

**Before the
Federal Communications Commission
Washington, D.C. 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)	
)	
Petition for Rulemaking of the Cellular)	RM-9920
Telecommunications Industry Association)	
Concerning Implementation of WRC-2000:)	
Review of Spectrum and Regulatory)	
Requirements for IMT-2000)	
)	
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)	

REPLY COMMENTS OF MICROBAND CORPORATION OF AMERICA

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Summary

MCA submits this Reply Comment concerning the relocating of incumbents in the 2150-2162 MHz band. MCA believes that any relocation would have a detrimental effect on MDS services, especially those provided by independent MDS operators. Thus, MCA supports those Comments asserting that MDS services should not be relocated to another band.

Alternatively, if the Commission were to allow 3G services to enter into this band, MCA supports a flexible allocation approach to the bands currently occupied by MDS Channels 1 and 2. Additionally, MCA believes that the FCC should take a hands-off approach to technology choices so that MDS operators may continue to make use of time division duplex systems in utilizing their MDS Channels.

If the Commission ultimately decides to reallocate the 2150-2165 MHz band and relocate the incumbent MDS stations elsewhere, MCA supports the notion that a combinatorial bidding procedure be used in conjunction with a “two-sided” auction. Furthermore, if MDS entities are forced to relocate to a higher band, they should be given more bandwidth and higher power output limits.

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To: The Commission

REPLY COMMENTS OF MICROBAND CORPORATION OF AMERICA

Microband Corporation of America ("MCA"), by its attorneys, pursuant to Section 1.415 of Federal Communications Commission ("FCC" or "Commission") rules, hereby submits its Reply Comments responsive to the initial Comments of other interested parties that were filed in the above-referenced proceeding. This Notice of Proposed Rule Making ("NPRM") was designed to determine whether to reallocate or otherwise provide spectrum for advanced services, including "third generation" ("3G") wireless services.

I. INTRODUCTION

MCA is an independent MDS licensee with interest in two MDS Channels – the New Orleans MDS Channel 1 station WKR26 and the Portland MDS Channel 1 station WPY39 (collectively the “Stations”). MCA is currently constructing a business plan to obtain effective utilization of the Stations once the outcome of the above-referenced proceeding is known. MCA is focusing on providing the medical community with a minimum of 3 Mbps speed for high-bandwidth telemedicine applications. MCA believes this is one of the few competitive, critical service offerings that can be provided by 2002 with a single channel. The results of this proceeding, particularly concerning the 2150-2165 MHz band, will directly effect MCA’s interest in its Station licenses and its future business plans.

Accordingly, MCA believes that MDS licensees should not be relocated to another band. If 3G services would be allocated to the bands currently occupied by MDS licensees, MCA supports a flexible allocation approach to this band. Additionally, MCA believes that the FCC should take a hands-off approach to technology choices so that MDS operators may continue to make use of time division duplex systems in utilizing their MDS Channels.

If the Commission ultimately decides to reallocate the 2150-2165 MHz band and relocate the incumbent MDS stations of the 2150-2162 MHz band elsewhere, MCA supports the notion that a “two-sided” combinatorial bidding auction be used. Furthermore, if MDS entities are forced to relocate to a higher band, they should be given more bandwidth and higher power output limits.

II. REPLY COMMENTS

A. **Incumbents in the 2150-2162 MHz Band Should Not Be Relocated to the 2155-2165 MHz Band.**

In their Comments to the NPRM, some entities suggested that MDS incumbents be relocated from 2150-2162 MHz to other spectrum. Specifically, Verizon Wireless and AT&T Wireless peripherally suggested that those incumbents currently occupying the 2150-2162 MHz band be shifted upwards 5 MHz to the 2155-2165 MHz band, thus eliminating one guard band and increasing the amount of contiguous spectrum to accommodate 3G services.¹

MCA does not support this proposal, as it would eliminate the viability of all MDS Channel 2 licenses. Currently, MDS Channel 1 utilizes the first 6 MHz of the 2150-2162 band while MDS Channel 2 generally utilizes the second 6 MHz of this band.² Several commenters suggested that the MDS incumbents be moved to 2155-2165 MHz in order to make room for 3G services in the 2150-2155 MHz band, which would supposedly be used in conjunction with the lower adjacent band.

However, if the MDS operators were forced to relocate to 2155-2165 MHz, the MDS spectrum block would lose 2 MHz of spectrum bandwidth, which accounts for one-third of MDS Channel 2's spectral space. This would eliminate the viability of many MDS services by significantly hindering the available service options utilizing either MDS Channel 2 or both MDS Channels 1 and 2.

¹ See Verizon Comments, at 1; AT&T Wireless Comments, at 12.

