

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

In the Matter of

Amendment of Part 27 of the Commission's
Rules to Govern the Operation of Wireless
Communications Services in the 2.3 GHz Band

Establishment of Rules and Policies for the
Digital Audio Radio Satellite Service in the
2310-2360 MHz Frequency Band

WT Docket No. 07-293

IB Docket No. 95-91
GEN Docket No. 90-357
RM-8610

To: The Commission

PETITION FOR PARTIAL RECONSIDERATION

James J.R. Talbot
Michael P. Goggin
Gary L. Phillips
Paul K. Mancini

Of Counsel:
Arnold & Porter LLP
555 Twelfth Street, N.W.
Washington, D.C. 20004
Telephone: (202) 942-5634

Attorneys for AT&T Inc.
1120 Twentieth Street, N.W.
Suite 1000
Washington, D.C. 20036
Telephone: (202) 457-3048

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SUMMARY

The Commission acted with injudicious haste in adopting the new WCS performance rules and without an adequate record to support its performance requirements and many of the WCS technical rules. Indeed, many of the rules are inconsistent with the record. Moreover, contrary to the Commission's unsupported assertions, the performance rules do not provide sufficient time to develop technical standards, design, test, and manufacture equipment, and deploy mobile broadband network facilities to meet the performance standards.

In adopting the performance requirements, the Commission has created significant hurdles to investment in mobile broadband WCS networks, especially when considered in light of the "death penalty" of losing entire licenses for failing to meet the increased performance requirements and the uncertainty regarding the future substantial service and renewal expectancy requirements the Commission currently is considering in WT Docket No. 10-112. This uncertainty will make it difficult, if not impossible, for smaller licensees to raise the capital necessary to deploy mobile broadband WCS networks. Even for larger licensees, this uncertainty raises serious questions about the wisdom of expending capital to build facilities that may not be sufficient to ensure renewal.

Some of the new rules will relegate 2.3 GHz WCS broadband service to a "second-class" status, unable to deliver the performance provided by other wireless bands and expected by consumers. Even though the Commission had not proposed it, no party sought it, and the record does not support it, the Commission adopted a power spectral density ("PSD") limit for mobile transmitters. Mobile wireless technology has not been designed to account for PSD limits on mobile transmitters. Trying to graft such a limit onto current and forecast technologies and networks will require a dramatic increase in the number of cells (while, at the same time, likely leaving a significant number of coverage holes) and will reduce the quality, throughput, and

efficiency of mobile wireless WCS networks.

Frequency-division duplex (“FDD”) technology offers a number of spectrum efficiency and other advantages for mobile wireless network performance over time-division duplex (“TDD”) technology. However, the adopted rules will prevent WCS networks from realizing these advantages by constraining the mobile transmit duty cycle for FDD more than for TDD without any basis in the Ashburn tests. Moreover, the reduced interference potential of LTE relative to WiMAX makes it reasonable to increase the FDD and TDD duty cycles when LTE is used. Similarly, the restrictions on outdoor antennas are unwarranted where licensees use equipment that meets the former OOB standards (or new standards, as the WCS Coalition is proposing). Operation of WCS facilities using those antennas has not caused any harmful interference to Sirius XM receivers. Precluding licensees from using those outdoor antennas in the future limits their ability to use WCS spectrum to provide fixed broadband service, particularly in rural areas, as well as other fixed services that may require such antennas.

The arbitrary and capricious performance requirements and the inadequately considered technical rules discussed in this Petition create substantial disincentives for licensees to risk capital building WCS facilities and significantly limit the potential uses of this spectrum. Instead of imposing unrealistic and unnecessary requirements on WCS licensees, the Commission should give them the freedom and the time to deploy the technologies and systems that the marketplace wants.

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AT&T Inc., on behalf of its WCS licensee subsidiaries (collectively, "AT&T"), respectfully requests the Commission to reconsider the WCS performance and technical rules discussed below that were adopted in the above-referenced proceeding.¹ The unrealistic performance rules and the unduly restrictive technical rules will not facilitate the use of WCS spectrum for mobile broadband wireless services as the Commission hopes. To allow the use of this band for mobile broadband and other services precluded by the new rules, the Commission must reconsider those rules and revise them to (i) require coverage of 40% of the population by the end of the current license term in 2017 and 75% by June 2020; (ii) remove the PSD limit; (iii) increase the permissible mobile and portable duty cycle for both TDD and FDD to 43.333%; (iv) permit FDD mobile and base operations in both the upper and lower portions of the A and B

¹ *Amendment of Part 27 of the Comm'n's Rules to Govern the Operation of Wireless Commc'ns Servs. in the 2.3 GHz Band; et al.*, WT Dkt No. 07-293, et al., Report and Order and Second Report and Order, FCC 10-82 (rel. May 20, 2010) ("*Report & Order*"). Since the *Report & Order* was published in the Federal Register on August 2, 2010, this Petition is timely filed.

Blocks; (v) adopt “keep what you use” performance standards and renewal requirements to encourage investment in WCS facilities; (vi) apply traditional substantial service requirements to the C and D Blocks; and (vii) allow fixed outdoor antennas to operate as proposed in the petition for reconsideration being filed today by the WCS Coalition (“WCS Coalition Petition”).

I. INTRODUCTION

The Commission acted with injudicious haste in adopting the new WCS performance rules and without an adequate record to support many of the WCS technical rules. It adopted its *Report & Order* less than eight weeks after it sought comment on the proposed performance and technical rules.² This breakneck pace limited the ability of the parties to appreciate fully the implications of the proposals or to take into account the changing technology suitable for the band. It also limited the Commission’s ability to review the comments it received and to take them properly into account in formulating its rules. As a result, a number of the rules lack any support in the record and, indeed, run contrary to it.

The arbitrary and capricious performance requirements and the inadequately considered technical rules discussed in this Petition significantly limit the potential uses of this spectrum and create material disincentives for licensees to risk capital building mobile broadband WCS facilities. Licensees that commit to deploy mobile broadband, despite the significant risks, likely will be forced to seek extensions of time or waivers of the construction deadlines. Instead of imposing unrealistic requirements, the Commission should give WCS licensees the freedom and the time to deploy the technologies and systems that the marketplace wants.

² *Federal Commc’ns Comm’n Requests Comment on Revision of Performance Requirements for 2.3 GHz Wireless Commc’ns Serv.*, Public Notice, 25 FCC Rcd. 3449 (2010); *Comm’n Staff Requests that Interested Parties Supplement the Record on Draft Interference Rules for Wireless Commc’ns Serv. & Satellite Digital Audio Radio Serv.*, Public Notice, 25 FCC Rcd. 3319 (2010) (“*Technical Public Notice*”).

