

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of)	
)	
Amendment of Part 2 of the Commission's)	ET Docket No. 00-258
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)	
)	
The Establishment of Policies and Service)	IB Docket No. 99-81
Rules for the Mobile-Satellite Service in the 2)	
GHz Band)	
)	
Amendment of the U.S. Table of Frequency)	RM-9911
Allocations to Designate the 2500-2520/2670-)	
2690 MHz Frequency Bands for the Mobile)	
Satellite Service)	
)	
Petition for Rule Making of the Wireless)	RM-9498
Information Networks Forum Concerning the)	
Unlicensed Personal Communications Service)	
)	
Petition for Rule Making of UTStarcom, Inc.,)	RM-10024
Concerning the Unlicensed Personal)	
Communications Service)	
To: The Commission		

COMMENTS OF CINGULAR WIRELESS LLC

Cingular Wireless LLC ("Cingular"), by its attorneys, hereby submits these comments in response to the Commission's *Third Notice of Proposed Rulemaking* in this proceeding.¹ In

¹ See *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*, ET Docket No. 00-258, *Third Report and Order, Third Notice of Proposed Rulemaking and Second Memorandum Opinion and Order*, FCC 03-16 (continued on next page)

particular, Cingular supports the MDS Coalition's proposal to pair spectrum in the 1.9 GHz band for use by relocated MDS licensees that will operate under the broadband PCS licensing rules in Part 24.² Conversely, the Commission should reject Nextel's proposal to obtain access to 10 MHz of spectrum in this band under the pretext that it is necessary to resolve interference issues in the 800 MHz band; it is nothing more than a self-serving spectrum grab. In addition, Cingular makes several other recommendations to optimize spectrum efficiency and protect incumbent licensees as discussed in more detail below.

DISCUSSION

Assuming that Mobile-Satellite Service ("MSS") licensees will continue to operate in the 2000-2020 and 2180-2200 MHz frequency bands,³ the Commission should allocate the spectrum at issue as follows:

- Pair the 1910-1916 and 1990-1996 MHz frequencies for the relocation of displaced MDS licensees as proposed by the MDS Coalition;⁴
- Retain the 1916-1930 MHz frequencies for Unlicensed PCS ("UPCS");

(rel. Feb. 10, 2003) ("*Third Report*" or "*Third NPRM*," as appropriate), *summarized*, 68 Fed. Reg. 12015 (Mar. 13, 2003).

² See Letter from Wireless Communications Association International, Inc., *et al.*, to FCC Chairman Powell, July 11, 2002, in ET Docket No. 00-258, 2 ("MDS Coalition Letter").

³ Cingular and others have filed an appeal challenging the underlying 2 GHz MSS licensing decisions. See *AT&T Wireless Services, Inc. v. FCC*, No. 02-1042 (D.C. Cir. filed Feb. 26, 2003) (pending). Should additional spectrum be made available as the result of this appeal, or through the future abandonment of spectrum, see *Third Report* at ¶ 29, it should be reallocated to meet future AWS spectrum needs and would present additional pairing opportunities.

⁴ MDS Coalition Letter at 2. In addition, the Commission should designate the paired spectrum as the "G Block."

- Designate the 1996-2000 MHz frequencies as a guard band to separate PCS base station transmit spectrum from MSS and Ancillary Terrestrial Component (“ATC”) base station receive spectrum;
- Relocate displaced government users to the 2020-2025 MHz frequency band;
- Reserve the 2155-2170 MHz band for future Advanced Wireless Services (“AWS”) base transmit pairings, or alternatively, combine with the 2110-2155 MHz band for an asymmetric base transmit pairing with 1710-1755 MHz; and
- Allocate the 2170-2180 MHz band for future or asymmetrical AWS pairings, as discussed below,⁵ or allocate the band for low power unlicensed use on a non-interfering basis.⁶

These designations serve the public interest by maximizing flexible spectrum use for both licensed and unlicensed users while protecting existing adjacent licensees from potential interference. Moreover, these proposed reallocations group users with technically compatible characteristics and “provide incentives for users to migrate to more technologically innovative and economically efficient uses of spectrum.”⁷ The recommendations will also prudently reserve spectrum to accommodate future growth.