² The top 50 markets are authorized 6 MHz of bandwidth. Although the rules limit the authorized bandwidth to 4 MHz for MDS Channel 2 outside of the top 50 markets, this rule has been waived on many occasions to provide the full 6 MHz bandwidth.

This proposed relocation plan would be detrimental to all MDS Channel 2 licensees that require 6 MHz of spectrum in order to sustain service. Several MDS Channel 1 licensees would also be affected. For example, many MDS Channel 1 licensees lease the adjacent MDS Channel 2 spectrum. MCA intends to review its options for expanding its capacity once demand from the medical community warrants additional adjacent spectrum. The value of this option would be limited if MDS Channel 2 were to lose one-third of its spectrum.

This reallocation and relocation of MDS licenses would eliminate the spectrum necessary for MCA to carry out its business plan to serve the medical community in the most effective and efficient way possible. In its Comment, the Ad Hoc MDS Alliance (“Ad Hoc”) clearly expresses this view:

“If MDS Channel 2 is split into two parts, the ability of MDS Channel 2 to operate will be dramatically and adversely affected, and will make MDS Channel 1 substantially less valuable due to the fact that customer premises equipment (“CPE”) will be built at the same cost with less useful capacity. Under this scenario, MDS Channel 1 would lose a significant (if not fatal) amount of utility, and the Breckenridge Agreement’s main purpose, to provide for an upstream channel, would be rendered meaningless.”³

Even if 2 MHz of spectrum for the MDS Channel 2 licensees were recouped from elsewhere, it would have to come from a much higher band. However, the compatibility of technologies utilizing the 2150-2165 MHz bands and those above 3 GHz is negligible. According to the Wireless Communications Association International, Inc., MDS entities cannot use spectrum bands in and above 3 GHz.⁴ Any attempt to reconcile the two diverse spectrum bands would result in significantly increased operating costs and drastically reduced coverage areas.

³ See Ad Hoc MDS Alliance Comment, at 5.

⁴ See Wireless Communications Association International, Inc. Comment, at 31; see also DCT Los Angeles, L.L.C. Comment, at 6.

Furthermore, MCA agrees with DCT's assessment that independent operators such as DCT and MCA would suffer due to the highly detrimental effect on the use and perceived value of the spectrum if this were to occur.⁵ Larger MDS operators may spread the costs of relocation among a plethora of MDS operations. However, independent MDS operators do not have this luxury, as relocation costs would amount to a larger percentage of its total budget.

Hence, MCA is first in favor of the FCC not making any changes to the 2150-2162 MHz band.

B. If the Commission Allows the Introduction of 3G Services into the 2150-2165 MHz Band, Flexible Use of the Band Should be Allowed

If the Commission determines that 3G services are to be introduced into the 2150-2165 MHz band, MCA is in favor of the Commission allowing for flexible use of this band. MCA believes that soon-to-market near line-of-site ("NLOS") equipment will allow a medical professional stationed in a remote location to utilize a portable or stationary wireless device to engage in telemedicine. With the influx of 3G services, this may still be possible if the Commission allows a flexible use policy for the spectrum bands currently allocated to MDS Channels 1 and 2. Thus, if the Commission finds it imperative for 3G services to occupy the 2150-2165 MHz band, then MCA supports the Commission's proposal for flexible use of this band for both 3G and MDS use.

In November 1999, the Commission issued a *Policy Statement* setting forth the guiding principles for spectrum management activities in the new millennium.⁶ Referring to the *Policy Statement* in its NPRM, the Commission proposed a flexible allocation approach for the provision

⁵ See *id.* at 4.

⁶ See *Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium*, Policy Statement, 14 FCC Rcd. 19868 (1999).

of advanced wireless services.⁷ The Commission realizes that flexible use of the spectrum would realize several benefits. For example, “a flexible allocation approach will allow licensees freedom in determining the services to be offered and the technologies to be used in providing these services.”⁸ The Commission also realizes that a flexible approach will allow licensees to make the most efficient use of their assigned frequencies in response to market forces, thus providing a sufficient amount of spectrum to ensure a robust and competitive market.⁹ MCA agrees with the Commission’s foregoing perspective and supports the Commission’s proposal to allow flexible use of the spectrum for advanced wireless service use.

MCA is only one of many of those supporting a flexible allocation approach. According to Cingular Wireless, L.L.C. (“Cingular”), a flexible allocation approach is best because it would allow the market to determine the services and the technology behind those services.¹⁰ AT&T Wireless Services, Inc. (“AT&T Wireless”) also supports the Commission’s proposal for a flexible allocation approach. According to AT&T Wireless, a critical aspect of this flexibility is the ability of providers to choose the radio interface standard that best suits their particular situations.¹¹ MCA also agrees with the statements made by Cingular and AT&T Wireless and supports their request for a flexible allocation approach to the 2150-2165 MHz band if the Commission were to allow 3G services to enter the band.