II. THE NEW WCS PERFORMANCE REQUIREMENTS ADOPTED BY THE COMMISSION ARE ARBITRARY AND CAPRICIOUS

Under well-established precedent, agencies must justify changes to existing rules.³ The WCS performance requirements adopted in the *Report & Order* depart from the previous rules without any support in the record for the Commission’s conclusion that they are attainable. Likewise, in its haste to make the 2.3 GHz WCS band available for broadband service, the Commission acted with insufficient support for its technical rule changes and ignored much of the record it had. Such decision-making is the height of arbitrary and capricious actions and must be reconsidered. In particular, the Commission must give WCS licensees adequate time to deploy their networks.

A. The Increased Performance Requirements Have No Support in the Record

The FCC rested the new rules on the grounds that it was concurrently “reducing the technological uncertainties that existed in 1997 by revising technical restrictions to enable WCS licensees to provide new high-value broadband and other innovative services in the band”⁴ and that the steeper standards would “ensur[e] that underutilized spectrum will be used intensively in the near future.”⁵ Neither reason suffices. Even assuming that the new technical standards will enable the intensive broadband services the Commission wants for the 2.3 GHz WCS band (which they will not, as described below), their adoption standing alone does not support the *specific* performance requirements imposed by the Commission. Nor is there any evidence in the record to show that it is reasonable, and thus lawful, to conclude that standards can be developed,

³ *E.g.*, *FCC v. Fox Television Stations, Inc.*, 129 S. Ct. 1800, 1810-12 (2009); *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42 (1983) (“[A]n agency changing its course by rescinding a rule is obligated to supply a reasoned analysis for the change beyond that which may be required when an agency does not act in the first instance.”).

⁴ *Report & Order* at ¶ 196.

⁵ *Id.* at ¶ 195.

equipment designed, network sites built, and equipment deployed in the timeframes the Commission selected.

To the contrary, the record shows that these deadlines are not realistically achievable. Both the WCS Coalition and AT&T advised the Commission that the proposed performance standards called for too aggressive a construction schedule in light of the work to be done.⁶ The WCS Coalition, AT&T, and Horizon Wi-Com also warned that the FCC's rush to decision did not provide sufficient time for commenters to study the new technical rules, understand their implications with respect to construction timetables, and submit informed comments.⁷ The WCS Coalition urged the FCC to issue a further notice of proposed rulemaking to allow for fully informed comments and a record that would justify the Commission's ultimate decisions.

The FCC rejected these concerns, finding that “[b]ased on the record, we believe that existing mobile WiMAX and other equipment can be adapted efficiently to comply with the revised WCS technical rules, and that the construction deadlines . . . provide adequate time for licensees to obtain financing, and reasonably accommodate equipment manufacturing and deployment cycles.”⁸ In making that statement, the Commission did not cite to anything in the record (or elsewhere) to support its claim, and there is nothing. As we show below, the new performance requirements cannot be met by providers that wish to use WCS spectrum to provide

⁶ Comments of the WCS Coalition, at 16 (filed Apr. 21, 2010) (“WCS Coalition Comments”); Reply Comments of AT&T, at 2-3 (filed May 3, 2010) (“AT&T Reply Comments”). While the WCS Coalition supported the requirement for 15 and 30 links per million of population for point-to-point services, it did so based on a proposed timeframe of five and seven and one-half years, not on the three and one-half and five years adopted by the Commission. See Reply Comments of the WCS Coalition, at 8 n.20 (filed Apr. 29, 2010) (“WCS Coalition Reply Comments”).

⁷ AT&T Reply Comments at 2; WCS Coalition Comments at 7-10; Comments of Horizon, at 4-5 (filed April 21, 2010). As discussed below, even the timetable suggested by the WCS Coalition was overly optimistic. See pp. 10-11.

⁸ *Report & Order* at ¶ 199.

mobile broadband services.

In claiming that the new performance standards are realistic, the Commission said only that “Clearwire’s trailblazing efforts to deploy WiMAX in the 2.5 GHz band will facilitate expeditious deployment of WiMAX services in the 2.3 GHz band.”⁹ However, as Horizon Wi-Com noted, Clearwire has reached less than 30% of the population in its licensed area in the six years since the BRS/EBS rules were changed.¹⁰ Without diminishing Clearwire’s concerted effort to build out its WiMAX network, its deployment does not support the Commission’s conclusion that WCS licensees will be able to cover 40% of the population of their licensed areas by March 1, 2014 or 75% by September 1, 2016, as the new performance rules require.

Put simply, the Commission’s belief, undocumented by any evidence, that such extensive buildout can occur within an essentially randomly selected timeframe does not satisfy the APA.¹¹ To compound this arbitrariness, days later, the Commission gave the winners of newly auctioned BRS licenses five years merely to provide traditional substantial service. Yet, in doing so, the Commission recognized that WCS licensees “faced equipment, technical, or federal relocation

⁹ *Id.* at ¶ 201.

¹⁰ Ex Parte Letter of Horizon Wi-Com LLC, at 2 (filed May 11, 2010) (filed as “Telcom Ventures, LLC”). Clearwire began commercial 2.5 GHz WiMAX service on January 6, 2009. *See* Press Release, Clearwire, Clearwire Introduces Clear(TM) 4G Mobile Internet Service to Portland (Jan. 6, 2009), *available at* <http://newsroom.clearwire.com/phoenix.zhtml?c=214419&p=irol-newsArticle&ID=1240894&highlight=>. Clearwire claims to have reached 69 service areas by August 2010. *See* Clearwire, 69 Markets and Growing, www.clearwire.com (screen 2) (last visited Aug. 31, 2010); *see also* Lynnette Luna, *Sprint Tests More Aggressive WiMAX Pricing in Select Markets*, *Fierce Broadband Wireless*, Aug. 19, 2010, <http://www.fiercebroadbandwireless.com/story/sprint-tests-more-aggressive-wimax-pricing-select-markets/2010-08-19>. AT&T engineers estimate that approximately 1500 sites are needed to serve those 69 service areas. In other words, Clearwire deployed 950 sites per year. Declaration of Douglas Duet at ¶ 11 (“*Duet Decl.*”). Based on AT&T’s estimates of the number of sites it needs to cover 40% of the population in its license areas, at Clearwire’s rate, it would take many years longer than the Commission allowed or even than the longer timeframes that AT&T believes are required.

¹¹ *See, e.g., Fox Television Stations, Inc.*, 129 S. Ct. at 1811 (under the APA, an agency must “of course . . . show that there are good reasons for the new policy”).

issues that made buildout more difficult and that BRS does not face.”¹² These decisions are impossible to reconcile.

