

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)
)
Service Rules for Advanced Wireless Services) WT Docket No. 02-353
in the 1.7 GHz and 2.1 GHz Bands)

To: The Commission

REPLY COMMENTS

Cingular Wireless LLC (“Cingular”) hereby replies to comments filed in response to the above-captioned *Notice of Proposed Rulemaking* seeking comment on service rules for Advanced Wireless Services (“AWS”).¹ AWS spectrum will play a crucial role in providing the next generation of wireless services to the American public. To foster innovation and ensure that these services are disseminated efficiently, the Commission should grant licensees flexible, exclusive rights to large spectrum blocks covering large geographic areas.

I. THE FCC SHOULD GRANT LICENSEES CLEARLY-DEFINED, EXCLUSIVE RIGHTS TO AWS SPECTRUM

Cingular supports the Commission’s proposal to allocate AWS licenses pursuant to auction.² As the Commission and Congress have recognized, auctions allow the market to function effectively, and ensure that spectrum is put to its highest and most effective use.³ Auctions only function properly, however, if there is certainty and clarity in advance concerning

¹ *Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands*, WT Docket No. 02-353, *Notice of Proposed Rulemaking*, FCC 02-305 (rel. Nov. 22, 2002) (“*NPRM*”).

² *NPRM* at ¶ 15; see CTIA Comments at 15.

³ See, e.g., 47 U.S.C. §§ 10, 11; *2000 Biennial Regulatory Review*, WT Docket No. 01-14, *Report and Order*, 16 F.C.C.R. 22668, 22936 (2001) (“*Spectrum Cap Order*”) (noting that the 1996 Act expressed the Congressional belief that “the operation of market forces generally better serv[es] the public interest than regulation”).

the rights and responsibilities of licensees.⁴ This certainty increases access to capital markets and facilitates the creation of secondary markets and the development of equipment. It is also crucial to the functioning of an auction that the Commission stand by its determinations regarding licensees' rights and responsibilities *after* the auction in order to ensure an orderly market and the fulfillment of its explicit and implicit "contractual" obligations as auctioneer.

To that end, the Commission should clarify in advance of the AWS auction that licensees will have exclusive, property-like rights during their license terms. Such a clarification would comport with the Spectrum Policy Task Force ("SPTF") Report, which states that the exclusive use model should be used to award spectrum in most cases, and that rights to spectrum should be clearly defined.⁵ An exclusive frequency allocation should be defined as (i) granting a single licensee the *sole* right to use (or permit others to use) the frequency at all times, within specific, defined geographic and spectral boundaries, (ii) subject to minimal limits on the use of the frequency.⁶ Exclusive allocations facilitate interference prevention and avoid the need to engage in complex proceedings to analyze and define harmful interference between or among diverse services sharing frequencies.

This exclusivity should not be compromised by the creation of easements or underlays⁷ – either before or after the auction. Allowing unlicensed access to exclusively-licensed spectrum

⁴ The Commission should define, up-front, what rights bidders will receive if they obtain AWS licenses. By not doing so prior to auction, the FCC will have failed to address one of the fundamental issues in spectrum policy today. *See Verizon Wireless* ("Verizon") Comments at 2.

⁵ *SPTF Report*, ET Docket 02-135, at 38 (rel. Nov. 15, 2002).

⁶ *See Cingular Comments*, ET Docket 02-135, at 6 (Jan. 27, 2003) ("SPTF Comments").

⁷ An "underlay" involves licensing a second service in a manner intended to prevent interference with the predominant use in a given band. *See Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz, and 48.2-50.2 GHz Frequency Bands*, IB Docket No. 97-98, *Report and Order*, 13 F.C.C.R. 24649, 24652 n.7 (1998).

pursuant to easements or underlays is inconsistent with the core concept of exclusive licensing.⁸ It converts an exclusive license into a hybrid license where the licensee's use of the spectrum is limited by interference caused by the easement or underlay. This increased risk of interference would undermine the marketplace certainty necessary for a successful auction. Financial institutions and bidders would be unable to properly value "exclusive" spectrum because of uncertainty regarding whether the spectrum would become encumbered at some future date.