⁵ See *infra* Section A.1.

⁶ Before allocating more spectrum for unlicensed devices, the Commission must first determine whether it has statutory authority to authorize unlicensed use. See, e.g., 47 U.S.C. § 301; Cingular Supplement to Petition for Reconsideration, ET Docket No. 98-153 (filed Feb. 12, 2003) (challenging Commission’s statutory authority for authorizing ultra-wideband devices); Comments of Cingular, ET Docket No. 02-380 (to be filed on Apr. 17, 2003).

⁷ See FCC, Spectrum Policy Task Force Report, ET Docket No. 02-135, 15 (rel. Nov. 1, 2002) (“SPTF Report”).

A. Recommendations Resolve the MDS Relocation Issue

The Commission has already designated the lower 5 MHz of the 2150-2160/62 MHz band for AWS, and proposes to make the remainder available to AWS in this proceeding.⁸ Displaced MDS licensees are entitled to comparable facilities and adequate replacement spectrum, and the Commission has struggled to identify alternative spectrum that will minimize the disruption to existing services and minimize the economic impact on MDS licensees.⁹ The MDS Coalition's compromise provides that in exchange for MDS licensees vacating the entire 2150-2160/62 MHz frequency band for AWS, the Commission should designate replacement spectrum at 1910-1916 paired with 1990-1996 MHz, subject to the Part 24 licensing rules.

The compromise provides a number of advantages. First, it will take spectrum in the 1.9 GHz band from the underutilized asynchronous UPCS allocation and unused former MSS spectrum to resolve the MDS relocation dilemma. Application of Part 24 licensing rules will eliminate the interference concerns of adjacent broadband PCS operators and make the displaced licensees "good neighbors."¹⁰ Second, while MDS licensees may lose a degree of system design flexibility under the Part 24 rules that require operations at lower power levels, MDS licensees will have added flexibility to provide fixed and mobile services. Further, MDS licensees will have increased regulatory flexibility, because unlike the MDS rules, the PCS rules generally do

⁸ See *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*, ET Docket No. 00-258, *Second Report and Order*, 17 F.C.C.R. 23193, 23212 ¶ 40 (2002) ("*Second Report*").

⁹ See, e.g., MDS Coalition Letter at 7-13 (discussing why other pending relocation proposals are not viable).

¹⁰ See SPTF Report at 22 (recommending that future allocations be grouped based on mutually-compatible technical characteristics).

not require filings in connection with the construction and modification of facilities. Finally, the Commission will promote a secondary market for this spectrum by using the Part 24 rules, because MDS as well as PCS operators will be able to utilize the spectrum thereby resulting in leasing arrangements or sales to other interested providers. The marketplace will ultimately decide the most efficient services to be provided on these frequencies.

1. *Relocating MDS to 2170-2180 MHz Is Unworkable*

In the *Third NPRM*, the Commission seeks comment on whether MDS licensees could alternatively be relocated to the 2170-2180 MHz band.¹¹ This proposal is unworkable due to its interference potential to MSS portable receivers operating in the 2180-2200 MHz band. In order to protect MSS operators from adjacent channel interference, a large separation distance between systems would be necessary.

For example, a typical MDS base station operates at a maximum Equivalent Isotropically Radiated Power (“EIRP”) of 2,000 Watts for an omni antenna or 7,943 Watts EIRP for a sectored antenna. To provide the MSS receiver with an adjacent channel interference protection limit of -151 dBW/m²/Hz,¹² a separation distance of 182.5 kilometers would be required, assuming free space path loss. Such a large separation distance would preclude viable MDS systems given current MDS system configurations. Further complications would arise if MDS

¹¹ *Third NPRM* at ¶ 69.

