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**BEFORE THE**
**FEDERAL COMMUNICATIONS COMMISSION**
**WASHINGTON, DC**

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| In the Matter of | ) | |
| | ) | |
| 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<br>RM-8553 |
| | ) | |
| Implementation of Section 309(j) of the Communications Act -- Competitive Bidding | ) | PP Docket No. 93-253 |

To: The Commission

# REPLY COMMENTS OF MILLIWAVE LIMITED PARTNERSHIP

Carl W. Northrop
E. Ashton Johnston
Paul, Hastings, Janofsky
& Walker
1299 Pennsylvania Ave., N.W.
Tenth Floor
Washington, D.C. 20004-2400
(202) 508-9570

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**SUMMARY**

Milliwave Limited Partnership ("Milliwave") is submitting Reply Comments regarding the proposed licensing plan for the 37/39 GHz bands.

The Comments in the proceeding are very critical of the Commission's plan. The legality of the proposal to subject incumbent 39 GHz licensees to harsh, retroactively-imposed construction obligations is called into serious question, as are the fairness and public policy justifications for subjecting newcomers to lesser standards. Ultimately, a uniform "substantial service" requirement should apply to all licensees.

The record does support certain elements of the proposed 37/39 GHz licensing plan. There is substantial agreement that the technical standards for the 37 GHz and 39 GHz bands should be conformed, with only the minimum standards necessary to guard against interference being imposed. Applying this principle, Milliwave concludes that the +55 dBW power standard is unduly restrictive. Also, there is a general consensus that no 37/39 GHz spectrum cap should be imposed.

Having considered the Comments, Milliwave now recommends a 37/39 GHz auction scheme patterned after the highly successful wideband PCS process. Some channels (39 GHz) should be made available on an MTA basis in an initial auction. Other channels (37 GHz) should be made available

on a BTA basis at a later date. The public interest reasons for these groupings are set forth in detail.

Milliwave sees serious potential problems with a co-primary assignment of portions of the 37/39 GHz band between the microwave and satellite services. More study is needed, perhaps pursuant to a further notice of proposed rulemaking. In any event, previously licensed 39 GHz stations must be fully protected.

Finally, Milliwave cites support in the record for its position that the Commission should take steps to preserve the integrity of its licensing rules by dismissing pending applications that did not conform to known standards and granting applications that become uncontested as a result.

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## REPLY COMMENTS OF MILLIWAVE LIMITED PARTNERSHIP

Milliwave Limited Partnership ("Milliwave"), by its attorneys, hereby submits its reply comments regarding the Notice of Proposed Rule Making[1/] in the captioned proceeding. In reply, the following is respectfully shown:

### I. Overview

1. Comments have been filed by over 30 companies representing a complete cross-section of interested parties in the 37/39 GHz band, including all principal holders of 39 GHz licenses,[2/] a handful of prospective users of the

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[1/] Notice of Proposed Rule Making and Order, FCC 95-500, adopted December 15, 1995.

[2/] See, e.g., Comments of Advanced Radio Telecom Corporation ("ART"), Bachow & Associates, Inc. ("Bachow"), BizTel, Inc. ("BizTel"), Columbia Millimeter Communications, L.P. ("Columbia"), Commco, L.L.C. ("Commco"), DCT Communications, Inc. ("DCT"), Microwave Partners ("Microwave"), Milliwave Limited Partnership, No Wire L.L.C. ("No Wire"), Sintra Capital Corporation

(continued...)

spectrum for PCS backhaul,[3] equipment manufacturers,[4] industry associations[5] and others.[6] Viewed as a whole, the comments are quite critical of the Commission's proposal. Many commenters, including Milliwave, question whether PCS backhaul is the primary use to which 37/39 GHz spectrum will be put,[7] and challenge those aspects of the Commission proposal which appear to derive from the

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[2] (...continued)
("Sintra"), Spectrum Communications L.C. ("Spectrum"), and WinStar Communications, Inc. ("WinStar").

[3] See, e.g., Comments of Ameritech Corp. ("Ameritech"), AT&T Wireless Services, Inc. ("AT&T"), Pacific Bell Mobile Services ("PacBell"), DCR Communications, GTE Service Corporation ("GTE"), Telephone and Data Systems, Inc. ("TDS"). Milliwave considers it to be significant that so small a number of existing and prospective PCS licensees felt this proceeding to be of sufficient importance to merit their attention.