The spectrum at issue is already encumbered by existing users. The process of clearing these users will be complex and expensive, and some operations will not be cleared from the band for many years – if ever. As a result, licensing in the AWS band will bring with it an inherent uncertainty and diminished flexibility.⁹ Thus, the Commission must not aggravate these unavoidable challenges by allowing easements or underlays. It would be inequitable to allow easements and underlays when AWS licensees bore the cost of clearing the spectrum.

II. THE COMMISSION SHOULD ALLOW FLEXIBLE USE OF THE AWS BAND UNDER THE PART 24 REGULATORY FRAMEWORK

A. Flexible Use

Licensees need flexibility to deploy new technologies, implement service innovations, expand capacity in response to growing demand, and otherwise respond to market forces. The Commission's spectrum policy should seek to balance this need for flexibility with the marketplace's need for certainty.¹⁰ This balance is best achieved by allocating spectrum

⁸ See SPTF Comments at 20; Cingular Supplement to Petition for Reconsideration, ET Docket No. 98-153 (Feb. 12, 2003) (Section 301 of the Act prohibits the transmission of radio energy without a license, subject only to the exceptions set forth in Section 307(e) of the Act).

⁹ *NPRM* at ¶ 1 ("It is important to note that both the clearing processes for these bands. . . and the Government operations that to some extent will continue to use them will significantly affect how these bands can be put to new use.").

¹⁰ See SPTF Comments at 11.

pursuant to broad service categories,¹¹ as the Commission has proposed by permitting the use of AWS for fixed or mobile services.¹² The Commission’s broad service category proposal strikes the proper balance for the AWS band from the outset. By adopting that approach, the Commission will “eliminate uncertainties about the outcome of the competitive bidding process and promote [its] goals of assigning licenses expeditiously and promoting the intensive and efficient use of this spectrum.”¹³

B. Regulatory Framework

The Commission should regulate AWS under Part 24, rather than Part 27, of its rules.¹⁴ Part 24 is already crafted to allow licensees to offer fixed and/or mobile services, and has a proven track record of encouraging the rapid deployment of advanced wireless technologies to the American public.¹⁵ On the other hand, services licensed under the Part 27 rules have been slow to develop.¹⁶

¹¹ *See Id.* Complete service flexibility may create uncertainty among potential applicants, equipment manufacturers, and the financial community backing them, regarding the market for services and equipment that will be using the AWS band. The Commission’s experience in auctioning Wireless Communications Service (“WCS”) and General Wireless Communications Service (“GWCS”) licenses epitomizes why too much flexibility hinders the effective functioning of the marketplace. The broad flexibility associated with those spectrum assignments made it difficult to assess their value and, as a result, there was little or no demand for the spectrum. WCS licenses were awarded for as little as \$1, and the GWCS auction was cancelled because of lack of demand. *See* SPTF Comments at 9-10.

¹² *NPRM* at ¶ 12; *see* CTIA Comments at 2-3; Verizon Comments at 3; Motorola, Inc. (“Motorola”) Comments at 2-3.

¹³ *NPRM* at ¶ 11.

¹⁴ *See, e.g.*, AT&T Wireless Services, Inc. (“AT&T”) Comments at 9; CTIA Comments at 3; Motorola Comments at 2-5. Cingular supports minor modifications to customize the Part 24 rules to AWS. These modifications are discussed in Section II C, *infra*.

¹⁵ *See* CTIA Comments at 3.

¹⁶ *Id.*

Applying the Part 24 framework to AWS also would establish regulatory parity among the providers of 3G services.¹⁷ The Commission has recognized that “the dominant use of this spectrum is likely to be advanced wireless services or next generation cellular and PCS services.”¹⁸ The Commission is also aware that several PCS carriers intend to, or are in the process of, deploying advanced wireless services in the PCS bands.¹⁹ Thus, it is likely that 3G services will eventually be available to consumers in both the AWS and PCS bands. Accordingly, application of Part 24 to AWS would avoid the imposition of disparate regulatory and technical requirements on carriers offering the same or similar advanced wireless services.

Because some existing PCS licensees likely will acquire AWS spectrum, applying the Part 24 rules also would promote the most efficient and rapid utilization of this newly-available spectrum by allowing carriers to use existing technologies and expertise.²⁰ This increased efficiency, in turn, should provide more certainty to the capital markets, thereby promoting investment in AWS licensees.