¹² See, e.g., *Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, IB Docket No. 99-81, *Report and Order*, 15 F.C.C.R. 16127, 16195 ¶¶ 158-60 (2000); *Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions*, MM Docket No. 97-217, *Report and Order*, 13 F.C.C.R. 19112, 19138 ¶ 49 (1998).

licensees attempted to use time division duplex technologies in this band. Accordingly, a viable MDS system at 2170-2180 MHz is technically problematic and unworkable.

Three alternative options are more viable for this band. First, this band could be reserved for future AWS pairing options.¹³ Second, half of this spectrum could be allocated for asymmetric pairing with 2155-2170 MHz, which would expand the AWS asymmetric band to 2155-2175 MHz, with the remaining 2175-2180 MHz allocated for low power unlicensed use on a non-interfering basis. Third, the Commission could reallocate all of 2170-2180 MHz for low power unlicensed use on a non-interfering basis.¹⁴

2. *Nextel's Relocation Proposal Should Be Rejected*

The Commission also seeks comment on whether to award Nextel 10 MHz of spectrum at 1910-1915 and 1990-1995 MHz as “replacement” spectrum for what Nextel claims to be “giving up” as part of its 800 MHz public safety proposal.¹⁵ Cingular and others have commented extensively on the self-serving and flawed nature of the Nextel plan in the Commission’s public safety proceeding, WT Docket No. 02-55, and those comments are hereby incorporated by reference.¹⁶

¹³ *See supra* note 3.

¹⁴ *See supra* note 6.

¹⁵ *See Third NPRM* at ¶ 45.

¹⁶ *See generally*, Reply Comments of Cingular *et al.*, WT Docket No. 02-55 (filed Feb. 25, 2003); Comments of Cingular *et al.*, WT Docket No. 02-55 (filed Feb. 10, 2003); Further Comments of Cingular *et al.*, WT Docket No. 02-55 (filed Sept. 23, 2002); Reply Comments of Cingular *et al.*, WT Docket No. 02-55 (filed August 7, 2002); Joint Comments of Cingular and ALLTEL Communications, Inc., WT Docket No. 02-55 (filed May 6, 2002).

In essence, the spectrum Nextel proposes to contribute at 700 and 900 MHz as part of its public safety proposal has nothing to do with solving interference problems and everything to do with creating a pretext to justify its self-serving claim to 10 MHz of spectrum in the 1.9 GHz band.¹⁷ Indeed, under the 800 MHz rebanding portion of the Nextel plan, Nextel would be more than made whole by virtue of the improved value of its consolidated 800 MHz spectrum and the attendant improvement in the interference problem it is causing.¹⁸ Nextel's attempt to obtain valuable spectrum rights at 1910-1915 and 1990-1995 MHz should be acknowledged for what it is – a self-serving spectrum grab.¹⁹

Relocating MDS to the G Block is easily distinguishable from the Nextel proposal on a number of grounds. MDS licensees are subject to mandatory relocation and must find suitable relocation spectrum, while Nextel is not being forced to relocate. Moreover, under the MDS compromise proposal, MDS licensees will be making room for AWS while Nextel is simply fabricating a spectrum grab under the pretext of trying to escape an interference problem – of its own creation. Relocating MDS licensees to this band will also open up a secondary market for spectrum access for many parties, including Nextel, that will promote more diverse service offerings for customers in the 1.9 GHz band. Nextel's proposal will do nothing more than limit

¹⁷ See, e.g., Comments of Cingular *et al.*, WT Docket No. 02-55, at 7-10 (filed Feb. 10, 2003).

¹⁸ A recent Legg Mason report suggests that simply as a result of the contiguous spectrum Nextel would obtain in the 800 MHz band under its rebanding proposal, the value of its 800 MHz spectrum could increase from \$3.6 billion to \$5.8 billion – for a projected net increase of \$1.3 billion after its proposed \$850 million contribution is deducted. See Legg Mason, Nextel Takes Another Step in Spectrum Swap Plan (Dec. 31, 2002) (“Legg Mason Nextel Report”).

¹⁹ See *supra* comments cited at notes 16-17.

use of this spectrum to Nextel. For all these reasons, Nextel's 1.9 GHz "relocation" proposal should be rejected.