B. The Performance Requirement Deadlines Should Be Postponed to Permit the Use of LTE Technology

LTE technology is at least an equal, if not a better, choice than the WiMAX technology on which the Commission focused as it developed the new rules.¹³ Of particular importance, LTE has a lesser potential for uplink interference to SDARS than WiMAX. In addition, since most wireless providers are moving to LTE technology for 4G service,¹⁴ using LTE will permit those providers to enjoy greater economies of scale. For these reasons, the public interest requires the Commission to adopt performance requirements that will enable WCS licensees to adopt LTE.

Unfortunately, the technical standards for LTE equipment operating in the WCS band

¹² *Amendment of Parts 1, 21, 73, 74 & 101 of the Comm’n’s Rules to Facilitate the Provision of Fixed & Mobile Broadband Access, Educ. & Other Advanced Servs. in the 2150-2162 & 2500-2690 MHz Bands*, WT Docket No. 03-66, Third Report and Order, FCC 10-107, at ¶ 13, (rel. June 3, 2010).

¹³ See *Report & Order* at ¶¶ 200-01. Recent trade press reports indicate that Clearwire, which has championed the use of WiMAX, is considering migrating to LTE. See, e.g., Sascha Segan, *Clearwire Tests ‘Super-LTE’, Introduces iSpot*, PCmag.com, Aug. 5, 2010, <http://www.pcmag.com/article2/0,2817,2367429,00.asp> (discussing Clearwire’s plan to test LTE).

¹⁴ See *Duet Decl.* at ¶ 3; Bill Lane, FCC, Public Safety and Homeland Security Bureau, Tech Topic 22: Application of Emerging Wireless Broadband Technology for Public Safety Communications, <http://www.fcc.gov/pshs/techtopics/techtopics22.html> (last visited Aug. 30, 2010) (“Many of the commercial cellular carriers have announced their plans to move to LTE in the near future.”); Sascha Segan, *Clearwire Tests ‘Super-LTE’, Introduces iSpot*, PCmag.com, Aug. 5, 2010, <http://www.pcmag.com/article2/0,2817,2367429,00.asp> (discussing Clearwire’s plan to test LTE and stating that “every . . . major US cell phone carrier—Verizon, AT&T, T-Mobile, MetroPCS and Cricket—has committed to the LTE 4G technology, which is fast becoming a global standard.”); Kent German, *U.S. Cellular Reveals Android, LTE Plans*, CNET Dialed In Blog, Aug. 6, 2010, http://www.cnet.com/8301-17918_1-20012937-85.html (“New smartphones and LTE technology are on their way to U.S. Cellular.”).

have not yet been developed, and, as shown below,¹⁵ because of the timing cycle for LTE standards development, an LTE standard for WCS cannot be developed before June 2012.¹⁶ Since equipment will not be available until 18 months thereafter, licensees will not be able to use LTE and meet the performance requirements unless the Commission extends its timelines.¹⁷

1. LTE Technology Will Reduce the Interference Potential of Mobile WCS

Compared to WiMAX, LTE technology will reduce interference to SDARS receivers from the uplink (mobile to base station) by 2 to 2.5 dB.¹⁸ In its new rules, the Commission chose to regulate average power. However, recognizing the potential for increased interference caused by higher peak power, the Commission also adopted a maximum peak to average power ratio (“PAPR”) of 13 dB for base stations.¹⁹

WiMAX systems use orthogonal frequency division multiple access (“OFDMA”) in both directions, while mobile devices in an LTE system use single-carrier frequency division multiple access (“SC-FDMA”) in the uplink (which is the direction of concern). For OFDMA, the PAPR varies from 7.9 to 8.2 dB depending on the modulation used; for SC-FDMA, the PAPR varies from 5.4 to 6.2 dB, making the PAPR of LTE lower than that of WiMAX by 2 to 2.5 dB.²⁰ Thus, the interference potential of LTE mobile transmissions based on peak power is 2 to 2.5 dB less than WiMAX.²¹ Consequently, giving WCS licensees enough time to build out their networks to permit LTE technology will both facilitate the use of the spectrum for mobile

¹⁵ See pp. 9-10.

¹⁶ *Duet Decl.* at ¶ 6.

¹⁷ *Id.* at ¶¶ 7-8.

¹⁸ *Id.* at ¶ 4.

¹⁹ 47 C.F.R. § 27.50(a)(1)(B); *Report & Order* at ¶ 34.

²⁰ *Duet Decl.* at ¶ 4; Farooq Khan, LTE for 4G Mobile Broadband—Air Interface Technologies and Performance 91-96 (2009).

²¹ *Duet Decl.* at ¶ 4. As explained below, this extra margin of interference protection would permit LTE systems to operate with a higher duty cycle than WiMAX systems, and the technical rules should be changed to reflect the lower interference potential of LTE. See p. 18.

broadband and reduce the potential interference to SDARS.

2. LTE Technology Cannot Be Deployed in the WCS Band in the Timeframe Set by the Performance Standards

a. LTE Standards for the WCS Band Must Be Developed

The 3rd Generation Partnership Project (“3GPP”)²² is the standards-setting body for Global System for Mobile Communications (“GSM”)-based communications networks including LTE. There is currently no LTE standard covering the WCS band, and one must be added before WCS LTE systems can be deployed in the United States.²³

3GPP is in the process of finalizing LTE Release 10.²⁴ Because of the current activity to finish that release, the next realistic opportunity to incorporate WCS into the LTE standards would begin with adoption of a work item at the 3GPP plenary in March 2011. Adoption of the item probably would lead approximately 15 months later (June 2012) to an LTE standard incorporating the WCS band and both FDD and TDD.²⁵ Consequently, the network and device equipment design phase for deploying WCS LTE systems cannot begin until the middle of 2012. Extrapolating from that date, and based on its experience and discussions with equipment manufacturers, AT&T expects that LTE equipment for the WCS band will become available in December 2013, at the earliest.²⁶ And, while some preparatory work can be started before then,

²² See 3GPP, The Mobile Broadband Standard, <http://www.3gpp.org/> (last visited Aug. 30, 2010).

²³ *Duet Decl.* at ¶ 5. There is a mobile LTE standard for Band 40 (2300-2400 MHz) that is used in China and India. That standard must be modified for WCS since the WCS allocation consists of only a portion of that band. In addition, the LTE standard for Band 40 uses TDD technology while most U.S. carriers are deploying LTE systems using FDD technology. *Id.*; Monica Paolini, *TD-LTE: The Most Powerful Weapon in the LTE Arsenal Against WiMAX*, Fierce Broadband Wireless, Mar. 29, 2010, <http://www.fiercebroadbandwireless.com/story/td-lte-most-powerful-weapon-lte-arsenal-against-wimax/2010-03-29>.

