DOCKET FILE COPY ORIGINAL

FCC 97-391

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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 RM-8553
	)	
	)	
	)	
Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, 37.0-38.6 GHz and 38.6-40.0 GHz	)	PP Docket No. 93-253

REPORT AND ORDER AND SECOND NOTICE OF PROPOSED RULE MAKING

Adopted: October 24, 1997; Released: November 3, 1997

By the Commission:

TABLE OF CONTENTS

Paragraph

I. INTRODUCTION 1

II. EXECUTIVE SUMMARY 3

III. BACKGROUND 4

IV. DECISION -- SERVICE RULES

A. Service Areas 12

B. Permissible Operations in the 39 GHz Band 18

1. Point-to-Multipoint Operations 20
2. Mobile Operations 21
3. The Balanced Budget Act Requirements for Flexible Use 26

C. Channeling Plan 27

D. Licensing Rules
1. Eligibility 29
2. License Term 36
3. Performance Requirements: Renewal and Build-out 38
4. Spectrum Aggregation Limit 51
5. Technical Rules
a. Frequency Tolerance and Efficiency Standard 58
b. Antenna Requirements 64
c. Frequency Coordination and Power Flux Density Limit 66
6. Partitioning and Disaggregation 70
7. Regulatory Status 75

E. Treatment of Incumbent 39 GHz Licensees 77
1. Reconciling Service Areas of 39 GHz Incumbents with BTA Service Areas of New Licensees 78
2. Repacking 81
3. Disposition of Pending 39 GHz Band Applications
a. Background 83
b. Processing of Pending Applications 87
i. Pending Mutually Exclusive 39 GHz Applications 88
ii. Applications Within the 60-day Public Notice Period on November 13, 1995 92
iii. Modification Applications 94
iv. Applications That Are Partially Mutually Exclusive 97

V. DECISION -- COMPETITIVE BIDDING ISSUES

A. Auctionability of the 39 GHz Band 98

B. Competitive Bidding Design and Procedures
1. Competitive Bidding Design 105
2. Applicability of Part 1, Standardized Auction Rules 108

C. Bidding Issues
1. Grouping of Licenses 109
2. Reserve Price or Minimum Opening Bids 111
3. Bid Increments 112
4. Stopping Rules 114
5. Activity Rules 117
6. Duration of Bidding Rounds 121

D. Procedural and Payment Issues

1. Short Form Applications 123
2. Amendments and Modifications 127
3. Upfront Payments 129
4. Down Payment and Full Payment 132
5. Bid Withdrawal, Default, and Disqualification 136
6. Long-Form Applications and Petitions to Deny 139

E. Regulatory Safeguards
1. Transfer Disclosure Requirements 141
2. Anti-Collusion Rules 143

F. Treatment of Designated Entities
1. Overview and Objectives 145
2. Eligibility for Bidding Credits 148
a. Small Business Definition 149
b. Bidding Credits 152
c. Installment Payments 155
3. Transfer Restrictions and Unjust Enrichment Provisions 160
4. Entrepreneurs' Block 163

VI. SECOND NOTICE OF PROPOSED RULE MAKING

A. Background 165

B. Partitioning and Disaggregation For Small Business Licensees 166

VII. PROCEDURAL MATTERS

A. Regulatory Flexibility Act 171

B. *Ex Parte* Rules--Non-Restricted Proceeding 173

C. Comment Dates 174

D. Initial Paperwork Reduction Act of 1995 Analysis 176

E. Ordering Clauses 177

F. Further Information 179

APPENDIX A -- PARTIES FILING COMMENTS AND REPLY COMMENTS

APPENDIX B -- REGULATORY FLEXIBILITY ACT

APPENDIX C -- FINAL RULES

I. INTRODUCTION

1. In the Notice of Proposed Rule Making and Order in the above-captioned proceeding, we proposed to amend the rules for fixed, point-to-point microwave service in the 38.6-40.0 GHz ("39 GHz") band, and to adopt a conforming set of new rules for the virtually unused 37.0-38.6 GHz ("37 GHz") band in order to allow for the expansion of 39 GHz-type service.[1] Since the time we made these proposals, technological developments have sparked additional applications for the frequencies in the 36-51 GHz band that had not been proposed when we issued the *NPRM and Order*. For example, some entities have submitted proposals for non-terrestrial systems -- such as Sky Station International's proposed use of platforms located in the stratosphere to build a global stratospheric telecommunications system,[2] Motorola Satellite Systems' proposed 72-satellite NGSO/FSS M-Star system,[3] and Hughes Communications, Inc.'s proposed satellite GSO/FSS Expressay system.[4] While we seek to create a regulatory environment that will permit the construction of these projects, we also are interested in providing sufficient flexibility for terrestrial-based licensees to provide the public with innovative services. We believe that the public interest would be served by permitting the market to decide which entrepreneurial efforts will succeed.