⁷ See *id.* at ¶13.

⁸ See *id.*

⁹ See *id.*

¹⁰ See Cingular Wireless, L.L.C. Comment, at 13.

¹¹ See AT&T Wireless Services Inc. Comment, at 6.

C. The Commission Should Allow the Use of Time Division Duplex Systems for Advanced Wireless Service Purposes

In its NPRM, the Commission also invited comments on the spectrum requirements needed to deploy various technologies.¹² In particular, the Commission asked commenters address whether service providers anticipate implementing either frequency division duplex (“FDD”) or time division duplex (“TDD”) systems, or both.¹³ MCA, like many commenters such as IPWireless, support the use of TDD systems and like Cingular and other commenters, MCA supports that the market should determine a carrier’s technology choice.

Currently, MCA is planning to utilize TDD technologies in providing the aforementioned services to the medical community. MCA is encouraged by the development of TDD equipment for licensed and unlicensed portions of the 2 GHz band. IPWireless indicates that it is starting commercial service that utilizes TDD technology. MMDS and UNII band manufacturers Adaptive Broadband, Aperto Networks and BreezeCOM also supply and support TDD equipment. As Cingular has stated, “the wireless marketplace has been well served by the Commission’s hands-off policy as it relates to technology.”¹⁴ MCA supports this proposal and expects that the Commission will continue to allow such flexible use of technologies in the marketplace.

D. If MDS Entities are Forced to Relocate Elsewhere, Combinatorial Two-Sided Bidding Procedures Should Be Used to Auction Off the Reallocated Spectrum

If the Commission ultimately decides to reallocate the band for 3G use and relocate incumbent users of the 2150-2162 MHz band elsewhere, MCA strongly supports the use of combinatorial bidding and two-sided auctions to reallocate this band.

¹² See NPRM at ¶29.

¹³ See *id.*

¹⁴ See Cingular Wireless, L.L.C. Comment, at ¶13.

In its Comments to the NPRM, DCT proposed that the Commission auction the 2150-2165 MHz band in a “two-sided” combinatorial auction for advanced wireless services. MCA agrees with DCT that “[t]he use of this approach would most equitably, wisely and efficiently deal with the unique issues surrounding MDS Channels 1 and 2.”¹⁵ MCA further supports DCT’s contention that this approach “would serve to blunt the difficulties” inherent in any scheme to relocate the incumbent MDS entities.¹⁶

According to the Commission, combinatorial bidding procedures have “significant benefits.”¹⁷ Industry and academia alike agree upon this assessment.¹⁸ More importantly, Congress has directly mandated that the Commission utilize combinatorial bidding systems to permit prospective bidders to bid on combinations or groups of licenses in a single bid and to enter multiple alternative bids within a single bidding round.¹⁹ The Commission’s rules further provide for the authority to use a combinatorial auction design. According to Section 1.2103(b) of the Commission’s rules,

The Commission may use combinatorial bidding, which would allow bidders to submit all or nothing bids on combinations of licenses or authorizations, in addition to bids on individual licenses or authorizations. The Commission may require that to be declared the high bid, a combinatorial bid must exceed the sum of the individual bids by a specified amount. Combinatorial bidding may be used with any type of auction. The Commission may also allow bidders to submit contingent bids on individual and/or combinations of licenses.²⁰

¹⁵ See DCT Los Angeles, L.L.C. Comment, at 10.

¹⁶ See *id.*

¹⁷ See *Auction of Licenses in the 747-762 and 777-792 MHz Bands Scheduled for September 6, 2000, Comment Sought on Modifying the Simultaneous Multiple Round Auction Design to Allow Combinatorial (Package) Bidding*, Report No. AUC-00-31-G (Auction No. 31), DA 00-1075, 1 (rel. May 18, 2000) (hereinafter *Auction of Licenses*).

¹⁸ See Paul R. Milgrom, *FCC-SIEPR-NSF, Wye Woods Conference: Lessons Plus a Simple Proposal* (May 2000).

¹⁹ See 47 U.S.C. 309(j)(3) (1999).

²⁰ See 47 C.F.R. 1.2103(b).