²⁴ *Duet Decl.* at ¶ 6.

²⁵ *Id.*

²⁶ *Id.* at ¶ 7. Any delays in the standards-setting process (including issuance of an Order on

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most of the work required to deploy a WCS network cannot occur until equipment is available.²⁷

b. Deployment of LTE Facilities Will Extend Beyond the Performance Deadlines²⁸

While the ability to deploy WCS networks will vary from licensee to licensee, no licensee can satisfy the Commission's performance targets using LTE technology. AT&T has calculated the number of sites at which it will need to deploy WCS equipment. Based on its extensive experience in deploying wireless networks, AT&T estimates that, assuming equipment is available in December 2013, it will not be able to provide service to 40% of the population of its licensed areas until June 2017 and service to 75% until June 2020, well beyond the target dates set by the Commission.²⁹ This conclusion is based on consideration of the speed at which

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Reconsideration that is too late to permit adoption of LTE for WCS as a work item at the March 2011 3GPP plenary) or equipment design and production phases could push this date back more.²⁷ *Id.* at ¶ 8. The system design can begin once the standards are known and possibly earlier.

Where additional cell sites are needed, beginning steps to locate and construct those sites can overlap with the manufacture and testing of the equipment. However, deploying the radios cannot commence until they have been designed, tested, and manufactured in volume. *Id.*

²⁸ This discussion concerns exclusively the construction of LTE facilities in the 2.3 GHz WCS band, which, as noted above, requires adding the band to the LTE standard. It does *not* apply to construction of LTE facilities on any other bands.

²⁹ As noted above, delays in the standards-setting process or equipment design and production phases could push equipment availability—and, thus, the projected dates of deployment completion—back further. The timelines discussed in the text assume that the uncertainty surrounding the renewal of the WCS licenses will have been resolved by the time licensees need to commit capital to deployment—when the standard has been set, and vendors are waiting for assurances of demand before designing equipment. Additionally, “uncertainty over the renewals has affected licensee decisions concerning the extent to which they can risk capital on deploying even the services available under the old technical standards, let alone the more-robust broadband services envisioned in the Commission’s 2010 WCS Order.” *Amendment of Parts 1, 22, 24, 27, 74, 80, 95, & 101 to Establish Unif. License Renewal, Discontinuance of Operation, & Geographic Partitioning & Spectrum Disaggregation Rules & Policies for Certain Wireless Radio Servs.*, WT Dkt No. 10-112, Opposition of AT&T Inc. to Petition for Reconsideration of Green Flag Wireless, LLC, CWC License Holding, Inc., James McCotter, and NTCH-CA, Inc., at 16 (filed Aug. 23, 2010). The Commission should not expect any significant investment in new deployment while the Green Flag, et al. challenges or the insecurity caused by the proposed change to renewal requirements, *see* pp. 12-14 below, persists.

equipment manufacturers typically deliver equipment, the lead time to modify existing facilities to incorporate new frequencies, the capacity of the contractors shared across the mobile wireless industry, and the time required to locate and construct additional sites for its WCS deployment.³⁰ As June 2017 is just a month ahead of the end of the license term, it would be reasonable for the Commission to require 40% coverage by the end of the term.

3. WiMAX Facilities Cannot Be Deployed Within the Performance Timelines

Even for licensees that choose to build WiMAX facilities, the performance requirements are problematic. The WCS Coalition projected that it would take five years for a WCS licensee to serve 35% of a license area population and seven and a half to serve 70%. The Commission shortened the timeframes by 20-30% and increased the coverage requirements solely on the grounds that it had relaxed the technical rules and that the rapid deployment of WCS mobile service would advance the public interest.³¹ That something would be in the public interest, however, says nothing about whether it is attainable. And the only evidence in the record is that the new requirements are not.³² While WiMAX standards are in place, the Commission has acknowledged that network and handset equipment must be designed and manufactured and a network built.³³ In its Reply Comments, the WCS Coalition stated that it would take between 12

³⁰ *Duet Decl.* at ¶ 9. AT&T's timeframe benefits from its ability to leverage its existing mobile wireless network. If AT&T had to build an extensive number of greenfield sites, as some licensees are likely to do, it probably would take longer than the times projected.

³¹ *Report & Order* at ¶¶ 197-98.

³² *See* pp. 4-6.

³³ *Report & Order* at ¶¶ 199-200 (providing additional time “for the development and deployment of new equipment in the band” and asserting that the new performance deadlines “will accommodate the development and deployment of a range of technologies in the WCS band”). As demonstrated in this Petition, the “additional time” the Commission provided is, in fact, less than has been afforded to other wireless services that do not share the complications of the WCS band, and cannot be met by licensees even using the system for which equipment will be ready the soonest (WiMAX).

and 18 months for WCS WiMAX equipment to be available, with shipments in volume several months thereafter.³⁴ Based on the Coalition's estimate, WCS licensees could begin deploying WiMAX networks at full scale in roughly January 2013. Deployment of a WiMAX network should take approximately the same time as an LTE network.³⁵ Accordingly, AT&T estimates that it would not be able to deploy a WiMAX network to meet the 40% performance requirement until July 2016 and the 75% requirement until July 2019, well after the Commission deadlines.³⁶

Thus, requiring WCS licensees to meet the current performance requirements will preclude them from building mobile broadband networks.

C. Additional Major Regulatory Uncertainties Will Deter Investment in WCS Facilities and Further Delay Deployment

As the discussion above establishes, even if WCS licensees build WiMAX networks as rapidly as they can, they likely will fall far short of the new performance standards. Smaller licensees will face much greater difficulty in raising capital for construction and initial operations. As the Commission has recognized in numerous proceedings, investors need to know what is required for renewal, so they can rationally measure the risks associated with investing in a new start up or a company with a limited history whose business plan is tied to a single venture, such as WCS service.³⁷ Moreover, as Columbia Capital noted in its May 12,

³⁴ WCS Coalition Reply Comments at 4-5; *see also* Written Ex Parte Presentation of the WCS Coalition, at 1 (filed May 11, 2010).

³⁵ *Duet Decl.* at ¶ 10.

³⁶ Although a WiMAX network should be able to achieve the 40% and 75% population coverage benchmarks by these dates—assuming all goes well along the way—these dates should not be written into the rules. To preserve technological neutrality and to allow for the public to enjoy the real advantages of LTE, the Commission should incorporate the later LTE dates into the rules. As discussed above, these timelines will slip if the uncertainty caused by pending proceedings related to license renewals persists. *See* note 34. The deadlines for deploying point-to-point links also should be extended to match the LTE timeline. Otherwise, deadlines—and not customer demand—will drive technology choices.