2. In this *Report and Order*, we amend Parts 1, 2, and 101 of the Commission's Rules[5] to facilitate more effective use of the 39 GHz band, by implementing a number of improvements such as licensing by Basic Trading Areas (BTAs) and employing competitive bidding procedures as a means for choosing among mutually exclusive license applicants. In addition, we conclude that our regulatory framework should be expanded to include service rules for mobile operations in the 39 GHz band. By facilitating implementation of mobile services, 39 GHz licensees will be able to modify their service offerings quickly and efficiently to provide the services that consumers demand and that technology makes possible. Thus, 39 GHz service providers will be better positioned to respond to the dictates of the marketplace. Moreover, such flexibility will promote competition by increasing both the diversity of potential service offerings and the number of providers that can offer any service. Finally, we address those 39 GHz applications held in abeyance pursuant to the processing freeze imposed in the *NPRM and*

---

[1] *Notice of Proposed Rule Making and Order*, 11 FCC Rcd 4930 (1995) (*"NPRM and Order"*). At present, there are no rules for the 37 GHz band that allow licensing of non-government, fixed terrestrial service, and there are no non-government operations of any kind in that band. There is, however, some limited Federal Government use of the 37 GHz band. Specifically, a total of nine fixed links at two government installations operate in this band, authorized by the National Telecommunications and Information Administration ("NTIA"). *Id.* at 4933.

[2] Sky Station Application for Global Stratospheric Telecommunications System, File No. 96-SAT-P/LA-96 (filed March 20, 1996).

[3] Motorola Satellite Systems, Inc., Application to Construct, Launch, and Operate the M-Star System, File No. 157-SAT-P/LA-96(72) (filed September 4, 1996).

[4] Hughes Communications, Inc., Application to Construct, Launch, and Operate the Expressway System, File No. 90-SAT-P/LA-97 (filed July 14, 1997).

[5] We note that, effective August 1, 1996, the service rules for fixed microwave operations in Parts 21 and 94 were consolidated into a new Part 101. *See* Reorganization and Revision of Parts 1, 2, 21, and 94 of the Rules to Establish a New Part 101 Governing Terrestrial Microwave Fixed Radio Services, Amendment of Part 21 of the Commission's Rules for the Domestic Public Fixed Radio Services, McCaw Cellular Communications, Inc. Petition for Rule Making, WT Docket No. 94-148, CC Docket No. 93-2, RM-7861, *Report and Order*, FCC 96-51 (released Feb. 29, 1996) (*"Part 101 Report and Order"*).

Order, as modified in our subsequent *Memorandum Opinion and Order*.[6] In this *Second Notice of Proposed Rule Making*, we seek additional comments regarding the use of partitioning and disaggregation by parties utilizing bidding credits under our competitive bidding licensing rules. By these actions, we will foster the continued development of a variety of microwave operations in the 39 GHz band, which will facilitate provision of, *inter alia*, communications infrastructure for commercial and private mobile radio operations and competitive wireless local telephone service.

II. EXECUTIVE SUMMARY

3. In our decision today, we take a number of steps to simplify and streamline the licensing process for the 39 GHz band. What follows is a synopsis of the major aspects of our decision.

A. Licensing Rules

- We are allotting the 39 GHz spectrum for licensing throughout the United States by BTAs (constituting 487 service areas).[7] We are authorizing an additional six BTA-like areas, covering the following U.S. territories: American Samoa; Guam; Northern Mariana Islands; San Juan, Puerto Rico; Mayagüez/Aguadilla-Ponce, Puerto Rico; and, the United States Virgin Islands. Thus, a total of 493 authorizations will be issued for each channel block in the 39 GHz band. Incumbent 39 GHz licensees, however, will be able to retain their rectangular service areas,[8] provided they meet the build-out requirements described *infra*.

- The existing 39 GHz channeling plan -- fourteen paired 50 MHz channel blocks, with a spacing of 700 MHz between the transmit and receive frequencies -- is retained.

- We also retain the existing framework of license terms for 39 GHz licensees; the licensees who received their authorizations prior to August 1, 1996, will retain the license term specified in their authorizations, while all licensees receiving a license after that date will have a ten-year license term from the date of grant.

- For each license held, 39 GHz licensees must show that they are providing "substantial service" when they file their renewal application.

---

[6] Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, 37.0-38.6 GHz and 38.6-40.0 GHz Bands, ET Docket No. 95-183, RM-8553, PP Docket No. 93-253, *Memorandum Opinion and Order*, FCC 96-486 (released Jan. 17, 1997), *petitions for reconsideration pending*.

[7] *See* Rand McNally Commercial Atlas & Marketing Guide 36-39 (123d ed. 1992). For a listing of the counties that comprise each BTA service area employed in PCS, see *Public Notice*, Report No. CW-94-02 (Sept. 22, 1994). While Rand McNally & Company ("Rand McNally") has a copyright interest in these BTA listings, we do not anticipate that this interest will impair the efficient use of the 39 GHz band. *See infra* paras. 16-17.

[8] Until now, 39 GHz channels have been licensed on a licensee-defined, rectangular service area basis. *See* 47 C.F.R § 101.147(u).

- All 39 GHz band licensees will receive an explicit renewal expectancy if they satisfy the "substantial service" requirement.[9]

- Any entity may apply for a 39 GHz license. In addition, we are not adopting a limit on the amount of 39 GHz spectrum that can be held by a single entity.

- 39 GHz licensees will be able to offer a variety of services including point-to-point, point-to-multipoint, and mobile operations (with implementation of mobile operations occuring after the Commission completes a rulemaking proceeding addressing inter-licensee and inter-service interference issues).

- All 39 GHz licensees are permitted to partition and/or disaggregate their licenses.

