

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

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 Systems)
_____)

ET Docket No. 00-258

To the Commission:

COMMENTS OF WORLDCOM, INC.

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COMMENTS OF WORLDCOM, INC.

WorldCom, Inc. ("WorldCom") hereby submits these Comments in response to the Commission's Further Notice of Proposed Rulemaking concerning the possible use of the 2150 - 2162 MHz band to support the introduction of new advanced fixed and mobile wireless services, including third generation ("3G") mobile wireless systems.¹

I. INTRODUCTION AND SUMMARY

WorldCom has a significant interest in this proceeding, as one of the largest holders of spectrum rights in the MMDS/ITFS bands throughout the United States, including the 2150 - 2162 MHz band. WorldCom has deployed and continues to deploy advanced fixed wireless broadband services to customers in areas currently unserved or underserved by other

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 al.*, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, FCC 01-224 (rel. Aug. 20, 2001) ("*FNPRM*").

broadband technologies. Consistent with its commitment to serve smaller and midsize markets throughout the United States, WorldCom already provides service in nine such markets: Memphis, TN; Chattanooga, TN; Bakersfield, CA; Jackson, MS; Baton Rouge, LA; Springfield, MA; Montgomery, AL; Minneapolis, MN, and Tallahassee, FL. By year end, WorldCom expects to launch service in four additional markets: Kansas City, MO; Pensacola, FL; Lafayette, LA; and Hartford, CT.

In its recent Report and Order in this proceeding, which definitively determined not to relocate any incumbent MMDS/ITFS licensees from the 2.5 GHz band, the Commission recognized the importance of MMDS/ITFS providers in the competitive broadband marketplace, and the necessity of giving these providers regulatory certainty with respect to their right to use this spectrum.² WorldCom appreciates the Commission's efforts to remove regulatory uncertainty for MMDS/ITFS providers. As the Commission recognized, "relocating incumbent ITFS/MMDS operations would jeopardize the provision of important fixed wireless broadband services."³

² See *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 Systems*, FCC 01-256 at ¶ 2 (rel. Sept. 24, 2001) ("*2.5 GHz Report and Order*") ("[B]ecause the 2500 - 2690 MHz band is extensively used by incumbent ITFS and MMDS licensees, and in order to preserve the viability of the incumbent services, we are not relocating the existing licensees or otherwise modifying their licenses."). See *id.* at ¶ 1 ("We recognize that consideration of this band for advanced wireless services has created uncertainty about the future of the new broadband fixed services being developed under the current allocation and service rules.").

³ *Id.* at ¶ 28.

These same conclusions by the Commission apply with equal force to the spectrum used by MMDS providers in the 2150 - 2162 MHz band. However, by requesting comments on whether MMDS providers using the 2150 - 2162 MHz band should be relocated in favor of a primary allocation of the band for third generation (“3G”) mobile services, the Commission’s FNPRM heightens the uncertainty regarding the future availability of that band for use by MMDS providers. In order to remove that uncertainty, WorldCom urges the Commission to act expeditiously in this proceeding.

It is clear that any required relocation from the 2150 - 2162 MHz band will be highly disruptive, complex and expensive. Indeed, the Commission has never before required the relocation of a mass market service, like MMDS. As a result, unlike prior relocations that affected limited, non mass-market services -- where equipment changes could be made in a manner that was mostly, if not entirely, transparent to the customers -- relocation of MMDS will require highly disruptive door-to-door visits to potentially millions of MMDS customers nationwide.⁴ Any such relocation will jeopardize the relationship between MMDS providers and their current and potential customers.

If the Commission determines that relocation of MMDS operations at 2150 - 2162 MHz is in the public interest, such a relocation can occur if, and only if: (1) 12 MHz of truly comparable spectrum is identified for relocation; (2) any such relocation spectrum is first cleared of the incumbent users; and (3) full compensation for all relocation costs is provided to MMDS

⁴ For example, Jupiter Media Metrix, Inc. estimates that there will be 3.7 million fixed wireless broadband users in 2005. *See* Leslie Cauley, “It’s a Jungle Out There,” *Wall Street Journal* at B6 (September 10, 2001).

operators. Satisfaction of these principles is all the more important in light of the fact that this spectrum was part of the package of spectrum rights that were purchased at auction. Failure to satisfy these principles will significantly impair the provision of competitive MMDS broadband services throughout the United States.