³⁷ *See, e.g., Principles for Promoting the Efficient Use of Spectrum by Encouraging the*

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2010 *ex parte* presentation, investors in smaller companies typically provide funding on a staged basis in order to evaluate the performance of the new entity and to minimize their risk.³⁸ The performance requirements here make that difficult since they will require a substantial investment to meet the performance metric before licensees have a reasonable opportunity to obtain subscribers or market penetration.³⁹

Even the larger licensees will be reluctant to make the substantial investments that will be required to meet the performance standards when achieving them is dubious, there is no assurance that achieving them will warrant a renewal,⁴⁰ and the entire investment could be lost since the Commission refused to allow licensees to “keep what they use.”⁴¹ Thus, rather than encouraging investment in WCS for mobile broadband use, the Commission’s proposals here and in the *Renewal NPRM* have created significant disincentives to such investment.⁴² Giving

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Development of Secondary Mkts., Policy Statement, 15 FCC Rcd. 24178, 24186, ¶ 20 (2000) (noting that “licensees should generally have clearly defined usage rights to their spectrum, including frequency bands, service areas, and license terms of sufficient length, with reasonable renewal expectancy, to encourage investment”); *Amendment of the Comm’n’s Rules to Establish Part 27, the Wireless Commc’ns Serv. (“WCS”)*, Report and Order, 12 FCC Rcd 10785, 10840, 10844, ¶¶ 106, 113 (1997) (stating that a “relatively long license term, combined with a renewal expectancy, will help to provide a stable regulatory environment that will be attractive to investors” and giving safe harbor examples “to provide WCS licensees a degree of certainty as to how to comply with the substantial service requirement by the end of the initial license term”).

³⁸ Written Ex Parte Communication of Columbia Capital, at 1-2 (filed May 12, 2010).

³⁹ This risk is not mitigated by the possibility that the Commission might grant extensions where licensees have shown that they have diligently attempted to meet the buildout requirements. It is highly questionable whether many businesspeople will make the significant investments required to build out a WCS network on the possibility that the Commission *might* in the future grant an extension of time.

⁴⁰ *Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, & 101 to Establish Unif. License Renewal, Discontinuance of Operation, & Geographic Partitioning & Spectrum Disaggregation Rules & Policies for Certain Wireless Radio Servs.*, Notice of Proposed Rulemaking and Order, 25 FCC Rcd. 6996, 7005-06, ¶¶ 22-24 (2010).

⁴¹ *Report & Order* at ¶¶ 215-216.

⁴² *Cf. Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 858 (D.C. Cir. 1970) (recognizing that renewal expectancies “are provided in order to promote security of tenure and

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licensees adequate time to construct and reasonable assurance that their entire investment would not be lost if they failed to meet the buildout requirements would avoid these pitfalls. Thus, in addition to revising the performance requirements, the Commission should reconsider the “death penalty” approach adopted by the *Report & Order* and, instead, adopt a “keep what you use” approach to encourage investment in WCS broadband facilities.

Similarly, the risk of license loss from the comparative renewal challenges of Green Flag, et al. will forestall significant investments in WCS deployment. These challenges also will need to be resolved conclusively before the Commission will see the mobile broadband deployments contemplated by the new performance requirements.

III. THE TECHNICAL REQUIREMENTS RELEGATE WCS TO SECOND-CLASS STATUS AS A BROADBAND SERVICE AND WILL DETER BUILDOUT

Through the *Report & Order* the Commission largely sought to make spectrum available for broadband service—and, in particular, mobile broadband service.⁴³ However, the technical rules adopted for the 2.3 GHz WCS band leave the band crippled for that purpose. Specifically, the power spectral density limit included in the rules will increase the cost of network deployment markedly by requiring a substantial increase in the number of cell sites. At the same time, it will reduce the quality, throughput, and efficiency of mobile wireless WCS networks. In addition, the mobile and portable device duty-cycle limits substantially limit uplink throughput, constrain video applications, interactive gaming, and other uplink-intensive advanced services. Since using the same duty cycle for TDD and FDD will not increase interference to SDARS

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to induce efforts and investments, furthering the public interest, that may not be devoted by a licensee without reasonable security”); *Interactive Video & Data Serv. (IVDS) Licenses*, Order, 10 FCC Rcd. 4014, 4014, ¶¶ 2, 4 (WTB 1995) (waiving the buildout requirements for certain IVDS licensees “given the uncertainty that exists concerning their licenses” due to a court challenge of “the lottery process used to award these licenses”).

⁴³ *Report & Order* at ¶ 1.

receivers, there is no basis for imposing a more stringent duty cycle on FDD transmission than on TDD. Moreover, there is no record basis for the 38% duty cycle adopted for TDD or the 25% standard adopted for FDD, which effectively precludes the use of FDD in a mobile environment. Furthermore, the severe restrictions on C and D Block licenses make them all but useless for any significant broadband service.⁴⁴

A. The New Power Spectral Density Rules for Mobile Transmitters Will Prevent WCS Licensees from Offering Viable Broadband Services

The *Report and Order* adopted both a power limit (250 mW in a 5 MHz channel) and a power spectral density (“PSD”) limit of 50 mW per MHz to mobile transmitters.⁴⁵ The record does not reveal any need for this PSD limit, and the limit will prevent WCS licensees from using spectrum flexibly to accommodate large numbers of users with varying demands for spectrum. In short, it will call into question the viability of LTE—and quite possibly WiMAX—mobile broadband service using 2.3 GHz WCS spectrum.⁴⁶ Therefore, the PSD limit must be removed.

The Commission did not propose a PSD limit in the *Technical Public Notice*,⁴⁷ and the record does not justify its adoption. No commenter suggested that a 50 mW/MHz PSD limit should apply to the WCS A and B Blocks. Indeed, none asked the Commission to impose such a limit even for the C and D Blocks. The 50 mW/MHz PSD limit was mentioned, *but not sought*, by Sirius XM, and only in connection with the WCS C and D Blocks.⁴⁸ The reference to a PSD limit merely was an appendage to Sirius XM’s support for an overall power limit of 150 mW for

⁴⁴ Rather than impose new and more stringent requirements for the C and D Blocks, the Commission should retain the performance requirements under the 1997 rules and encourage the use of this spectrum for niche services, such as Smart Grid services.

⁴⁵ *Report & Order* ¶¶ 63, 69, and Appendix B (47 C.F.R. § 27.50(a)(3)(i)).