B. Recommendations Provide Spectrum Access to Unlicensed Users, Protect Incumbents, Provide Relocation Spectrum for Government Users, and Reserve Spectrum for Future Growth

Unlicensed devices serve an important role, and the Commission should ensure that there are sufficient bands for operation of unlicensed devices without causing interference to licensed services.²⁰ The instant proceeding affords such an opportunity. There should be no further reallocations of the 1916-1930 MHz bands. This will provide sufficient duplex separation between relocated MDS licensees in the proposed 1910-1916 MHz G Block (mobile to transmit) and PCS base transmissions beginning at 1930 MHz. This 14 MHz separation is the least amount necessary to minimize the possibility of mobile-to-mobile and base-to-base interference in the PCS bands. As discussed previously, Cingular presented three options for the 2170-2180 MHz band, one of which would reallocate this band to unlicensed use on a non-interfering basis to the extent the Commission decides not to use the spectrum for future or asymmetrical AWS pairings.

In conjunction with allocating the 1990-1996 MHz band to MDS discussed above, the Commission should designate the remaining 1996-2000 MHz band as an unused guard band. This guard band would serve to protect MSS uplink spectrum from base station transmissions in the proposed G Block.

²⁰ See *supra* note 6.

The Commission also seeks comment on the appropriate use of the reallocated MSS uplink spectrum at 2020-2025 MHz.²¹ The Commission should relocate displaced Department of Defense (“DoD”) users from the 1710-1755 MHz frequencies into this band. This spectrum is adjacent to, and should be combined with, the spectrum at 2025-2110 MHz that DoD seeks to use on a co-primary basis as relocation spectrum for the spectrum it is giving up at 1.7 GHz.²² More attractive AWS spectrum pairings are available elsewhere.

Finally, the Commission should hold the 2155-2170 MHz band in reserve for possible future AWS pairings, such as with 1755-1770 MHz. The 1755-1770 MHz band is still being analyzed for possible AWS use and would pair well with the 2155-2170 MHz frequencies in the future.²³ Setting aside 15 MHz of spectrum to accommodate future growth is sound spectrum policy.²⁴ Further, the 2155-2170 MHz spectrum is immediately adjacent to AWS base transmitter operations. Thus, to facilitate a “good neighborhood,” the Commission will want to

²¹ *Third NPRM* at ¶¶ 68, 70.

²² See U.S. Department of Commerce, National Telecommunications and Information Administration, “An Assessment of the Viability of Accommodating Advanced Mobile Wireless (3G) Systems in the 1710-1770 MHz and 2110-2170 MHz Bands,” *Report*, Section A(4)(c) (rel. July 22, 2002) (“*2002 Viability Assessment*”) (available from NTIA at <http://www.ntia.doc.gov/ntiahome/threeg/va7222002/3Gva072202web.htm>).

²³ See *Second Report*, 17 F.C.C.R. at 23195 ¶ 5 (identifying 1710-1770 as holding the greatest potential for possible AWS without significantly conflicting with Federal government operations).

²⁴ See, e.g., *Amendment of the Commission’s Rules to Establish New Personal Communications Services*, GEN Docket No. 90-314, *Second Report and Order*, 8 F.C.C.R. 7700, 7729, 7783 (1993) (holding 60 MHz, the bands 1970-1990 MHz and 2160-2180 MHz, in reserve for future allocations to emerging technologies), *recon. granted in part, Memorandum Opinion and Order*, 9 F.C.C.R. 4957, *further recon. granted, Further Order on Reconsideration*, 9 F.C.C.R. 4441, *further recon. granted in part, Third Memorandum Opinion and Order*, 9 F.C.C.R. 6908 (1994).

group technically compatible users in these adjacent bands.²⁵ Alternatively, the Commission could consolidate the spectrum with the 2110-2155 MHz frequencies as an asymmetric pairing with the 1710-1755 MHz band for immediate AWS use.

CONCLUSION

For the foregoing reasons, the Commission should adopt Cingular's recommendations.

Respectfully submitted,

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²⁵ See SPTF Report at 22.