B. Technical Rules

- We are eliminating the requirement that licensees meet the current standard for frequency tolerance. Protection against objectionable interference will be ensured by the existing emission limits.

- Licensees will not be required, as a general rule, to deploy Category A antennas. We are also eliminating the alternative Category B antenna option to permit use of other types of antennas. We note, however, that users of other than Category A antennas will be required to upgrade such antennas if they pose interference problems.

C. Disposition of Pending 39 GHz Applications

- We dismiss without prejudice major amendments[10] filed on or after November 13, 1995.

- We dismiss without prejudice all pending mutually exclusive applications, unless the mutual exclusivity was resolved by an amendment of right filed before December 15, 1995.

- We dismiss without prejudice all applications that had not been placed on public notice or completed the 60-day cut-off period as of November 13, 1995.

---

[9] For incumbent 39 GHz licensees whose renewal date and date for meeting the build-out requirement coincide, as described *infra*, we are providing an exception. Since the build-out requirement can be met either by demonstrating substantial service or by meeting a specific benchmark, we will recognize that such licensees have provided substantial service for purposes of earning a renewal expectancy if they meet either the substantial service or specific benchmark test for build-out. When the dates for renewal and build-out do not coincide, however, the assumption that substantial service at the build-out point is the same as substantial service at renewal is not valid.

[10] *See* 47 C.F.R. § 101.29 (c)(1)-(c)(5) for discussion of major amendments.

D. Competitive Bidding

- We will award 39 GHz licenses through competitive bidding. We conclude that a series of auctions of several channels at a time is the fairest, fastest and most administratively efficient way of distributing these licenses.

- Simultaneous multiple round bidding and a simultaneous stopping rule will be used. We also adopt the Milgrom-Wilson activity rule.

- Applicants will apply for the 39 GHz auction by filing a short-form application (FCC Form 175) and paying an upfront payment. Upfront payments will be determined by the Wireless Telecommunications Bureau and announced by Public Notice prior to the auction. At the conclusion of the auction, winning bidders must supplement their upfront payments sufficient to bring the deposit up to 20 percent of their winning bid and file their long-form applications.

- Small businesses with revenues of not more than $40 million are eligible for a 25 percent bidding credit, and very small businesses with average annual gross revenues of not more than $15 million are eligible for a 35 percent bidding credit on all 39 GHz licenses. These bidding credits are not cumulative.

E. Second Notice of Proposed Rule Making

- We request comments on the use of partitioning and disaggregation by parties taking advantage of bidding credits under our competitive bidding licensing rules.

III. BACKGROUND

4. On September 9, 1994, the Telecommunications Industry Association ("TIA") filed a Petition for Rule Making seeking to increase the amount of spectrum available for operations contemplated in the 39 GHz band.[11] Currently, the 39 GHz band is allocated for non-Government, fixed, point-to-point microwave communications.[12] When we initiated this proceeding with the December 15, 1995, *NPRM and Order*, we acknowledged that the demand for use of 39 GHz spectrum was increasing dramatically due to the projected need for point-to-point spectrum by Personal Communications Services ("PCS") and cellular licensees, and by providers who require or furnish other types of point-to-point services. We proposed a regulatory framework to improve the 39 GHz band licensing process and to allow interested parties to expand their operations to the 37 GHz band. One of our main goals in initiating this proceeding was to facilitate operations that provide communications infrastructure, such as "backhaul" and "backbone"

---

[11] TIA Petition for Rule Making, RM-8553 (filed Sept. 9, 1994) ("TIA Petition"); *see also* TIA Amendment to Petition for Rule Making, RM-8553 (filed May 4, 1995) ("TIA Amendment").

[12] *See* 47 C.F.R. §§ 2.106, 101.147(a), (u).

communications links.[13] We received 34 comments and 17 reply comments in response to the *NPRM and Order*.[14]

5. In the *NPRM and Order*, we also looked at permitting an array of fixed services in the 37 GHz band. Subsequently, Motorola and other satellite entities expressed their interest in this band as well, and similar interests were expressed for other high gigahertz bands. Accordingly, we decided to address the 36.0-51.0 GHz bands in a unified manner, and in a *Notice of Proposed Rulemaking* adopted earlier this year, we sought comment on our proposals for these frequency bands.[15] However, because the 39 GHz band is significantly licensed and subject to additional applications for license, we believe that it is in the public interest to refine our rules at this time to allow existing and new licensees to maximize the array of services they can provide to the public. Indeed, the record in this proceeding demonstrates that our initial view of the potential uses for 39 GHz spectrum was too narrow. In addition to providing support for existing services (*e.g.*, broadband PCS, cellular, and other commercial and private mobile radio operations), 39 GHz band providers plan to use this spectrum to satisfy needs for a host of other fixed services, such as: (1) wireless local loops, (2) call termination or origination services to long distance companies, (3) connection of the customers of a competitive access provider ("CAP") or a local exchange carrier ("LEC") to its fiber rings, (4) connection and interconnection services to private networks operated by business and government as well as other institutions, (5) Internet access, and (6) cable headend applications.[16] In some cases, 39 GHz band licensees are already using the spectrum for such purposes.[17]

6. Several satellite entities commenting in the 36-51 GHz proceeding contend that we should delay taking final action on the 39 GHz band until after the World Radio Conference - 97 (WRC-97).[18] For example, in its comments in the 36-51 GHz proceeding, Lockheed Martin Corporation (Lockheed Martin) states that our proposed band plan for spectrum between 36 - 51.4 GHz is fraught with risk of rejection through the WRC-97 process.[19] As a result, Lockheed Martin argues that it would be

---

[13] "Backhaul" links generally are used to interconnect a cell site with a mobile switching office. "Backbone" links generally are used to interconnect mobile switching offices with one another or with a central office.