Currently, bidders are restricted to placing bids on individual licenses. Alternatively, with combinatorial bidding procedures, bidders would additionally be allowed to place all-or-nothing bids on packages of licenses, thus allowing bidders to “better express the value of any synergies . . . that may exist among licenses, and to avoid *exposure problems* – the risks bidders face in trying to acquire efficient packages of licenses.”²¹ With combinatorial bidding procedures, bidders may attempt to win several licenses for the same frequencies within a large geographic region. In many situations, winning only a percentage of these licenses would make the bidder’s efforts fruitless. For some bidders, the value of their licenses lie in the ability to create a nationwide or region-wide service based on licenses in different geographic areas for the same frequency band. Combinatorial bidding would allow a bidder to win all of the licenses in a particular region or win none of them, thus reducing the risk of only obtaining a percentage of the license pool necessary to carry on its business.

In its Comments to the NPRM, DCT also supported the use of a two-sided auction. The Commission has also suggested that a two-sided auction could be used in conjunction with a combinatorial bidding process.²² MCA further supports this proposal and encourages the Commission to implement a two-sided combinatorial auction if it decides to reallocate the 2150-2165 MHz band for 3G services.

Generally, a two-sided auction would give an incumbent licensee, in exchange for relinquishing its frequency assignment, a set percentage of the auction proceeds for reallocating the incumbent’s particular band to another entity based on its contribution to the auction. The Commission itself has touted several benefits for utilizing a two-sided auction. According to the

²¹ See *Auction of Licenses*, at 2.

Commission, two-sided auctions would yield more desirable frequency and geographic assignments for purchasers.²³ It would also provide an incentive for incumbent licensees to give up their spectrum in exchange for additional compensation beyond that for relocation expenses.²⁴

Finally, two-sided auctions would help compensate MDS licensees who have invested human and capital resources in filing applications and preparing for the build-out of two-way wireless broadband communications in the MDS band that would never come to fruition if MDS operators would be relocated. Over 2600 two-way applications were filed, suggesting that this proposal for two-sided auctions to compensate these applying entities would have broad support.

Furthermore, as DCT explained in its Comments, no relocation would be necessary except for non-winning part 21 or part 101 licensees. MCA also agrees with DCT that the relocation of MDS licensees would use its auction proceeds to research and develop market oriented service at whatever new frequency the Commission assigns it. This would offset many technical problems relocation may create.

E. If MDS Entities are Forced to Relocate to a Higher Band, They Should Be Given More Bandwidth and Higher Power Output Limits

However, some technical problems caused by relocation could not be solved unless licensees are supplied with sufficiently higher bandwidth and allowed a significantly higher power level. MCA concurs with Ad Hoc that:

“Since MDS Channels 1 & 2 are typically licensed at 100 watts, which allows for service well beyond the current 35-mile protected service area, they would lose substantial service area at higher bands unless transmit power is greatly increased, thereby increasing operational costs as well. Further, at higher frequencies, much more power consumption and many more base stations would be required to

²² See *Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium*, FCC 99-354, *Policy Statement*, 14 FCC Rcd. 19868, 19871-72 (rel. Nov. 22, 1999).

²³ See *id.* at 5.

²⁴ See *id.*

preserve a given level of throughput capacity and coverage, once again pressing higher operational and additional capital costs. These cost pressures also would be manifested in CPE, which would become more expensive to build and operate.”²⁵

This would not be the first time the Commission would increase bandwidth and power limits for wireless licensees. In 1997, the Commission relocated the Digital Electronic Messaging Service (“DEMS”) from the 18 GHz band to the 24 GHz band. In this particular instance, the Commission found it necessary to minimally increase the authorized bandwidth from 10 MHz to 40 MHz.²⁶

Thus, if MDS licensees are forced to relocate, the Commission should increase the bandwidth and power limits of those MDS licensees. The Commission should also allow for combinatorial two-way auctions to help defray those higher operational and additional capital costs mentioned above that would burden relocating MDS licensees.

III. CONCLUSION

Accordingly, MCA strongly suggests to the Commission that MDS licensees not be relocated to the 2155-2165 MHz band as it would create tremendous difficulties to operate. If MDS operators were to share the spectrum with 3G services, MCA supports the proposal that flexible allocations be made. If MDS licensees were to be relocated, MCA further proposes that a combinatorial two-way auction be utilized to reallocate the vacated spectrum for advanced wireless use and that more bandwidth and higher power limits be granted to MDS licensees in those higher frequencies they may be assigned to.

²⁵ Ad Hoc MDS Alliance Comment, at 6-7.

²⁶ See *Amendment of the Commission's Rules to Relocate the Digital Electronic Message Service From the 18 GHz Band to the 24 GHz Band*, Order, 12 FCC Rcd 3471 (1997) (“[a]ssuming use of similar equipment in all other respects including transmit power, systems at 24 GHz will require approximately four times the bandwidth as at 18 GHz to maintain equivalent capacity and coverage.”)

Respectfully submitted,

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