[4] See, e.g., Comments of GHz Equipment Co. ("GHz"), Angel Technologies Corp. ("Angel"), Motorola Satellite Communications ("Motorola"), Alcatel Network Systems ("Alcatel"), Digital Microwave Corporation ("Digital"), Harris Corp./Farinon Division ("Harris") and Innova Corp. ("Innova").

[5] See, e.g., Comments of the Association for Local Telecommunications Services ("ALTS"), National Spectrum Managers Association ("NSMA"), Personal Communications Industry Association ("PCIA"), and the Telecommunications Industry Association ("TIA").

[6] See, e.g., Comments of Telco Group, Inc. ("TGI", a provider of network support and design services), Comsearch (an engineering firm) and Rand-McNally Company (MTA copyright holder).

[7] See, e.g., Comments of ART, pp. 7-8; BizTel, p. 12; Columbia, p. 3; ALTS, p. 1. These commenters consider the spectrum to be of primary use to Competitive Access Providers ("CAPS") and to Competitive Local Exchange Carriers ("CLECs").

misperception that PCS backhaul is the appropriate paradigm for systems that will operate in these bands.[8]

2. The disparate treatment between incumbents and entities licensed through auction comes under particular attack. Commenters agree that, in addition to lacking any economic efficiency and public interest basis, the proposal is unlawful in that there is no record evidence to justify the proposed discrimination.[9] And, the scope of the new construction obligations to which the Commission proposes to subject incumbents, and the short construction timetable, are shown to be arbitrary, unreasonable and punitive in nature.[10]

3. Additionally, the comments reflect no consensus regarding the mechanics of the auction process. The manner in which channels should be grouped, and the sequence of the

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[8] For example, the proposal to set aside any substantial portion of the spectrum for PCS backhaul comes under considerable attack. See, e.g., Comments of Angel, p. 5; ART, pp. 45-47; BizTel, p. 42; WinStar, p. 6. And, the construction requirements proposed for incumbents are dismissed as having been premised on a PCS backhaul system configuration which does not translate to other deployments. See, e.g., Comments of Bachow, p. 9.

[9] Comments of ART, pp. 24-25; Columbia, pp. 15-16; Milliwave, pp. 6-7, 11; WinStar, pp. 55-56.

[10] Comments of ART, pp. 12-13; Bachow, p. 10; BizTel, pp. 27-32; Columbia, p. 19; Commco, pp. 4-6; DCT, pp. 12-15; GHz, p. 4; Microwave Partners, p. 9; Milliwave, pp. 19-23; No Wire, p. 6; Sintra, p. 3; Spectrum, p. 2; WinSTar, pp. 45-56.

auctions, also are subjects of debate, with no unified position emerging.[11]

4. Despite the controversial nature of many key elements of the licensing proposal, there are a few areas of substantial agreement. The record provides considerable support for the following propositions, all of which are strongly endorsed by Milliwave:

a. The technical standards for the 37 GHz and 39 GHz bands should be conformed due to the substitutability of channels in these frequency bands, and to allow manufacturers to achieve substantial economies which will redound to the benefit of both licensees and end users.[12]

b. Only the minimum technical standards necessary to guard against harmful co-channel interference should be imposed by the Commission in order to encourage diverse, innovative technologies in these frequency bands.[13]

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[11] Comments of ART, pp. 48-52; Commco, pp. 8-9; GHz, p. 7; Spectrum, p. 2; WinStar, pp. 16-20.

[12] See Comments of ART, pp. 35, 50; BizTel, pp. 23-27; Columbia, pp. 15-16; Commco, p. 3; Innova, p. 2; GTE, p. 3; PCIA, p. 3; WinStar, pp. 10-11.