[14] Comments were due on March 4, 1996, and reply comments were due on April 1, 1996. Attached hereto as Appendix A is a list of the parties filing in this proceeding.

[15] *See* In the Matter of Allocation and Designation of Spectrum For Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz, and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band, Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations, IB Docket No. 97-95, *Notice of Proposed Rulemaking*, FCC 97-85 (rel. March 24, 1997) (*"36-51 GHz NPRM"*).

[16] *See, e.g.*, ART Comments at 43-45; WinStar Comments at 27-28.

[17] *See, e.g.*, ALTS Comments at 2; ART Comments at 43-45; AT&T Comments at 9; Bachow Comments at 8; BizTel Comments at 11-14; Columbia Comments at 12; GEC Comments at 3; Milliwave Comments at 26-27; Spectrum Comments at 2; WinStar Comments at 37-40.

[18] WRC-97 is scheduled to start October 27, 1997, and convene for four weeks.

[19] Lockheed Martin Comments, filed May 5, 1997, at 14. Lockheed Martin also requested that copies of its comments filed in 36-51 GHz proceeding be included in this proceeding because the spectrum being addressed is covered in both rulemakings, *i.e.*, ET Docket No. 95-183 and IB Docket No. 97-95.

unreasonable for us to take further action in this proceeding without the assurance that our entire plan will receive the necessary international endorsement. Any action now, it maintains, will adversely affect the interests of those services (particularly, satellite) that rely on international allocations.[20] In addition, some satellite commenters argue that because high density fixed services are deployed only in the 38.5 - 39.5 GHz band in other parts of the world, we should designate the 39.5 - 40.0 portion of the 39 GHz band for satellite services. Such a designation, they maintain, would be consistent with international and domestic allocations.[21]

7. We are not persuaded by these commenters that a delay in concluding this proceeding or changing the service designation for the 39.5 - 40.0 GHz band would be in the public interest. Current allocations for this segment of the 39 GHz band contain both fixed and satellite services. The actions we take here today do not alter those allocations. We further note that our actions here do not constrain our ability to later modify the Table of Allocations with respect to this segment of the band, or our overall band segmentation plan proposed in the 36-51 GHz proceeding, should future events (*e.g.*, WRC-97 decisions) require a different result.

8. Moreover, we note there is wide support for the premise that the types of fixed and satellite services likely to be offered in spectrum above 36 GHz will not be able to share the same spectrum blocks. There have been numerous presentations by various terrestrial fixed service entities supporting this notion, and this conclusion has been reiterated in the records of both this and the 36-51 GHz proceeding.[22] Similarly, various satellite entities have indirectly conceded that sharing between terrestrial and satellite is not likely in bands above 36 GHz, even though they recommend that the sharing option continue to be pursued.[23] For example, many of the comments in the 36-51 GHz proceeding express doubt about the feasibility of our proposal to establish an "underlay" license for terrestrial services in those bands that would be designated for satellite services.[24] Underlying this concern is the recognition of the potential for interference between the two types of operations. Against this backdrop, we conclude that some form of band segmentation will be required to accommodate planned services in the spectrum above 36 GHz. The current use and allocation of the 39 GHz band is consistent with this result, and therefore, we see no basis for delaying this proceeding.

9. Further, of the bands comprising our 36-51 GHz segmentation plan, the 39 GHz band is the only one involving current licensees. Indeed, we continue to authorize additional operations in the band. Over the last four years, we have licensed 55 entities to render a variety of fixed point-to-point services in more than 200 metropolitan areas throughout the country. As a result, in some of these areas all 39

---

20 *Id.*

21 *See, e.g.*, Hughes Reply Comments, filed May 5, 1997, at 14; Lockheed Martin Reply Comments, filed June 3, 1997, at 8.

22 *See, e.g.*, Report of the Ad Hoc Millimeter Wave Group on U.S. Proposals For Agenda Item 1.9.6 of WRC-97, March 5, 1997 at §3.1.1; WinStar Opposition to RM-8811, *supra*, at 3-5, and Attachment L.

23 *See, e.g.*, TRW Reply Comments, filed June 3, 1997, at 5; Hughes Reply Comments, *supra*, at 20; Motorola Reply Comments, filed June 3, 1997, at 14; Lockheed Martin Comments, *supra*, at 15.

24 *Id.*

GHz spectrum has been assigned. In fact, many of these authorized stations operate in the 39.5 - 40.0 GHz portion of the 39 GHz band.