II. THE 12 MHz OF SPECTRUM AT 2150 - 2162 MHz IS AN ESSENTIAL COMPONENT OF BROADBAND MMDS SYSTEMS

The 12 MHz of spectrum at 2150 - 2162 MHz is an integral part of the overall allocation of spectrum for MMDS/ITFS licensees. In acquiring MMDS spectrum, and in designing and deploying fixed wireless broadband systems, WorldCom has relied heavily on access to this 12 MHz of spectrum.

The superior propagation characteristics of the two MDS channels at 2150 - 2162 MHz make them particularly useful and valuable for provisioning service. In each and every market where WorldCom has deployed, or is deploying, fixed wireless broadband systems, WorldCom is using the two MDS channels at 2150 - 2162 MHz in conjunction with channels within the 2.5 GHz MMDS/ITFS band. With each day that passes, WorldCom purchases and deploys customer premise equipment (“CPE”) and base station equipment that use the 2.1 GHz MDS channels. In the event of a relocation to different spectrum, all of the existing CPE would have to be replaced because it is set to fixed frequencies and cannot be retuned. In addition, base station equipment would have to be replaced or modified (depending on the relocation band). As a result, any reallocation of the 2150 - 2162 MHz band will be highly disruptive to WorldCom’s growing customer base and future deployment plans.

III. THE COMMISSION'S PRIOR RELOCATION PRECEDENT IS WHOLLY INADEQUATE TO ADDRESS RELOCATION OF A MASS-MARKET SERVICE LIKE BROADBAND ACCESS VIA MMDS

In its *FNPRM*, the Commission seeks comment on "how to apply to incumbent users the same relocation procedures that we applied in the Emerging Technologies proceeding."⁵ The Commission, however, must recognize that its prior precedent is wholly inadequate for any relocation of the 2.1 GHz MDS spectrum.

The Commission's existing relocation policies were developed for, and applied to, services such as point-to-point microwave and the broadcast auxiliary service that are fundamentally different from the fixed wireless broadband access services offered by MMDS/ITFS providers. Prior relocations affected non-consumer services, were limited in scope, and could be accomplished gradually and transparently without disruption of service.

By contrast, relocation of the spectrum used to provide broadband access via MMDS will be highly disruptive, complex and expensive. MMDS operators provide a mass-market service delivered directly to customers -- at their homes and offices. Any spectrum relocation will require the replacement of CPE for potentially millions of customers. These customers rely on broadband access 24 hours per day, 7 days per week, 365 days per year. The cost and logistics of moving to new spectrum will be significant. Further, MMDS providers will face the very real risk that their established relationships with customers will be damaged by the inconvenience associated with switching out equipment, not to mention the increased potential for service disruptions. Any diminution in customer good will, or the public perception of the

⁵ *FNPRM* at ¶ 40.

MMDS industry, will undermine the ability of MMDS providers to compete with the broadband services offered by cable television operators and incumbent local exchange carriers.

IV. THE COMMISSION CANNOT REQUIRE RELOCATION OF MMDS OPERATORS FROM THE 2150 – 2162 MHz BAND UNTIL AND UNLESS IT IDENTIFIES 12 MHz OF TRULY COMPARABLE SPECTRUM

If the Commission ultimately decides to relocate MDS Channels 1 and 2/2A from the 2150 - 2162 MHz band, it is essential that the relocation spectrum be fully comparable to the 2150 - 2162 MHz band. As noted previously, many of the spectrum rights granted to MMDS operators were acquired at auction. Consequently, the licensees have legal rights and justifiable expectations that they will be provided with fully comparable spectrum. Furthermore, to provide less than comparable spectrum would disrupt or derail the deployment plans of MMDS providers, which have relied on the technical characteristics of the 2.1 GHz band, as well as the 2.5 GHz band, in designing their MMDS systems.

To date, truly comparable spectrum has not been identified by any party or by the Commission. The *FNPRM* does not propose relocation spectrum, so WorldCom cannot comment on the advantages or disadvantages of any specific spectrum relocation option. When and if such spectrum is identified, WorldCom will be in a better position to comment on this aspect of the *FNPRM*. A key part of any such proposal must be the identification, if necessary, of suitable replacement spectrum for incumbent users of the relocation bands.