[13] See Comments of Alcatel, pp. 2-3; ART, p. 37; BizTel, p. 42; Columbia, pp. 13-14; Commco, p. 9; Digital, p. 1; GHz, p. 6; Microwave Partners, p. 11-12; Milliwave, pp. 23-25; Spectrum, p. 3; TIA, p. 23.

c. No 37/39 GHz spectrum cap should be imposed by the Commission since the relevant market for competitive purposes extends far beyond these bands.[14/]

d. The Commission should adopt flexible rules that permit diverse uses of the spectrum, including mobile service offerings, provided that protections against interference are included.[15/]

5. In view of the wealth of disagreement on other topics, the Commission should view the consensus that emerged on the foregoing points as significant, and accommodate these positions in the final rules.

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14/ See Comments of ART at pp. 26-31; BizTel at pp. 16-17; Milliwave at pp. 31-32; WinStar, pp. 40-45.

15/ See Comments of ART, pp. 43-44; Ameritech, p. 9; Angel, p. 5; AT&T, p. 9; Bachow, p. 7; BizTel, p. 14; Columbia, pp. 12-13; Commco, p. 2; Innova, p. 2; Microwave, p. 11; Milliwave, p. 27; PacBell, p. 5; PCIA, p. 4; WinStar, p. 37.

## II. Incumbents and New Licensees Should Be Treated the Same

6. The Commission has proposed vastly different construction and usage obligations, based on whether an entity acquired its license in accordance with Part 21 of the Commission's rules, or acquires a license at a future auction. With regard to construction, the Commission proposes no specific requirement for auction winners, but instead seeks comment on whether a "substantial service" test is appropriate.[16/] For incumbent licensees, however, the Commission proposes requiring -- at the risk of loss of license rights -- the construction, within 18 months of the adoption of a Report and Order in this proceeding, of four permanently installed and operating links per 100 square kilometers (approximately one link per ten square miles).[17/]

7. Milliwave's observation, for which there is substantial record support, is that there is no basis for making a distinction between licensees who obtain licenses through auction and those who have properly obtained authorizations for self-defined rectangular service areas on a first-come, first-served, basis pursuant to Commission rules then in place ("the incumbents"). Once licenses are

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16/ NPRM, para. 98.

17/ NPRM, para. 2.

issued (regardless of the licensing methodology) all licensees face precisely the same market-based incentives to construct facilities and initiate operations.[18] There is no basis in the record, and the Commission cites no evidence to demonstrate, that licensees who are authorized through methods other than auction (e.g., first-come; lottery) are more likely to inefficiently "warehouse" spectrum or otherwise behave in a manner less consistent with the public interest than auction winners. Furthermore, there is no record support and no basis for imposing different obligations on licensees in the 37 and 39 GHz bands. There should be a single regulatory paradigm for all licensees, including incumbents, applicants whose applications are granted after the adoption of the NPRM and Order, and license auction winners.

8. The comments generally support Milliwave's view in this regard. Moreover, the comments reflect a broadly-held conviction that certain of the rules proposed to govern incumbent operations would be found by a reviewing Court to be punitive in nature, to exceed the Commission's auction authority, to be unsupported (and unsupportable) by any record evidence, and to violate fundamental principles of

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[18] In essence, those incentives are driven by the expected financial return on additional investments in the licensed business. Any expenses incurred prior to Commission authorization (large or small) are "sunk costs" and have no bearing on the computation of return on future investments.

fairness and sound competitive policy.[19] The Commission risks throwing the entire licensing scheme into a litigation turmoil if it fails to heed these concerns by adopting a regulatory scheme which does not treat incumbents and new licensees the same.

## III. All 37/39 GHz Licenseholders Should Be Subject to a Uniform Construction Standard

9. The NPRM sought comment on a transition plan that would require incumbents to build 1 link per 10 square miles of service area or risk losing territory or licenses.[20] This proposal received absolutely no support.

10. Those who calculated the costs of compliance with this transition scheme all agreed that the Commission proposal would subject incumbents to exorbitant and unreasonable charges.[21] At first blush, the estimates of the costs of complying with the proposed 1 link per 10 square miles requirement appear to vary greatly, with numbers of $5 million,[22] $40 million,[23], $750

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19/ See Comments of ART, pp. 12-13; BizTel, pp. 27-32; Columbia, p. 18; Commco, pp. 4-7; DCT, pp. 7-15; Milliwave, pp. 12-17; WinStar, pp. 45-56.

20/ NPRM, para. 105.

