

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

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
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, Including Third Generation Wireless)
Services)

ET Docket No. 00-258 /

To: The Commission

COMMENTS OF QWEST WIRELESS, LLC

Qwest Wireless, LLC ("Qwest Wireless")¹ hereby files brief comments in response to the Commission's *Notice of Proposed Rulemaking* in the above-referenced proceeding.² Qwest Wireless supports the Commission's efforts, and those of the National Telecommunications and Information Administration ("NTIA"), to initiate the processes necessary to reallocate, and eventually license, additional spectrum for new advanced wireless or "third generation" ("3G") wireless systems. Qwest Wireless believes that the types of high-speed data services discussed

¹ Qwest Wireless, LLC, together with TW Wireless, LLC, a joint venture in which Qwest Wireless holds a majority equity and sole controlling ownership interest, provides broadband PCS services in a number of markets.

² *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, Including Third Generation Wireless Systems, Notice of Proposed Rulemaking and Order*, ET Docket No. 00-258, FCC 00-455 (rel. Jan. 5, 2001), *Erratum*, (rel. Jan. 18, 2001), 66 Fed. Reg. 7438 (Jan. 23, 2001) ("*NPRM*").

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in the *NPRM* will be important components of wireless carriers' service offerings. In this regard, Qwest Wireless currently offers both voice and data functionality in its service offerings, including voice messaging, voice and Internet browsing, and email and information streaming services. It is apparent that to accommodate 3G services, however, the allocation of additional spectrum below 3 GHz, and the licensing of that spectrum expeditiously, will be necessary to meet such demand. The Commission should do so in a manner that provides carriers with both certainty as to the cost of their potential relocation obligations, that affords carriers the flexibility to deploy multiple air interface technologies, and that does not arbitrarily favor one technology over another.

DISCUSSION

Availability of Information on Incumbents in Reallocated Spectrum. The Commission has adopted an expedited public comment schedule in an effort to conform to the government's stated timetable for licensing 3G spectrum.³ Thus, wireless service providers are in an awkward position of commenting on proposed allocations in advance of the final NTIA and Commission reports on, respectively, the potential availability of spectrum in the 1755-1850 MHz and the 2500-2690 MHz bands.⁴ At this initial stage, then, Qwest Wireless cautions generally that a transparent allocation and licensing process is essential to provide interested parties the certainty necessary to make rational bidding decisions and to determine whether the use of a particular technology is feasible. To do so, potential commercial licensees must have information

³ See Public Notice, *FCC Staff Releases Its Interim Report on Spectrum Study of the 2500-2690 MHz Band: The Potential for Accommodating Third Generation Mobile Systems*, ET Docket No. 00-232, DA 00-2583, at 1-2 (rel. Nov. 15, 2000).

⁴ Qwest Wireless understands that the Commission and/or NTIA intend to seek additional public comment on the final reports after release.

concerning (1) which licensees currently have primary status in the spectrum at issue, (2) how much it will cost to relocate such incumbents, and (3) the incumbents with whom new licensees must share spectrum.

The availability of such information is critical regardless of whether a carrier intends to bid for spectrum at auction, or acquire it from another licensee via disaggregation/partitioning or (if the Commission so allows) in the secondary market. Based on the current status of industry and government efforts to identify incumbents and incumbent uses of spectrum, particularly in government spectrum at 1755-1850 MHz, Qwest Wireless is concerned that auction participants will have insufficient access to incumbent relocation information prior to auction, or that such information will be provided with insufficient granularity as to, *e.g.*, the geographic location of the incumbents and the particular frequencies on which they operate. Incumbents should also be subject to a fixed date after which they are not entitled to reimbursement.

Flexible Allocation. Notwithstanding these concerns, Qwest Wireless generally applauds the Commission's focus in this proceeding on allocating spectrum for 3G services, rather than on the defining of or restricting spectrum use to particular 3G technologies. Qwest Wireless agrees that it is neither "necessary [n]or desirable to define specifically what is or is not a '3G' or 'advanced' wireless service."⁵ Rather, the Commission should adhere to its stated policy of identifying a flexible allocation, with technical and service rules that accommodate multiple technologies.⁶

Spectrum Requirements for Various Technologies. While it is important that 3G technologies be spectrally efficient, Qwest Wireless agrees that 3G applications will be

⁵ See *NPRM* at ¶¶ 18, 33.

⁶ See *id.* at ¶¶ 27.

spectrum-intensive and, moreover, bandwidth-per-user requirements will grow as 3G services evolve and new applications are introduced. Thus, a sizeable allocation is necessary and, in this regard, Qwest Wireless generally concurs with the ITU recommendation that an additional 160 MHz is necessary.⁷ This allocation is nevertheless finite, and market forces will provide carriers ample incentive to deploy spectrum-efficient technologies. For example, adaptive antenna technologies can significantly increase the spectral efficiency of any air interface and minimize harmful interference to adjacent channel systems. Manufacturers and carriers will have incentives to develop and deploy these and other spectrum-efficient technologies in a flexible regulatory environment.

The Commission in this regard seeks comment in particular on “the spectrum requirements needed to deploy various technologies” such as FDD and TDD systems, and the merits of such technologies.⁸ Qwest Wireless anticipates that both FDD and TDD technologies will be deployed in 3G spectrum. Qwest Wireless is wary, however, that Commission efforts to predict the demand for a particular service, for purposes of establishing service and technical rules, will have the adverse effect of limiting carriers’ efficient spectrum use and technology options in the future. To the extent possible, the Commission should abstain from such predictive judgments and allow the marketplace to determine appropriate technologies.

Both FDD and TDD technologies have advantages. TDD, for example, allows operators to maximally leverage their spectrum resources when providing asymmetric services, and TDD air interfaces enhance the efficiency gains of smart antennas. TDD and similar technologies also provide the Commission additional flexibility in allocating spectrum. Thus, the Commission

⁷ See *id.* at ¶ 26.

⁸ See *id.* at ¶ 29.

should establish service and technical rules that do not disadvantage any particular class of technologies. For example out-of-band emission specifications should provide a meaningful baseline and an acceptable level of risk for the operation of adjacent channel systems -- an approach akin to that adopted for 700 MHz spectrum.⁹ Such an approach is consistent with the Commission's stated spectrum management policies and should be applied to 3G services.¹⁰

CONCLUSION

For the foregoing reasons, the Commission should ensure (1) that potential auction participants have sufficient information regarding incumbent relocation costs, and (2) that its rules not favor one technology over another.

Respectfully submitted,

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⁹ See *Service Rules for the 746-764 and 776-794 MHz Bands and Revisions to Part 27 of the Commission's Rules*, WT Docket No. 99-168, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, FCC 00-224, ¶¶ 6-10 (rel. June 30, 2000), *aff'd in relevant part, Second Memorandum Opinion and Order*, FCC 01-2, ¶¶ 6-14 (rel. Jan. 12, 2001).

¹⁰ See *Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, Policy Statement*, 14 FCC Rcd. 19868, ¶ 9 (1999).