C. Modifications to Part 24 Regulatory Framework

Although Cingular supports application of the Part 24 regulatory framework to AWS, some minor modifications are necessary to tailor these rules to the unique characteristics of the AWS band. Specifically, the initial license term should be expanded to a minimum of 15 years, a “substantial service” requirement should be adopted, consistent with Section 24.203(b) and Part 27 of the Commission’s rules, and the rules for calculating output power for mobile stations

¹⁷ CTIA Comments at 4; Motorola Comments at 4.

¹⁸ *NPRM* at ¶ 14.

¹⁹ *Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services*, WT Docket No. 02-379, *Seventh Report*, 17 F.C.C.R. 12985, 13039 (2002).

²⁰ *See* AT&T Comments at 9.

should be harmonized with European Telecommunications Standards Institute (“ETSI”) specifications.

License Term. The spectrum at issue is encumbered by various users, both federal government and commercial. The process of clearing these users will be complex and expensive, and some operations will not be cleared from the band for many years. As a result, licensing in the AWS band will bring with it an inherent uncertainty and diminished flexibility. Thus, a minimum 15-year license term, coupled with a strong renewal expectancy, is necessary to provide investors with the assurance that sufficient time will be available to recoup the costs of developing and deploying AWS.²¹ This approach would be consistent with the approach taken for 700 MHz services, in which the Commission recognized that a 10-year license term may retard development and use of spectrum that must be cleared before it can be used effectively.²²

Build-out Obligations. The AWS rules should not contain specific, inflexible build-out requirements.²³ Specifically, the Commission should not impose efficiency targets. The level of competition in the CMRS industry, as well as the fact that licensees must purchase the licenses for fair market value at auction, will compel licensees to use AWS spectrum as efficiently as possible.²⁴

²¹ See CTIA Comments at 8-9; Verizon Comments at 4-5.

²² 47 C.F.R. § 27.13(a); see also *Service Rules for the 746-764 and 776-794 Bands*, WT Docket No. 99-168, *Report and Order*, 15 F.C.C.R. 476, 504 (2000).

²³ CTIA Comments at 10.

²⁴ *But see* ArrayComm, Inc. Comments at 5-7.

Instead, AWS licensees should be subject to a flexible performance requirement – preferably a substantial service showing – similar to that contained in Part 27.²⁵ The Commission has previously refrained from imposing specific performance requirements where, as here, there is a broad range of new and innovative service offerings contemplated.²⁶ The existence of incumbent licensees that must be cleared from the AWS band creates additional uncertainty and also mandates the establishment of flexible performance requirements.

Handset Output Power. The output power for AWS mobile stations should be measured at the radiofrequency port, rather than based on effective isotropic radiated power (“EIRP”). This would create harmonization between the Commission’s rules and the ETSI, which, in turn, would facilitate research regarding, and deployment of, directive antennas at the mobile station.

III. GIVEN THE BANDWIDTH-INTENSIVE PLANS OF INITIAL AWS LICENSEES, AWS SPECTRUM SHOULD BE ALLOCATED IN LARGE SPECTRUM BLOCKS COVERING LARGE GEOGRAPHIC AREAS

The record reflects that initial licensees are likely to offer bandwidth-intensive functions such as high-speed data transfer, Internet access, and multimedia applications.²⁷ Given the Commission’s goal of offering AWS licenses that match the anticipated services of initial licensees, licenses should be of sufficient bandwidth to enable licensees to offer advanced services without having to resort to secondary market mechanisms to acquire additional

²⁵ See CTIA Comments at 9-11; Verizon Comments at 3-4. Part 24 also contains a substantial service requirement. 47 C.F.R. § 24.203(b).

²⁶ See *Service Rules for the 746-764 and 776-794 Bands*, WT Docket No. 99-168, *Second Report and Order*, 15 F.C.C.R. 5299, 5332 (2000); *Amendment of the Commission’s Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands*, ET Docket No. 95-183, *Report and Order and Second Notice of Proposed Rulemaking*, 12 F.C.C.R. 18600, 18623 (1997); *Amendment of Parts 1, 2, 21, and 25 of the Commission’s Rules*, CC Docket No. 92-297, *Second Report and Order, Order on Reconsideration*, 12 F.C.C.R. 12545, 12659 (1997).