21/ Comments of ART, p. 12; Commco, pp. 6-7; DCT, p. 5; GHz, p. 4; Milliwave, pp. 21-22; WinStar, p. 6.

22/ Comments of DCT, p. 5.

23/ Comments of Commco, pp. 6-7.

million,[24] $4 billion[25] and $26 billion[26] appearing in the comments. Careful analysis reveals, however, a large degree of consistency in the basic cost assumptions that apply,[27] with differences in the reported totals being largely attributable to whether costs were being calculated on a per market, per licensee or on an industry-wide basis.[28] All of the estimates can be reconciled to support the conclusion that the Commission -- without any support in the record that the 1 link per 10 square miles is necessary, appropriate[29] or capable of being met[30] --

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24/ Comments of Milliwave, pp. 21-22.

25/ Comments of ART, p. 12.

26/ Comments of GHz, p. 4.

27/ For example, commenters appear to agree that the average cost of a link is between $20,000 to $25,000, and that many current service areas comprise a 50-mile radius. See, e.g., Comments of ART, p. 12; Bachow, p. 13; BizTel, p. 31; Commco, pp. 6-7; Milliwave, pp. 21-22.

28/ DCT and Commco sought to come up with a per market price, ART and Milliwave figured what it would cost each of them to comply, while BizTel and GHz calculated numbers estimating the costs to the industry as a whole.

29/ Bachow points out that the 1-link-per-10-square-miles standard appears to conform to a PCS-backhaul configuration, but has no applicability to other deployments.

30/ Several commenters indicate, based upon contacts with equipment manufacturers, that they are incapable of delivering sufficient equipment to permit incumbents to maintain their licenses under the proposed transition standard. See, e.g.,

(continued...)

would impose a short term obligation on the industry in the billions of dollars.[31]

11. The record of the proceeding also confirms Milliwave's conclusion that a substantive requirement of this magnitude cannot lawfully be imposed after the fact on a license.[32] Serious issues regarding an unlawful "taking",[33] improper retroactive lawmaking,[34] the

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[30] (...continued)
Comments of ART, p. 12. While manufacturers are naturally reluctant to confirm this fact, Milliwave notes that none have endorsed the 1 link per 10 square miles benchmark. See Comments of Alcatel; Digital; Harris/Farinon; Innova.

[31] A 50-mile square service area would comprise 2500 square miles, and require 250 links to meet the proposed standard. At $20,000 per link, the per market total would be $5,000,000. With multiple carriers holding authorizations in the top 100 markets, the total obligation will be many billions of dollars.

[32] Comments of Milliwave, pp. 15-16.

[33] See Comments of WinStar, p. 52. In Shanbaum v. United States, 1 Ct. Cl. 177 (1982), aff'd 723 F.2d 69 (Fed. Cir. 1982), the U.S. Claims Court recognized that FCC license rights, while not constituting a "full fledged indefeasible property interest", are more than a "non-protected interest, defeasible at will." In determining when a federal agency action qualifies as a "taking" forbidden by the Fifth Amendment to the U.S. Constitution, the Supreme Court has increasingly looked to three factors: (1) the extent to which the regulation interferes with distinct investment-backed expectations; (2) the character of the action; and (3) the economic impact. Ruckelshaus v. Monsanto Co., 104 S.Ct. 2862, 2874 (1984); Loretto v. Teleprompter Manhattan CATV Corp., 102 S.Ct. 3164, 3171 (1982). Consideration of these factors supports the conclusion that the taking back of
(continued...)

involuntary modification of licenses[35] and violation of explicit limitations in the auction statute,[36] are raised.

12. Finally, the Commission can take no comfort in comments of ART and WinStar which propose stricter construction standards than are advocated by Milliwave and others.[37] Both these carriers appear to be seeking to perpetuate the modest headstart they currently enjoy. The Commission should be extremely reluctant to adopt standards endorsed by early market entrants who have an incentive to keep newcomers from succeeding in their efforts to introduce new, viable competitive entry. It would be ironic, and manifestly inconsistent with the public interest, if the Commission were to adopt draconian construction requirements which had the effect of reducing, not enhancing, competition in this emerging market.

