see also AT&T-Verizon Wireless Order*, 25 FCC Rcd at 8720-8721 ¶ 32.

[123] *Cellco Partnership d/b/a Verizon Wireless and Atlantis Holdings LLC*, Memorandum Opinion and Order and Declaratory Ruling, 23 FCC Rcd 17444, 17473¶ 53, 17477-78 ¶ 64 (2008) ("*Verizon Wireless-ALLTEL Order*") (noting that the screen includes those spectrum bands designed for cellular, PCS, SMR and 700 MHz services, as well as AWS-1 and BRS spectrum), *recon. denied*, 26 FCC Rcd 11763 (2011).

[124] *See AT&T-Qualcomm Order* at ¶ 38; *Fifteenth Report*, 26 FCC Rcd at 9827 ¶ 281.

[125] *Sprint Nextel Corp. and Clearwire Corp.*, Memorandum Opinion and Order, 23 FCC Rcd 17570, 17601 ¶ 76 (2008) ("*Sprint Nextel-Clearwire Order*") (emphasis added); *see also AT&T Wireless Services, Inc. and Cingular Wireless Corp.*, Memorandum Opinion & Order, 19 FCC Rcd 21522, 21569 ¶ 109 (2004) ("*AT&T Wireless-Cingular Order*").

[126] The SpectrumCo licenses cover areas within 120 Basic Economic Areas ("BEAs") and one Regional Economic Area Grouping ("REAG") (Hawaii). *See* Verizon Wireless-SpectrumCo Public Interest Statement at 1. The Cox Wireless licenses cover areas within 29 BEAs. *See* Verizon Wireless-Cox Wireless Public Interest Statement at 1. Although the actual geographic areas covered by the licenses do not overlap, *see* Verizon Wireless-Cox Wireless Application, Exh. 3 at 1, 13, there are a number of BEAs in which there is more than one license. As a result, there are 135 BEA markets and one REAG market included in the combined transactions. The

the threshold. Verizon Wireless' post-transaction spectrum holdings would remain below the screen in 2,531 of the 2,577 counties covered by the SpectrumCo and Cox Wireless licenses[127] – or in more than 98 percent of all the covered counties. Indeed, of the approximately 287 million POPs covered by the AWS licenses, approximately 281.8 million POPs – or 98 percent – are located in areas where the screen is not exceeded. Putting aside the fact that the existing screen does not include additional spectrum that some competitors are in fact using to provide mobile services (such as the PCS G Block and the EBS spectrum),[128] and even limiting the analysis to the 422 MHz of spectrum that the Commission treats as available and suitable for mobile telephony/broadband services,[129] no review is appropriate in these areas under Commission precedent. According to the Commission, "there is no need for additional analysis where there [i]s at least [two-thirds of the mobile telephony spectrum] available to other firms to compete in the provision of mobile telephony services."[130]

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screen is triggered in only 15 of the BEA markets. *See* Verizon Wireless-SpectrumCo Public Interest Statement at 24-25; Verizon Wireless-SpectrumCo Application, Exh. 7 at 1-3; Verizon Wireless-Cox Wireless Public Interest Statement at 21.

[127] As noted in the Applications, Verizon Wireless would remain below the screen in 2,230 of the 2,276 of the counties covered by the SpectrumCo licenses and in all 303 counties covered by the Cox Wireless licenses. *See* Verizon Wireless-SpectrumCo Public Interest Statement at 25; Verizon Wireless-SpectrumCo Application, Exh. 5 and Exh. 7 at 2; Verizon Wireless-Cox Wireless Public Interest Statement at 21; Verizon Wireless-Cox Wireless Application, Exh. 5. Although the actual geographic areas covered by the licenses do not overlap, SpectrumCo and Cox Wireless each holds licenses that encompass non-overlapping partitioned portions of the same two counties (Santa Barbara and Orange Counties in California). As a result, the combined total number of counties covered by the licenses is 2,577, of which the screen is exceeded in only 46 counties. *See* Verizon Wireless-SpectrumCo Public Interest Statement at 28. These figures take into account spectrum Verizon Wireless proposes to acquire from Leap Wireless, Savary Island License A, and Savary Island License B, in separate transactions pending before the FCC.

[128] *See infra* notes 180-181 and accompanying text.

[129] *See infra* note 157 and accompanying text.

[130] *AT&T Inc. and Dobson Communications Corp.*, Memorandum Opinion and Order, 22 FCC Rcd 20295, 20313 ¶ 30 (2007) ("*AT&T-Dobson Order*"); *see also id.* at 20317 ¶ 39.

B. Competition Will Remain Robust Even in the Few Areas Where the Screen Is Exceeded.

Even in the relatively few BEAs where the spectrum screen is exceeded, there will be no adverse competitive effects.[131] Nor does any commenter offer any facts or evidence that the transactions will result in harmful spectrum aggregation in any geographic area where the screen is exceeded.

The impact of the proposed assignments on factors relevant to the Commission's analysis is so small here that there is no basis for concern.[132] Factors that normally would be taken into account in the merger context – for example, whether there will be a reduction in the number of competitors providing service or an increase in market share – are not relevant here.[133] Here, the total number of counties exceeding the screen is extremely small. In most of these counties, the total amount of spectrum by which the screen is exceeded also is small, in some cases only two MHz, and in all cases there are many other companies that hold ample spectrum that could be used to compete against Verizon Wireless.[134] Specifically, the spectrum screen is triggered in only 46 counties located in 15 of the 136 geographic areas at issue in the transactions.[135] These

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[131] *See generally* Verizon Wireless-SpectrumCo Public Interest Statement at 26-33; Verizon Wireless-SpectrumCo Application, Exh. 7.

[132] *See* Verizon Wireless-SpectrumCo Public Interest Statement at 26-27.

[133] *See id.* (citing *Aloha-AT&T Order*, 23 FCC Rcd at 2237 ¶ 12; *Cellco Partnership d/b/a Verizon Wireless and Rural Cellular Corp.*, Memorandum Opinion and Order and Declaratory Ruling, 23 FCC Rcd 12463, 12497 ¶ 70 (2008) ("*Verizon Wireless-RCC Order*")).

[134] *See* Verizon Wireless-SpectrumCo Public Interest Statement at 28-29; Verizon Wireless-SpectrumCo Application, Exh. 7.

[135] These 46 counties represent only 1.79 percent of the 2,577 total counties covered by SpectrumCo's and Cox Wireless' AWS licenses, and according to U.S. Census Bureau figures, their combined 2010 population is 5,170,466 (only about 1.82 percent of the total population covered by these licenses).