10. Given the significant level of licensing in the 39 GHz band, we are presented with the challenging question of how to accommodate commercial satellite operations in the 39.5 - 40.0 segment of the band. We are not persuaded that redesignation of that portion of the 39 GHz band for satellite services only, as recommended by satellite proponents, is the most prudent course of action at this time. In light of the near unanimous concern about the feasibility of terrestrial-satellite sharing, it would appear that grandfathering existing 39 GHz terrestrial licensees would not be a viable option. While relocation or repacking of existing licensees might be possible, we believe such an alternative would be extremely burdensome to terrestrial licensees presently operating within that portion of the band. For example, re-packing the existing licensees in the 39.5 - 40.0 GHz portion to some other portion of the 39 GHz band could require existing licensees to change frequencies, purchase new equipment and/or perform a major retrofit. In addition, a new terrestrial frequency plan would be required -- one based on a different transmit/receive frequency separation. Such a change would impose significant costs on equipment manufacturers and licensees. Furthermore, a change in the frequency plan would require further rulemaking, which would result in additional delay in the deployment of new services to the public.

11. In addition, this repacking alternative could impair the ability of existing licensees to provide continued service to their customers. According to several 39 GHz licensees, a broad base of customers have been established and a variety of services are being offered.[25] In addition, the 39 GHz companies are making major strides toward becoming effective competitors to incumbent local exchange carriers.[26] Given the likelihood of inter-service interference and the rapid implementation of service by 39 GHz licensees, the satellite industry's request for delayed action in this proceeding and a spectrum designation change is not persuasive. Again, should future events dictate that a different course of action with respect to the 39 GHz band is warranted, nothing that we have done here will prevent us from taking the appropriate action at that time.

IV. DECISION – SERVICE RULES

A. Service Areas

12. *Background.* The current licensing process in the 39 GHz band allows each licensee to define its own service area. In the *NPRM and Order*, we proposed to license prospectively all channel blocks in the 39 GHz band using BTAs.[27] Alternatively, we asked whether some or all of the channel blocks should be made available for licensing over significantly larger geographic areas, or whether smaller geographic areas should be used to meet the needs of those who might desire individual links.[28]

---

[25] *See. e.g.*, WinStar Reply Comments, Appendix I; TIA Reply Comments at 3.

[26] *See* Communications Daily, August 13, 1997.

[27] *See id.*

[28] *Id.*

13. *Discussion*. After careful consideration of the record, we will adopt our proposal to license new 39 GHz licenses based on pre-defined geographic areas rather than the applicant-defined rectangular areas currently authorized in the 39 GHz band. Use of pre-determined service areas will provide a more orderly structure for the licensing process. Moreover, Commission-defined service areas will foster efficient utilization of 39 GHz spectrum in an expeditious manner. Our experience in the 39 GHz band has shown that while applicant-defined service areas may give entities the opportunity to apply only for that area which they intend to serve, this opportunity does not result in expeditious licensing of the spectrum because the mutually exclusive situations are complex and often overlapping.[29] In contrast, the use of Commission-defined service areas should facilitate rapid delivery of services to the public. For these aforementioned reasons, we therefore reject the suggestion by some commenters that we continue licensing the 39 GHz band by permitting applicants to define their own service areas.[30] For those interested in tailoring a service area to other smaller or larger markets, we note that today we also are proposing service rules to allow partitioning and disaggregation by 39 GHz licensees.

14. In choosing the most appropriate definition for 39 GHz service areas, we observe that our conclusion that this band is auctionable (explained below in Section V-A) requires us to apply the criteria of Section 309(j)(4)(C) of the Communications Act of 1934, as amended, ("Act" or "Communications Act"). This Section mandates that we consider certain factors when establishing service areas for auctionable services.[31] The first of these criteria is that the service area promote an equitable distribution of licenses and services among geographic areas. We believe that use of BTAs fulfills this objective because they are intended to represent the natural flow of commerce, comprising areas within which consumers have a community of interest.[32] As a result, we believe that BTAs are representative of the geographic areas in which the types of services envisioned for the 39 GHz band are likely to be provided. The second criterion we are required to consider is whether the service area is appropriate to provide economic opportunity for a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women. We believe that BTAs are sufficiently large to accommodate the array of services proposed for the 39 GHz band in a manner which provides opportunities for a variety of licensees. For example, broadband PCS licensees use BTAs or Major Trading Areas ("MTAs," which are regional aggregations of BTAs), as their primary service areas, and may seek to use 39 GHz band spectrum for backbone and backhaul. Thus, the BTA-sized service areas for support spectrum will be compatible with the primary service areas defined for broadband

---

[29] *See, e.g.*, Implementation of Sections 3(n) and 332 of the Communications Act, GN Docket No. 93-252, PR Docket No. 93-144. PR Docket No. 89-553, *Third Report and Order*, 9 FCC Rcd 7988, 8044 (1994) (*Third SMR Order*) ("Assigning channel blocks in Commission-defined service areas eliminates the need for many of the complicated and burdensome licensing procedures that have hampered SMR development in the past.").

[30] *See* ANS Comments at 2; TIA Comments at 9-10; Bachow Comments at 11-12; TGI Comments at 11.

[31] *See* 47 U.S.C. § 309(j)(4)(C) (stating that "consistent with the public interest, convenience, and necessity, the purposes of this chapter, and the characteristics of the proposed service, [the Commission shall] prescribe area designations and bandwidth assignments that promote (i) an equitable distribution of licenses and services among geographic areas, (ii) economic opportunity for a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women, and (iii) investment in and rapid deployment of new technologies and services.")