13. The comments in the docket reflect a wealth of support for a "substantial service" standard in lieu of

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[33] (...continued)
license territory from 39 GHz licensees would constitute an unconstitutional taking.

[34] Comments of DCT, pp. 11-13.

[35] Comments of DCT, pp. 14-15.

[36] Comments of Milliwave, p. 16; Commco, p. 5; DCT, p. 15.

[37] Comments of ART, p. 14; WinStar, pp. 56-57.

requiring a fixed number of links.[38] AT&T properly observes that any fixed number of links per market or per mile is inherently arbitrary.[39] AT&T and others correctly note that a flexible standard is most appropriate for an emerging service where licensees may have widely divergent business plans.[40] The substantial service requirement is particularly appropriate for licensees who will be providing CAP and CLEC services. These services are incremental in nature and will be initiated at specific customer locations as demands arise, rather than being initiated as part of a ubiquitous wide-area network. A reasonable planning cycle for the substantial development of these businesses is the current 39 GHz license terms, which expire in the year 2001.

14. Some commenters embrace fixed link requirements due to a desire for certainty.[41] The requested specificity is best addressed by creating an unrebuttable

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[38] See Comments of BizTel, pp. 32-33; Columbia, p. 19; Commco, p. 8; GHz, p. 4; Milliwave, pp. 16-17; Sintra, pp. 4-5; Spectrum, p. 4. See also Comments of Bachow, p. 14.

[39] AT&T Comments, pp. 7-8. However, AT&T then argues, somewhat disingenuously, that 39 GHz incumbents other than PCS licensees "do need to be held to a stricter build-out standard to ensure that spectrum is put to productive purposes at the earliest possible time". Id., p. 12. This self-serving position should be rejected for the reasons cited above.

[40] See Comments of Altron, p. 2; AT&T, p. 2; DCT, p. 3; GHz, p. 4; Spectrum, p. 2.

[41] Comments of ART, p. 14; WinStar, pp. 56-57.

presumption that construction of a predetermined number of links will be deemed "substantial". Licensees could therefore satisfy the substantial service requirement either by operating the requisite number of links or by making an alternative showing which demonstrated that their operations are "substantial." The Commission's alternative proposal calling for 15 links per top 10 markets, ten links in markets 11 to 25 and five links in all other markets[42/] is not an unreasonable presumptive safe harbor provided that the compliance date is the renewal period.[43/]

15. In sum, Milliwave advocates the following construction requirements:

- All incumbent licensees would be obligated within the original 18-month construction period of each license to satisfy the newly adopted Part 21 construction obligation set forth in Section 21.43 of the rules.[44/]

- At renewal, licensees would have to demonstrate that they are providing "substantial service" in their market area. Carriers with the aforementioned number of links in

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42/ NPRM, para. 107.

43/ Moreover, to ensure adequate levels of investment, licensees which satisfy the substantial service obligation also should enjoy a reasonable expectancy of renewal.

44/ The new rule, which becomes effective August 1, 1996, requires common carrier fixed microwave licensees to complete within 18 months of grant construction of one station that must be capable of providing service.

service would be conclusively presumed to meet the test. Other showings could, however, be allowed.

- Any licensee who failed to meet the substantial service test would be grandfathered to provide service over existing links, but would lose the ability to add links within the original service area.

## IV. The Commission Should Establish Minimal Technical Standards

16. Milliwave supports the Commission's inclination to establish minimal technical standards. These standards, however, should only address inter-licensee interference and should be applied in a manner which permits variance in those instances where consumers would be well served. In this regard, Milliwave detects a cognitive dissonance in the comments of those who advocate "minimum" technical standards designed to avoid interference, and then proceed to endorse the 1 bps/Hz information density standard and/or +55 dBW maximum ERP limit.[45/] Milliwave submits that the usage standard is at best unnecessary and the radiated power standard may be unduly restrictive.