²⁷ *Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services*, ET Docket No. 00-258, *Second Report and Order*, 17 F.C.C.R. 23193, 23195 (2002).

spectrum. To accommodate these needs, the Commission should allocate spectrum in four license blocks: one 30 MHz (2x15 MHz paired) and three 20 MHz (2x10 MHz paired).²⁸

Licenses should be issued in paired spectrum blocks because most carriers in the United States have indicated plans to provide service that meets the IMT-2000 data rates by deploying systems based on W-CDMA or cdma2000 technologies.²⁹ These technologies require the use of paired spectrum. The use of unpaired spectrum and the associated deployment of time division duplex (“TDD”) systems adjacent to paired allocations raise serious interference concerns and should be avoided.³⁰ To the extent that non-interfering TDD systems become available for AWS applications, such systems could be deployed in spectrum licensed in paired blocks.

The Commission should *not* impose restrictions on the amount of AWS spectrum that a given licensee may acquire at auction.³¹ In lifting the spectrum aggregation limit, the Commission found that “setting an *a priori* limit on spectrum aggregation without looking at the particular circumstances of specific proposed transactions was unnecessarily inflexible and could be preventing beneficial arrangements that promote efficiency without undermining competition.”³² Given the state of competition in the CMRS industry, spectrum aggregation limits are unnecessary and run counter to the Commission’s goals of establishing “maximum feasible flexibility in both allocations and service rules as a critical means of ensuring that spectrum is put to its most beneficial use.”³³

²⁸ CTIA Comments at 5; AT&T Comments at 7.

²⁹ NPRM at ¶ 30; Lucent Technologies, Inc. Comments at 1; AT&T Comments at 8.

³⁰ Lucent Technologies, Inc. Comments at 1.

³¹ Ericsson Comments at 5; AT&T Comments at 12; CTIA Comments at 7-8.

³² NPRM at ¶ 40; *see Spectrum Cap Order*, 16 F.C.C.R. 22668.

³³ NPRM at ¶ 10; *see* CTIA Comments at 7. The suggestion that spectrum aggregation limits are needed to guard against competitive abuses in AWS is unfounded and, given the state of

As noted in the *NPRM*, geographic area licensing offers a number of significant benefits, including providing licensees flexibility to respond to market demand, reducing the regulatory burdens and transaction costs associated with site-by-site licensing, promoting economic efficiency and competition, and maximizing the use of spectrum by permitting licensees to coordinate usage across an entire geographic region.³⁴ Geographic area licensing is especially beneficial where spectrum is likely to be used for services, such as CMRS, that require ubiquity and mobility over wide areas.³⁵ These inherent benefits are reflected in the trend toward regional and nationwide CMRS footprints.

Given these significant benefits, as well as the Commission's policy goal of disseminating licenses among a wide variety of applicants, most of the AWS spectrum should be licensed either on a nationwide or regional basis, while reserving one license for smaller licensing areas, such as Cellular Market Areas ("CMA") or Economic Areas.³⁶ Awarding licenses exclusively or in the main on the basis of smaller geographic "building blocks" would run counter to the likely use of the AWS spectrum, thereby increasing transaction costs and reducing efficiency.³⁷

The licensing allocations outlined above will most closely match the anticipated service plans of initial AWS licensees. At the same time, the Commission should allow partitioning and

competition in the industry, runs counter to sound economic arguments. *See* United States Cellular Corp. Comments at 10-12.

³⁴ *NPRM* at ¶ 17.

³⁵ *NPRM* at ¶ 17.

³⁶ *See* CTIA Comments at 6. The Gulf of Mexico should be licensed as part of larger service areas, as was done with the Upper 700 MHz band. It should not be licensed as a separate service area, given the difficulty from a signal propagation standpoint of using the land-water boundary as the demarcation point. If, however, the Commission establishes a Gulf market, the demarcation point should be 12 miles off the coastline.

³⁷ *But see* Rural Cellular Association Comments at 3.