⁴⁶ *Duet Decl.* at ¶ 18.

⁴⁷ See *Technical Public Notice*, 25 FCC Rcd. at 3327 (proposed 47 C.F.R. § 27.50(a)(3)(i)).

⁴⁸ *Report & Order* at ¶ 63; Comments of Sirius XM, at 31 (filed Apr. 23, 2010) (citing Ex Parte Presentation of NextWave and Horizon Wi-Com, at 2 (filed Nov. 16, 2008) (“NextWave/Horizon Ex Parte”)).

the C and D Blocks. As no party sought a PSD limit, the record contains no explanation of why it is necessary.⁴⁹ In any event, the severe restrictions on the use of the spectrum imposed by a PSD limit do not serve the public interest.

The 50 mW/MHz PSD will threaten the use of the WCS band for mobile broadband services. A PSD limit is inconsistent with the way that mobile wireless networks and equipment are designed.⁵⁰ Because the rules for other wireless services do not impose PSD limits on mobile transmitters,⁵¹ no account has been made for them as mobile wireless technology evolved.⁵² Current mobile wireless networks assume a link budget that cannot be met with a 50 mW/MHz PSD limit.⁵³ And current and forecast mobile devices do not have the capability to adjust power proportionally with occupied bandwidth.⁵⁴ Consequently, such a limit will require a reduction in cell size—and, thus, a vastly larger number of cells (approximately *four times* the number to ensure adequate voice services in an LTE network, and *two times* in a WiMAX network)—to such an extent that constructing a WCS mobile network will not be economically feasible for either an existing licensee or a new entrant.⁵⁵ And, even if the economics were different, the substantial increase in the number of cells required will delay a licensee’s ability to meet the Commission’s 40% and 75% coverage requirements for years past the 2017 and 2020 deadlines

⁴⁹ At most, the NextWave/Horizon statement regarding a PSD suggest that it might not preclude two-way broadband service in the C and D Blocks. *See* NextWave/Horizon Ex Parte at 2 (stating that such a PSD limit might “still enable WCS C and D block licensees to offer a viable two-way broadband service”). They in no way offer a reason why a PSD limit would be in the public interest for the C and D Blocks, let alone the A and B.

⁵⁰ *Duet Decl.* at ¶¶ 19-23.

⁵¹ *See, e.g.*, 47 C.F.R. §§ 22.913(a)(2) (cellular), 24.232 (broadband PCS), 27.50(b)(9)-(10) (upper 700 MHz), 27.50(c)(9)-(10) (lower 700 MHz), 27.50(d)(2) (AWS), 27.50(h)(2) (BRS/EBS).

⁵² *Duet Decl.* at ¶ 19.

⁵³ *Id.* at ¶¶ 18-24.

⁵⁴ To AT&T’s knowledge, this is standard industry practice and applies to other providers, as well. *Id.* at ¶ 19.

⁵⁵ *Id.* at ¶ 24.

proposed here.⁵⁶ Notwithstanding this increase in the number of cells, the PSD limit likely will leave a significant number of holes in the network's coverage.⁵⁷ Finally, a PSD limit will reduce the quality, throughput, and efficiency of a WCS mobile network.⁵⁸

In short, the 50 mW/MHz PSD limit will frustrate use of the WCS Band for mobile wireless services. As the record contains no evidence of any proposal for such a limit, any evidence to support it, or any public interest benefit from it, the Commission should remove the limit from Section 27.50(a)(3)(i) of its rules.

B. The Duty-Cycle Requirements Will Unnecessarily Limit Throughput

The reduced uplink throughput entailed by the new duty-cycle limits will hamper the ability of WCS licensees to provide broadband service—yet, by the Commission's own reasoning, they are more restrictive than necessary to prevent harmful interference to SDARS. As such, they are arbitrary, capricious, and contrary to the public interest. The Commission should reconsider them and adopt the duty-cycle requirements proposed below, which will facilitate the use of the WCS spectrum without causing harm to SDARS.

1. TDD Duty-Cycle Limit

The Commission recognized that its task was to determine the maximum duty cycle consistent with limiting the potential for *harmful* interference—*i.e.*, “interference that *repeatedly disrupts or seriously degrades* service”—to SDARS users.⁵⁹ However, there is no evidence that adopting a 38% duty-cycle on mobile TDD transmissions was necessary to avoid harmful

⁵⁶ *Id.* at ¶¶ 21-22. Without significant coverage requirements, an existing provider might be able to justify adding WCS to its network. However, the resulting holes in WCS coverage would sacrifice a substantial portion of the band's contribution to relieving the forthcoming spectrum crunch.

⁵⁷ *Id.* at ¶ 21.

⁵⁸ *Id.* at ¶ 24.

⁵⁹ *Report & Order* at ¶ 62 (emphasis added).

interference to SDARS reception. As the Commission noted:

[a]lthough the Ashburn testing was not representative of a fully-deployed WCS WiMAX network, we believe the WCS device's interactions with the SDARS receivers demonstrate that the potential for harmful interference is negligible even during the worst-case situations where a WCS mobile transmitter is operating at full power without ATPC, is transmitting during the allocated transmit sub-frame of each and every frame, and is in close proximity to an OEM or aftermarket SDARS receiver.⁶⁰

It went on to explain that the interference in real-world circumstances would be even lower than that experienced during the Ashburn tests.⁶¹

Accordingly, there is no basis for the Commission's assertion that the 38% TDD duty cycle "strikes an appropriate balance between our goals of protecting SDARS receivers from harmful interference and enabling the provision of WCS mobile broadband services using different technologies."⁶² The FCC correctly inferred from the Ashburn tests that a 38% mobile transmit duty cycle would produce negligible interference to SDARS receivers, even under the worst possible conditions.⁶³

Further, the Ashburn tests were conducted with transmitters using WiMAX TDD technology. As explained above,⁶⁴ LTE mobile transmitters produce 2-2.5 dB less peak power than WiMAX mobile ones operating at the same average power. This 2-2.5 dB difference in interference potential should be recognized in the WCS technical rules by allowing LTE (*i.e.*, SC-FDMA) mobiles to operate at a somewhat higher duty cycle than WiMAX (*i.e.*, OFDMA) mobiles. This differential suggests that LTE mobile transmitters can have a higher duty cycle

⁶⁰ *Id.* at ¶ 66.

⁶¹ *Id.*

⁶² *Id.* at ¶ 72.

⁶³ However, the Ashburn tests did *not* establish that 38% is the maximum WCS mobile transmit duty cycle consistent with limiting harmful interference to SDARS receivers.