17. As Milliwave noted in its comments, in a competitive environment arbitrarily established "spectrum efficiency" standards -- such as information density

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[45/] See, e.g., Comments of ART, pp. 37, 41; BizTel, p. 42; Columbia, pp. 13-14; Commco, pp. 9-10; GHz, pp. 3-6; TIA, p. 23.

specifications -- may actually **reduce** efficient spectrum use.[46] Very real tradeoffs exist between spectrum and hardware, and these can be used to efficiently equalize the supply of and the demand for spectrum capacity. In locales (or at times) when demand for spectrum capacity is great, licensees which make greater investment in hardware which increases the information density in a spectrum-area volume are rewarded. In these situations, spectrum efficiency standards are unnecessary. In contrast, in locales (times) when demand for spectrum is low, unnecessary excess investment in hardware **penalizes** licensees and reduces their ability to compete with alternative media. Clearly under these circumstances both licensees and their prospective customers would not be well served by a spectrum efficiency standard. In assigning scarce spectrum, the Commission should broaden its notion of "spectrum efficiency" to go beyond information density and antenna radiation criteria, so as to balance the costs of a range of factors which collectively impact the public interest.

18. With regard to the radiated power limit, the +55 dBW standard was developed for microwave stations that operate in a point-to-point mode without the benefit of a large surrounding geographic service area (e.g., an MTA and BTA). No showing has been made that this +55 dBw limit must

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[46] Comments of Milliwave, p. 24.

be maintained in the heart of an MTA in order to avoid interference to co-channel operators in an adjoining MTA (or BTA). Even with regard to operations near the border, there is no reason that licensees should be precluded automatically from operating at high powers with the consent of operators in all nearby territories. Accordingly, Milliwave recommends against the adoption of a radiated power standard. If the Commission does establish such a specification, however, Milliwave suggests that licensees be permitted to operate at higher power levels in those cases where potentially affected licensees concur.

## V. The Commission Should Craft Auction Rules that Reflect Certain Realities in the Marketplace

19. The comments reflect a diversity of opinions regarding the proper size for the geographic areas to be used for 37/39 GHz licensing, and the optimal auction sequence. For example, WinStar advocates the use of MTAs because many of the businesses that will be utilizing this spectrum (for example, Block A and Block B PCS service providers), and competing with providers of service in this spectrum[47] are developing on an MTA basis.[48] Others,

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[47] Several wideband PCS providers have indicated an intention to provide wireless local loop services that could be competing on an MTA basis with 39 GHz CLECs. The proposal of GTE to allow partitioning of service areas has merit with the use of MTAs. Comments of GTE, p. 5.

[48] Comments of WinStar, pp. 11-13.

including Milliwave originally favored BTAs.[49] In terms of auction sequence, some commenters favor a single auction of both 37/39 GHz spectrum,[50] others contemplate a series of auctions in which some portion of the two bands is made available now and some is made available later.[51]

20. Milliwave's position has evolved based upon the record of the proceeding. WinStar's arguments in support of MTAs have convinced Milliwave that at least a portion of the spectrum should be licensed on this basis. The 39 GHz channels are good candidates because, in many instances, the 50-mile radius used to define rectangular service areas transcends BTA boundaries. In other instances, the somewhat arbitrary restriction of limiting rectangular service areas to 50 square miles disabled some 39 GHz incumbents from licensing an entire MTA. By auctioning the entire MTA, licensees, such as Milliwave, who wish to increase their coverage footprint to encompass these larger areas would be allowed to do so at auction. Consequently, Milliwave now favors the use of MTAs as the geographic area of license for 39 GHz channels.

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[49] Comments of ART, pp. 47-48; AT&T, p. 4; BizTel, p. 15; Commco, p. 9; Milliwave, p. 8.

[50] Comments of ART, p. 48.

[51] Comments of Commco, pp. 8-9; GHz, p. 7; Spectrum, p. 3; WinStar, pp. 16-20.

21. There remains, however, a not insubstantial level of support in the record for the use of BTAs,[52] and there will be additional PCS licensees in the C, D, E, and F blocks whose interest will be BTA-based. These factors argue in favor of making some channels available on a BTA basis. Having different channels available with different service areas also recognizes the market reality that 37/39 GHz channels can and will be put to a variety of uses with varying coverage demands.

22. In terms of auction sequence, Milliwave disagrees with those who want an immediate simultaneous auction of all 37 and 39 GHz spectrum.[53] First, interest in the band by CMRS licensees has been modest,[54] with no substantial showing of large bandwidth requirements. Second, an early auction of all available spectrum would foreclose new market entrants from bidding on these bands. Such entrants are certain to emerge as a result of future PCS auctions and growth in the CLEC and CAP businesses as a result of the Telecommunications Act of 1996.[55]

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[52] Comments of ART, pp. 47-48; AT&T, p. 4; BizTel, p. 15; Commco, p. 9; Milliwave, p. 8.