[32] As we discussed in the *NPRM and Order*, Rand McNally is the copyright owner of the *Basic Trading Area and Major Trading Area Listing*, which lists the counties contained in each BTA, as embodied in Rand McNally's *Trading Areas System* diskette and geographically represented in the map contained in Rand McNally's *Commercial Atlas & Marketing Guide*. *See NPRM and Order*, 11 FCC Rcd at 4942.

PCS providers.[33] We also believe that other services, such as telephony, would find sufficient population within BTAs to support the pursuit of various business opportunities. In addition, we believe that other services anticipated for 39 GHz spectrum, such as wireless local loop, competitive access, local exchange, and Internet access, are of a local nature for which use of BTAs also would be appropriate.[34] Moreover, we believe that use of BTAs as the service area definition for the 39 GHz band will also satisfy the third criterion of Section 309(j)(4)(C), which requires that we establish service areas in a manner which will promote investment in and rapid deployment of new technologies and services. Accordingly, we agree with the commenters who advocate the use of BTAs for licensing the 39 GHz band.[35]

15. We disagree with those commenters who contend that the service areas for the 39 GHz band should be based on larger geographic areas.[36] We believe that BTAs offer a sufficiently large service area to allow applicants flexibility in designing a system to maximize population coverage and to take advantage of economies of scale necessary to support a successful operation.[37] Moreover, to the extent that 39 GHz licensees desire to provide service over a larger geographic region, the rules we adopt today will allow them to aggregate BTAs. We do not believe, however, nor does the record indicate, that the majority of licensees will seek to provide service over vast geographic regions. Thus, we believe that larger service areas would be inappropriate for the 39 GHz band.

16. Finally, although GTE expressed some concern that any Rand McNally licensing agreement should be reasonable,[38] we do not believe that the existence of Rand McNally's copyright interest in the BTA listings will present an impediment to use of these areas by 39 GHz band licensees. We expect that potential licensees and Rand McNally will execute a licensing agreement similar to those already undertaken in other contexts. In particular, Rand McNally has already licensed the use of its copyrighted MTA/BTA listing and maps for a number of services, such as PCS, 800 MHz Special Mobile Radio (SMR) service, and Local Multipoint Distribution Service ("LMDS"), and the company has also reached an agreement with the American Mobile Telecommunications Association ("AMTA") for a blanket copyright license for the conditional use of copyrighted material in the 900 MHz SMR service.[39] These

---

33 *See, e.g.*, Commco Comments at 9; DCR Comments at 6; AT&T Comments at 4-5.

34 *See* ART Comments at 48, n.64.

See, e.g., ART Comments at 47-48; BizTel Comments at 15; Commco Comments at 9; GTE Comments at 4; TDS Comments at 5-6; U S West Reply Comments at 6.

36 *See, e.g.*, Winstar Comments at 12, Milliwave Reply Comments at 17 ("WinStar's arguments in support of MTAs have convinced Milliwave that at least a portion of the [38 GHz] spectrum should be licensed on this basis. The 39 GHz channels are good candidates. . .").

37 *See, e.g.*, TDS Comments at 5.

38 GTE Comments at 4.

39 *See, e.g.*, Amendment of Commission's Rules to Establish New Narrowband Personal Communications Services, GN. Docket No. 90-314, ET Docket No. 92-100, *First Report and Order*, 8 FCC Rcd 7162 (1993); Amendment of the Commission's Rules to Establish New Personal Communications Services, Gen. Docket No. 90-314, *Second Report and Order*, 8 FCC Rcd 7700 (1993); Implementation of Sections 3(n) and 332 of the Communications Act -- Regulatory Treatment of Mobile Services, GN Docket No. 93-252, *Third Report And Order*, 9 FCC Rcd 7988 (1994).

agreements authorize the conditional use of Rand McNally's copyrighted material in connection with these particular services, require interested persons using the material to include a legend on reproductions (as specified in the license agreement) indicating Rand McNally's ownership, and provide for a payment of a license fee to Rand McNally.

17. While the services to be provided in the 39 GHz band do not appear to be covered by any blanket copyright license agreement, we will take the approach we used in MM Docket No. 94-131 and leave it to the parties to negotiate an arrangement with Rand McNally to make use of its listings.[40] The 39 GHz licensees and other parties interested in using the copyrighted materials may, of course, negotiate their own licensing arrangement with Rand McNally, but we encourage interested parties and Rand McNally to explore the possibility of entering into blanket license agreements, similar to those referenced above, to cover the 39 GHz band. We note that a 39 GHz BTA authorization grantee who does not obtain a copyright license through a blanket license agreement (or some other arrangement) with Rand McNally for use of the copyrighted material may not rely on the grant of a BTA-based authorization from the Commission as a defense to any claim of copyright infringement brought by Rand McNally against such grantee. The MTA/BTA Listings, the MTA/BTA Map and the license agreements noted above are available for public inspection at the Wireless Telecommunications Bureau, Reference Room, Room 5322, 2025 M Street, N.W., Washington, D.C., 20554.