⁶⁴ *See pp.* 7-8.

than WiMAX mobile transmitters without causing any more harmful interference to SDARS receivers. While the record does not establish what the upper limit on LTE duty cycles should be, it clearly is safe for the Commission to allow WCS licensees to “round up” from a 38% duty cycle, which is not a TD-LTE configuration, to the nearest configuration, at 43.333%.⁶⁵

2. FDD Duty-Cycle Limit

The Commission imposed a new 25% duty cycle on FDD. It did so with virtually no explanation or justification. The entirety of the FCC’s rationale consists of the following:

Recognizing that neither the WCS nor SDARS licensees provided analysis or testing of FDD equipment, we rely heavily on the fact that mobile and portable device [sic] using FDD technology will have a dedicated band for uplink transmissions rather than sharing a band with base stations’ downlink transmissions to establish this restriction. * * * By restricting the duty cycle of such devices, their potential for interference to adjacent-band SDARS receivers will be limited even though these devices will be operating with a 100-percent activity factor.⁶⁶

Adopting such a restrictive limit with no more justification or explanation than this is arbitrary and capricious, especially where it appears to be wholly unnecessary.

First, there is no rational reason to limit FDD transmissions to a duty cycle lower than the one for TDD transmissions. To the contrary, FDD transmissions should be permitted a higher limit. The Commission stated interference to SDARS receivers from TDD mobile devices will be “negligible even during the worst-case situations where a WCS mobile transmitter is operating at full power without ATPC, is transmitting during the allocated transmit sub-frame of each and every frame, and is in close proximity to an OEM or aftermarket SDARS receiver.”⁶⁷

In other words, even if the TDD device is transmitting for the full 38% of “each and every”

⁶⁵ See Comments of Ericsson, at 4-5 (filed Apr. 22, 2010); Written Ex Parte Presentation of Alcatel-Lucent, at 3-4 (filed May 13, 2010).

⁶⁶ Report & Order at ¶ 74.

⁶⁷ Id. at ¶ 66; see also id. at ¶ 70 n.184 (definition of “duty cycle”).

frame, *at full power and without ATPC*, there will be negligible harmful interference to an SDARS receiver.

The same conclusion would apply to a single FDD transmitter operating with the same 38% duty-cycle limit and with the same power limit as a single TDD device. The two pieces of equipment will be transmitting the same proportion of the time at the same power levels. Thus, an FDD device operating at a 38% duty cycle would cause *exactly the same* negligible interference as the TDD device operating at a 38% duty cycle. The “activity factor” of the systems, as the FCC defined that term,⁶⁸ does not enter into this determination.⁶⁹ Indeed, it is likely that multiple TDD devices would cause more interference than an identical number of FDD devices. TDD devices are limited to transmitting in the same time slots, so their impact necessarily would be cumulative. Transmissions from the FDD devices, however, would be distributed over the whole frame and, thus, would not cumulate to the same degree.⁷⁰ Given that FDD transmitters will have the same and possibly lower potential for interference as TDD transmitters operating at the same duty cycle, it is no surprise that nothing in the record supports a more stringent duty cycle for FDD.

Second, by imposing a limited duty cycle for mobile FDD transmitters, which in other bands operate at a 100% duty cycle, the Commission has hampered the utility of WCS spectrum in comparison with other mobile wireless bands. As the Commission is aware, broadband services are becoming increasingly spectrum-intensive, with uplinks growing disproportionately.⁷¹ Demand for video services is growing rapidly and creative application writers unquestionably will develop new applications that will require high uplink capacity.

⁶⁸ *Id.*

⁶⁹ *Duet Decl.* at ¶ 14.

⁷⁰ *Id.* at ¶ 15.

⁷¹ *See id.* at ¶ 13 and n.4.

Those services can be accommodated by wireless systems in the other wireless bands using FDD technology. However, restricting the WCS FDD duty cycle will lead customers to experience, under certain circumstances, lesser throughput than they would using different mobile wireless broadband spectrum.⁷² As users have become increasingly intolerant of latency and the other manifestations of limited throughput, limiting the duty cycle will disadvantage a licensee using only WCS against competitors using other bands. Indeed, even the potential benefits of incorporating WCS spectrum into multiband networks may be outweighed by the potential degradation of the user experience.⁷³

Moreover, to the extent the FDD duty-cycle limit leads licensees to choose TDD instead, the Commission will have precluded WCS licensees from realizing the increased downlink capabilities of FDD transmission. FDD allows a 100% duty cycle for downlink (base) transmissions, independent of the duty-cycle limit on uplink (mobile) transmissions.⁷⁴ As a result, the downlink throughput of an FDD system can be substantially greater than that of an equivalent TDD system with no additional potential for interference.⁷⁵ To minimize these public interest harms, FDD duty cycles should be limited no more than is necessary to avoid harmful interference to SDARS licensees. For now, that is somewhat higher than the TDD duty cycle in the rules,⁷⁶ including the increase to 43.333% proposed above.⁷⁷

C. Limiting FDD Base Station Operations to the Upper WCS Band and Mobile FDD Operations to the Lower Bands Will Hamper the Flexible Use of the Spectrum

As the Commission has repeatedly noted, spectrum is a limited, extremely valuable

⁷² *Id.* at ¶ 13.

⁷³ *Id.*

⁷⁴ *Id.* at ¶ 16.

⁷⁵ *Id.*

⁷⁶ *Id.* at ¶¶ 15, 17.

⁷⁷ *See* p. 18.

resource.⁷⁸ The public interest requires that, particularly in the mobile broadband arena, the Commission not constrain the manner in which the spectrum is used, except where necessary to avoid harmful interference to other services. The requirement that WCS licensees using FDD technology must operate their base stations in the 2345-2360 MHz bands⁷⁹ and their mobiles in the 2305-2317.5 MHz band⁸⁰ fails this test. The Commission stated that it was imposing this requirement in order to accommodate Sirius XM's concerns about interference to its legacy receivers and AFRTCC's request that base stations be limited to the upper band. Yet, the limitation does not protect either interest because WCS licensees employing a TDD technology are authorized to operate in those bands. Thus, the rules already countenance whatever risk there is to both SDARS and the AMT stations and only impinge on the ability of WCS licensees to use FDD technology. The rules also limit the ability of licensees to pair WCS with other spectrum to enhance service to the public. Given these efficiency losses, these limitations, which provide only minimal, if any, protection to other services should be repealed.⁸¹

D. The Restrictions on C and D Block Licensees Require a Traditional “Substantial Service” Standard

The C and D Blocks are handicapped from the start by being unpaired. The 2.5 MHz mobile guard band requirement, the more-stringent FDD duty cycle, the outdoor antenna ban for low-power fixed customer premises equipment (“CPE”), and the 125 mW power limit adopted in the *Report & Order*⁸² impair these Blocks further and effectively prevent their use for mobile

⁷⁸ See, e.g., Chairman Julius Genachowski, Remarks at the 2009 CTIA Convention: America's Mobile Broadband Future (Oct. 7, 2009) (“Spectrum is the oxygen of . . . mobile networks.”).