In order to be fully comparable, the 12 MHz of replacement spectrum must, at a minimum, have the following characteristics:

- Comparable spectrum must be at or below the 2.1 GHz band in order to replicate the superior propagation characteristics of this band.⁶
- Comparable spectrum must have sufficient guardbands and interference protection from neighboring services so that all 12 MHz of spectrum is fully usable. The Commission must ensure that the new “neighbors” of relocated MDS incumbents are not authorized to use their spectrum for incompatible purposes, or otherwise in a manner that creates interference to MMDS operations. The Commission must adopt appropriate rules regarding maximum power levels, the spectral mask, and frequency stability so as to ensure that there is no harmful interference (whether adjacent channel interference, brute force overload or interference due to harmonics or intermodulation) to the newly relocated MDS channels.⁷

Relocation spectrum that does not meet these criteria is not comparable, and therefore, is wholly unsatisfactory and inadequate.

V. RELOCATION SPECTRUM MUST BE CLEARED OF INCUMBENT USERS BY A DATE CERTAIN AND IN A MANNER TRANSPARENT TO MMDS PROVIDERS

The Commission must ensure that any relocation spectrum be cleared of incumbent users by a date certain, as explained below. Further, the process of clearing incumbent users must be transparent to MMDS providers. It must entirely be the responsibility

⁶ In all events, as the Commission acknowledges, comparable spectrum does *not* include frequencies above 3 GHz, which have entirely inferior propagation characteristics, and consequently, would severely disrupt if not destroy the commercial feasibility of MMDS systems. See FCC Final Report: Spectrum Study of the 2500 - 2690 MHz Band at iii (March 30, 2001) ("*Final Report*") ("[R]elocation of ITFS/MDS operations to a band above 3 GHz would affect deployment of these systems to account for changes in signal propagation in higher bands. Relocation to higher bands could affect significantly the economics of current and planned ITFS and MDS systems and lessen their ability to provide service to rural areas or smaller markets."). See also HAI Study at Section IV (attached to WCA Comments submitted Feb. 22, 2001).

⁷ See *Final Report* at 46-50.

of the auction winners to arrange and pay for the clearing of incumbent users. MMDS providers already face the highly disruptive task of arranging for their own relocation. In no manner should MMDS providers have to participate in, and be burdened by, the process of relocating the incumbent users.

Before MMDS operators can begin moving to any relocation spectrum, at a minimum the following must occur:

- The Commission must issue a Report and Order identifying comparable relocation spectrum for MMDS providers, and setting forth compensation guidelines.
- The Commission must issue a Report and Order establishing service rules, including interference protection standards, for licensees of the newly allocated advanced services spectrum and modifying, as necessary, the service rules and interference protection standards for licensees operating in neighboring bands to the relocated MDS spectrum.
- The Commission must issue a Report and Order identifying, if necessary, replacement spectrum for incumbents currently operating in the relocation spectrum.
- The Commission must issue a Report and Order establishing regulations for the auction of newly allocated advanced services spectrum.
- The Commission must complete the auction of the newly allocated advanced services spectrum.
- The auction winners must complete the relocation of the incumbent users of the relocation spectrum (“Phase 1 Relocation”).

Phase 1 Relocation must await completion of the auction because the auction winners must be the entities responsible for compensating the incumbents for their required

move. In order to avoid the possibility that the Phase 1 Relocation will be disrupted or delayed by an auction winner that defaults on or delays its payment, the Commission should require that financial and operational responsibility for clearing the replacement band of incumbent users and relocating MMDS operations to that band be shared by *all* of the winners in the auction of advanced services spectrum, not just the winner(s) of licenses that include the 2150-2162 MHz channels. In that manner, the Commission can ensure that clearing of the replacement band and the migration of MMDS providers occur on schedule, regardless of whether any one auction winner defaults on its obligations.

The second phase ("Phase 2 Relocation") of relocation (*i.e.*, the relocation of MMDS providers out of the 2150 - 2162 MHz band and into new spectrum) cannot begin until Phase 1 Relocation is completed. As discussed above, it is essential that there be a date-certain for the conclusion of Phase 1 Relocation -- *i.e.*, *all* incumbent users in all markets must be relocated before any MMDS providers are required to move in. There cannot be any overlap in the two phases of relocation. Any such overlap would upset the economies of scale for the manufacture and deployment of MMDS/ITFS equipment, and will disrupt the design of MMDS systems. Without a date certain, it will be necessary for equipment vendors to manufacture different equipment for use at 2150 - 2162 MHz and at the relocation spectrum. This will increase manufacturing costs, and thus, the costs to providers.