B. Permissible Operations in the 39 GHz Band

18. *Background.* In the *NPRM and Order*, we raised questions about expanding the array of services provided in the 39 GHz band to include point-to-multipoint and mobile operations.[41] These services are permitted under the Table of Allocations for this spectrum band, however, we have not previously promulgated rules which would govern point-to-multipoint and mobile operations. The only type of service authorized under our current service rules is point-to-point operations. The 39 GHz band is currently being licensed and used for non-Government, terrestrial-based, fixed, point-to-point microwave service. In addition, there are no satellite operations in the 39 GHz band. Accordingly, our efforts to improve the licensing and service rules for non-Government service in this band are not affected by any existing assignments under different allocations. We take note of the fact that the 39 GHz band contains the following allocations:

- Domestically, the 38.6-39.5 GHz portion of the band is allocated for non-Government use to provide fixed and mobile services and FSS (space-to-Earth) on a primary basis. In addition to these primary allocations, the 39.5-40.0 GHz portion of the band is allocated on a shared basis between Government and non-Government users on a primary basis for FSS (space-to-Earth) and Mobile-Satellite Service ("MSS") (space-to-Earth). Government use of 39.5-40.0 GHz is limited to military systems.

- Internationally, the 39 GHz band is allocated on a co-primary basis for fixed and mobile services and FSS (space-to-Earth), and on a secondary basis for use by the Earth-Exploration

---

[40] *See* Amendment of Part 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Services, MM Docket No. 94-131, *Report and Order*, 10 FCC Rcd 9589 (1995) (*MDS Report and Order*). *See also* Rand McNally Comments at 2.

[41] *See NPRM and Order*, 11 FCC Rcd at 4937-38.

Satellite service (space-to-Earth). The 39.5-40.0 GHz portion of the band is also allocated on a primary basis for MSS (space-to-Earth).

19. Accordingly, in the *NPRM and Order*, we requested public comment on whether we should also establish service rules which would permit point-to-multipoint and mobile services. Many parties commenting in this proceeding have encouraged us to allow them flexibility to determine the best uses of the 39 GHz band; in particular, they have requested authority to provide point-to-multipoint and mobile service, as the technology to provide these services becomes available.[42] We have considered these comments in connection with the recent amendment to Section 303 of the Communications Act concerning criteria we must consider when permitting flexible use of the electromagnetic spectrum, which was enacted after the *NPRM and Order* and the comment period had been completed in this proceeding.

1. Point-to-Multipoint Operations

20. *Discussion.* Given the fact that the 39 GHz service is still in its early stages of development, we believe that it is imperative that we not take any regulatory actions that would hamper the service's continued development and growth potential. We note, as a general matter, that the type of services proposed for the 39 GHz band by the commenters can be offered on both a point-to-point and point-to-multipoint basis.[43] Although a few commenters contend that we should defer allowing point-to-multipoint operations in this band until specific technical rules are adopted to protect against interference to point-to-point users (such as equipment specifications),[44] there is no evidence in the record that point-to-point and point-to-multipoint operations are inherently incompatible in the same band or licensing area. Therefore, we will adopt 39 GHz rules for point-to-multipoint operations.

2. Mobile Operations

21. *Discussion.* We have considered the comments of several parties requesting that we establish rules to permit mobile operations in this band. WinStar argues that such flexibility would give licensees the opportunity to make use of technological advances, and would confer the benefits of these advances to subscribers.[45] Milliwave believes that making the 39 GHz band available for a wide array of services, including mobile, will foster innovation and competition in a changing telecommunications market, stimulate infrastructure investment, job creation, and efficient spectrum use.[46] ART suggests that although there does not appear to be an immediate demand for mobile services in the 39 GHz band, such use should not be precluded. To ensure adequate interference protection in a mobile (and point-to-multipoint) environment, ART urges the Commission to license 39 GHz spectrum under the General Wireless

---

[42] *See, e.g.,* ART Comments at 44; Altron Comments at 2; Milliwave Comments at 27; Spectrum Comments at 3; Bachow Comments at 9; Columbia Comments at 12-15; GEC Comments at 3; WinStar Reply Comments at 9-10.

[43] *See, e.g.,* Harris Comments at 4; INNOVA Comments at 2.

[44] *See, e.g.,* ANS Comments at 2; TIA Comments at 23.

[45] WinStar Comments at 40.

[46] Milliwave Comments at 27 and n.48 (citing Chairman Hundt's remarks before the Washington Research Group on February 2. 1996).

Communications Service ("GWCS") rules until rules are adopted for the proposed Licensed Millimeter Wave Service.[47]

22. Parties opposing authorization of mobile services in the 39 GHz band argue that there are no technical parameters to protect both fixed and mobile operations from mutual interference. In particular, TIA argues that mobile equipment now available in the marketplace is designed such that it would receive interference from fixed stations, that coordination is difficult between fixed stations and mobile facilities, that international spectrum harmony would be disrupted, and that manufacturing economies of scale would be disrupted.[48] TIA also argues that advocates for mobile services fail to present documentation that mobile systems would work in the band.[49] ANS and PCIA argue that fixed and mobile operations cannot co-exist because there is significant threat of interference.[50] Harris argues that co-location of fixed and mobile service systems, and the expected increased density of 39 GHz transmitters, combined with their expected evolution toward point-to-multipoint configuration, makes sharing with mobile services unrealistic.[51] BizTel, while promoting flexible service concepts, nevertheless argues that it is questionable whether mobile services could exist on a co-primary basis with fixed uses. It further argues that any mobile service use should be authorized on a secondary basis only.[52]