⁷⁹ 47 C.F.R. § 27.50(a)(1)(i)(B)(iii).

⁸⁰ *Id.* § 27.50(a)(3)(i).

⁸¹ At a minimum, requiring licensees to use the lower band for mobiles should be repealed. The potential harm on which the FCC based this requirement results solely from use of the upper band. Thus, there is no need to constrict licensees from using the lower band to serve the public.

⁸² Fifty milliwatts per MHz across the 2.5 MHz permitted for mobile and portable use in each

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broadband service.⁸³ The limited power levels of C and D Block links under the adopted technical rules also are insufficient to support backhaul in many places.⁸⁴

Given the severe limitations imposed under the new technical rules, the FCC should welcome any use of the C and D Blocks. New niche uses will have to be created—uses that are unlikely to generate enough demand to satisfy the new quantitative performance requirements. As discussed above, aggressive performance requirements diminish licensee willingness to invest in deployment, for fear of losing that investment as well as the spectrum if they cannot jump the high hurdle. Here, the Commission has so impaired the C and D Blocks that any performance requirements are unduly aggressive and more likely to limit than to advance deployment. Accordingly, AT&T agrees with the proposal in the WCS Coalition Petition that a traditional “substantial service” requirement be applied to C and D Block licenses. Such a standard—with a case-by-case qualitative review—will free licensees to offer valuable niche services.⁸⁵

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of these Blocks. *See id.* § 27.50(a)(3)(i)-(ii).

⁸³ *Duet Decl.* at ¶ 25.

⁸⁴ *Id.* at ¶ 26.

⁸⁵ *See, e.g., Amendment of Parts 1, 21, 73, 74 & 101 of the Comm’n’s Rules to Facilitate the Provision of Fixed & Mobile Broadband Access, Educ. & Other Advanced Servs. in the 2150-2162 & 2500-2690 MHz Bands, et al., Order on Reconsideration and Fifth Memorandum Opinion and Order and Third Memorandum Opinion and Order and Second Report and Order, 21 FCC Rcd. 5606, 5719-5721, ¶¶ 276-278 (2006) (stating that fixed construction requirements do “not necessarily demonstrate adequate deployment in rural areas, to niche markets, or to discrete populations or regions with special needs” and that “a standard based on substantial service . . . may better be able to respond to these various concerns”); Amendment of Parts 2 & 90 of the Comm’n’s Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz & the 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool, et al., Second Report Order and Second Further Notice of Proposed Rule Making, 10 FCC Rcd. 6884, 6898, ¶ 41 (1995) (“We also conclude that a showing of “substantial service” is appropriate for 900 MHz because several current offerings in this band are cutting-edge niche services.”).*

E. The Rule Limiting the Use of Outdoor Antennas Is Arbitrary and Capricious

WCS licensees have served customers with outdoor antennas that meet the older, much more stringent OOB standards for a number of years,⁸⁶ and, as the Commission acknowledged, these installations are not causing interference to SDARS.⁸⁷ The new technical rules precluding the use of low-power outdoor antennas for CPE would require licensees to discontinue existing service, including fixed Internet access, to the detriment of their customers.⁸⁸ At a minimum, the Commission should grandfather these customers. But the public interest requires more than simply grandfathering existing deployment.

Allowing the use of outdoor antennas that meet the former OOB standards (or new standards, as the WCS Coalition is proposing)⁸⁹ will expand the deployment of broadband service to all Americans, particularly those in rural, tribal, and other unserved and underserved areas, without any harm to SDARS. AT&T currently uses WCS spectrum to provide fixed wireless broadband services to residential customers in Alaska as well as to serve customers requiring point-to-point connections to the Internet from Wi-Fi access points. To provide these services, AT&T deploys outdoor antennas that meet the former OOB standards when it best serves the customer. It is not in the public interest to prevent AT&T from using this technology, which does not interfere with other services, to serve its existing and new customers.

In addition, the outdoor antenna ban for low-power fixed CPE threatens potentially

⁸⁶ *Duet Decl.* at ¶ 27.

⁸⁷ *Report & Order* at ¶ 141.

⁸⁸ *Duet Decl.* at ¶ 27; *see also* Letter from Roger S. Noel, Chief, Mobility Div., WTB, FCC, to James J.R. Talbot, AT&T Inc., DA 10-1642 (Aug. 27, 2010) (granting request for a limited waiver of revised 47 C.F.R. § 27.50(a)(2) to permit continued use of existing low-power outdoor antennas for CPE pending the Commission's consideration of this Petition for Partial Reconsideration).

⁸⁹ AT&T endorses the WCS Coalition Petition's technical recommendations regarding outdoor fixed CPE antennas.

valuable uses of the crippled C and D Blocks. AT&T notes that one company has proposed using the C and D Blocks for a smart grid application.⁹⁰ This application may require low-power outdoor antennas at customer premises and would serve the public interest by enhancing energy efficiency. With appropriate OOB restrictions, there is no reason to prevent the C and D Blocks from being put to such good uses.

⁹⁰ See Comments of Grid Net, at 2 (filed Apr. 29, 2010).

IV. CONCLUSION

For the reasons discussed above, the Commission should reconsider the new WCS technical and performance rules and (i) require coverage of 40% of the population by the end of the current license term in 2017 and 75% by June 2020; (ii) remove the PSD limit; (iii) increase the permissible mobile and portable duty cycle for both TDD and FDD to 43.333%; (iv) permit FDD mobile and base operations in both the upper and lower portions of the A and B Blocks; (v) adopt “keep what you use” performance standards and renewal requirements to encourage investment in WCS facilities; (vi) apply traditional substantial service requirements to the C and D Blocks; and (vii) allow fixed outdoor antennas to operate as proposed in the WCS Coalition Petition.

Respectfully submitted,

/s/ James J.R. Talbot

James J.R. Talbot
Michael P. Goggin
Gary L. Phillips
Paul K. Mancini

Of Counsel:
Arnold & Porter LLP
555 Twelfth Street, N.W.
Washington, D.C. 20004
Telephone: (202) 942-5634

Attorneys for
AT&T Inc.
1120 Twentieth Street, N.W.
Suite 1000
Washington, D.C. 20036
Telephone: (202) 457-3048

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