[53] Comments of ART, p. 48.

[54] As noted, only a few PCS and other CMRS licensees and applicants submitted comments. See Comments of AT&T; PacBell; DCR; TDS; GTE; PCS Fund.

[55] Telecommunications Act of 1996, Pub. L. 104-104, 110 Stat. 56 (1996).

23. Having assessed these considerations, Milliwave recommends that the Commission replicate the highly successful auction sequence it has utilized for both wideband and narrowband PCS: First, auction off channels with larger services areas (in this case 39 GHz spectrum on an MTA basis);[56] then auction off channels with smaller service areas (37 GHz channels on a BTA basis). The result will be a highly flexible allocation that will satisfy a broad range of service requirements and attract a broad cross-section of potential bidders. Moreover, as discussed below, this approach also permits more intense study of the benefits of, and mechanisms for, sharing a portion of the 37-40 GHz band with the satellite service.

## VI. Sharing With the Fixed Satellite Service Is Problematic

24. Motorola asks the Commission to ensure that any terrestrial non-government uses in the 37 and 39 GHz bands remain subject to the implementation of future satellite

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56/ Commenters who ask the Commission to defer auctions for 39 GHz appear to be driven by concern that the Commission will be too aggressive in seeking to recapture 39 GHz spectrum or to disadvantage pending 39 GHz applicants if 39 GHz is to be the first auction candidate. These concerns are best alleviated by having the Commission adopt reasonable standards as suggested by Milliwave rather than by putting off the 39 GHz auction. In Milliwave's view it makes sense to complete the licensing of the 39 GHz band before moving on to the unassigned 37 GHz band.

systems,[57] citing the worldwide allocations for space-to-earth Fixed Satellite Service (38.6 to 40 GHz), Mobile Satellite Service (39.5 to 40 GHz) and FSS downlinks (37.5 to 38.6 GHz) from WARC. While Motorola cites no immediate implementation plans in these bands, it contends without giving detail that the lower bands allocated to satellite services are becoming congested.[58]

25. As a substantial licenseholder in the 39 GHz band, Milliwave is naturally concerned about any suggestion that its long-licensed stations remain subject to co-primary, administratively mandated sharing with as-yet-undefined broadband satellite systems. These concerns are particularly acute given the number of technically sophisticated commenters (e.g., Comsearch, TIA) who oppose sharing.[59] And, Milliwave takes little comfort in Motorola's suggestion that the adoption of the limits on power flux density that apply to this band under the ITU Radio Regulations will ensure sharing. Milliwave understands that these ITU standards are still under review, and in any event do not deal with protection to satellite receivers which present the most likely source of problems.

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[57] Comments of Motorola, p. 2.

[58] Comments of Motorola, p. 3.

[59] Comments of Comsearch, pp. 2-3; TIA, pp. 22-26.

26. At this point, Milliwave must conclude that there is insufficient evidence in the record upon which the Commission could determine that sharing with satellite services is necessary or technically feasible. As the only proponent of this sharing, the burden should be placed on Motorola to demonstrate that a co-primary allocation will not result in interference, and will not degrade those licenses that have already been granted without condition.[60/]

27. The satellite service issue provides further support for the two-stage licensing plan advocated by Milliwave. Deferring auctions for the 37 GHz band, or some portion of it (e.g., 37.5 to 38.6 GHz) may enable the Commission to seek further information, perhaps in response to a further notice of proposed rulemaking, on this satellite issue.

## VII. The Commission Should Take Steps to Reestablish the Integrity of its Prior Frequency Coordination and Application Channel Limit Rules

28. Several parties allude in their comments to the possibility that there were instances of speculation and gamesmanship by some 39 GHz applicants who sought to garner additional spectrum by ignoring or circumventing the one-to-

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60/ Obviously, in the interest of establishing a complete record Milliwave and other interested parties must be given a fair opportunity to comment on any such showing proffered by Motorola.