VI. MMDS PROVIDERS MUST BE FULLY COMPENSATED FOR ALL COSTS INCURRED AS A RESULT OF RELOCATION

The Commission must ensure that MMDS operators are “made whole” for any required relocation. As explained above, it must be the collective responsibility of all of the auction winners of new advanced services spectrum to provide such compensation.

It is not possible at this time to calculate the level of compensation in the absence of information about where or when MMDS providers will be relocated. Clearly, though, these costs will increase with each passing day. In order to minimize the cost to the auction winners, and minimize the uncertainty and disruption suffered by the MMDS industry, WorldCom urges the Commission to act expeditiously in completing all of the steps necessary before relocation can occur.

There is no precedent for relocating a mass market service which potentially may serve millions of customers when the time comes to relocate. Thus, the Commission has not previously addressed some of the compensation issues that would arise were the MDS channels to be relocated.

At a minimum, full compensation will need to be provided for the following internal and external costs:

- Procurement of new CPE capable of operating on the new frequencies for all customer locations. This equipment may cost more than CPE that operates at 2150 – 2162 MHz because, among other things, of (1) more expensive filtering to prevent interference from neighboring users; (2) the need to develop new equipment; (3) the need to produce large quantities of equipment in a short amount of time; and (4) the need to operate across a wider range of frequencies.

- Installation and testing of new CPE at all customer locations. This would include the cost of scheduling appointments and hiring new staff and/or outside contractors.
- Reimbursement to consumers who purchased their CPE in retail stores.
- Modification or replacement of transmission and electronic equipment at all base stations. In some cases, base stations may need to be moved in order to avoid interference problems.
- Preparation of and filing applications to operate on the new frequencies. This will include internal and external costs for engineering and legal work, as well as FCC filing fees.
- Incremental costs of internal finance, billing, customer relations and marketing that will be incurred as a result of the relocation.

Finally, the Commission must ensure that MMDS operators that lease MDS channels at 2150 – 2162 MHz are fully compensated for the costs that they incur as a result of relocation. These operators, including WorldCom in a few markets, have invested substantial sums in reliance on the availability of that spectrum capacity, and will incur all of the costs set forth in the preceding paragraph.

VII. THE COMMISSION SHOULD GIVE MMDS LICENSES IN THE 2150 - 2162 MHz BAND, OR ANY REPLACEMENT SPECTRUM, THE SAME FLEXIBLE USE RIGHTS IT HAS ALREADY GIVEN TO MMDS/ITFS LICENSEES IN THE 2.5 GHz BAND.

The Commission has requested comment on the "public interest costs and benefits of adding a mobile allocation to the 2150 - 2160 MHz band."⁸ WorldCom supports the

⁸ *FNPRM* at ¶ 41.

designation of the 2150 - 2162 MHz band, or any replacement spectrum for MMDS licensees, for flexible use. In the *2.5 GHz Report and Order*, the Commission determined that adding a mobile allocation to the 2500 - 2690 MHz band licensed to MMDS/ITFS providers would serve the public interest.⁹ As noted previously, the 12 MHz of spectrum at 2.1 GHz allocated to MMDS licensees is an integral part of the spectrum at 2.5 GHz allocated to MMDS/ITFS licensees. Thus, the same policy reasons that support addition of a mobile allocation to the 2.5 GHz band apply with equal force to the 2150 - 2162 MHz band (or any replacement spectrum). Although the Commission's decision to add a mobile allocation to the 2.5 GHz band has not changed WorldCom's plans for deployment of its fixed wireless broadband service, WorldCom agrees with the Commission that market forces should determine the feasibility of using the spectrum for other services.

VIII. CONCLUSION

In reliance on the Commission's actions and statements over the past five years, WorldCom, and other MMDS providers, have invested significant sums to purchase spectrum rights, develop an advanced wireless platform, and deploy two-way broadband services to customers in markets throughout the United States that are unserved or underserved by other broadband technologies. As the Commission has explicitly acknowledged, the need for these services is clear.

If the Commission determines that relocation of MMDS operations at 2150 - 2162 MHz is in the public interest, such relocation can occur if, and only if: (1) 12 MHz of truly

⁹ *2.5 GHz Report and Order* at ¶ 24.

comparable spectrum is identified for relocation; (2) any such relocation spectrum is first cleared of incumbent users; and (3) full compensation of all relocation costs is provided to MMDS operators. To do anything less will jeopardize the provision of competitive MMDS broadband services throughout the United States.

Respectfully submitted,

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