23. After careful review of the record evidence, we have decided to permit implementation of mobile operations in the 39 GHz band. Permitting such flexibility will enable providers to modify their offerings quickly and efficiently to provide the services that consumers demand and that technology makes possible. Thus, providers will be better positioned to respond to the dictates of the marketplace. Moreover, such flexibility will promote competition by increasing both the diversity of potential service offerings and the number of providers that can offer any service. Thus, the requirements of Section 303(y) are fulfilled because both technological development and investment therein will be stimulated. Moreover, this broad view of the character of 39 GHz service comports with the development of the industry thus far because parties are developing a wide variety of fixed services and, as discussed earlier in this section, some parties may be developing, or planning to develop, mobile services technology capable of operating without interference to fixed facilities in this band. Accordingly, we are convinced that establishing rules for mobile operations will best serve the public interest. In addition, we observe that in a number of other contexts we have authorized licensees to provide both mobile and fixed

---

47 ART Comments at 44.

48 TIA Comments at 22-23.

49 TIA Reply Comments at 17.

50 ANS Comments at 2; PCIA Comments at 4.

51 Harris Comments at 4.

52 BizTel Comments at 14, n.9.

operations within the same service -- *e.g.*, GWCS, the Commercial Mobile Radio Services ("CMRS"), and the Interactive Video and Data Service ("IVDS").[53]

24. For the most part, the objections that have been raised to mobile operations in this proceeding are misplaced. Since the service is licensed on an exclusive, area-wide basis, (whether by incumbents' rectangular service areas or by new licensees' BTAs), the issue of technical compatibility of fixed and mobile operations within a service area is one that can and should be resolved by the licensee. To the extent that a licensee has the technological wherewithal to provide one or the other, or both, types of services, the licensee will do so in a manner that the market directs. Governmental direction in this service is unnecessary except to the extent that the operations of one licensee may interfere with that of another. Even if mobile operations are not now compatible with fixed operations within a licensee's service area, if adequate protections against inter-licensee interference are in place, a failure to authorize mobile use in this spectrum might delay implementation of a dual (mobile and fixed) operation when it does become feasible. Accordingly, we agree that 39 GHz licensees should have the flexibility to provide mobile services.

25. We recognize that inter-licensee interference issues are magnified under this approach. For example, a mobile unit operating in a fixed microwave environment on the same frequency calls for a different interference analysis and a more difficult resolution than the operation of two or more fixed microwave systems on the identical frequency in the same vicinity. In addition, the Department of Defense has stated that it has plans to implement satellite downlinks at 39.5-40.5 GHz in the future.[54] NASA has also identified 39.5 - 40.0 GHz as a possible space research band to accommodate future earth-to-space wideband data requirements.[55] Such plans, however, should not affect the continued development of the 39 GHz band for non-Government use. We believe that it is likely that military satellite systems will be able to share with non-Government terrestrial and/or fixed satellite systems, provided that the Government receiving Earth stations are limited in number. We intend to address these interference issues in a future, separate proceeding that will focus on developing inter-licensee and inter-service standards and criteria. Until these standards and criteria are adopted we will not permit mobile operations in the 39 GHz band.

3. The Balanced Budget Act Requirements for Flexible Use

26. The Balanced Budget Act authorizes us to allocate spectrum so as to provide flexible use, if such use is consistent with international agreements to which the United States is a party and we find that: (1) such an allocation would be in the public interest; (2) such use would not deter investment in

---

[53] *See* In the Matter of Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 4660-4685 MHz, ET Docket No. 94-32, *Second Report and Order*, 11 FCC Rcd 624 (1995) (creating GWCS) ("*GWCS Second R&O*"); Amendment of the Commission Rules to Permit Flexible Service Offering in the Commercial Mobile Radio Service, WT Docket No. 96-6, *First Report and Order and Further Notice of Proposed Rule Making*, FCC 96-283 (released Aug. 1, 1996) ("*CMRS Order*"); In the Matter of Amendment of Part 95 of the Commission's Rules to Allow Interactive Video and Data Service Licensees to Provide Mobile Service to Subscribers, WT Docket No. 95-47, *Report and Order*, 11 FCC Rcd 6610 (1996) ("*IVDS Report and Order*").

[54] Memorandum from SCA, Nelson V. Pollack, Air Force IRAC Representative, Department of the Air Force, to Chairman, IRAC (Apr. 9, 1996).

[55] *See* letter from Nobert Schroeder, Acting Chairman IRAC, to Fred Thomas, FCC Liaison Representatives, IRAC (May 21, 1997).

communications services and systems, or technical development; and (3) such use would not result in harmful interference among users.[56] In the *NPRM and Order*, we sought comment on whether we should allow point-to-multipoint and mobile operations in addition to the traditional point-to-point services authorized in the 39 GHz band.[57] As discussed *supra*, we find that the flexible use approach adopted herein is consistent with the new statute. Accordingly, we will permit point-to-point, point-to-multipoint and mobile operations on the 39 GHz band. However, as explained *supra*, we will defer mobile use until a future rulemaking proceeding can establish interference criteria.

Accordingly, we find, as required by Section 303(y) of the Communications Act, as amended by the Balanced Budget Act, that no harmful interference will be caused by allowing both point-to-point and point-to-multipoint operations in the 39 GHz band. We conclude further, based on the above-mentioned comments in the record, that point-to-multipoint use will not deter investment in communications services and systems, or in technology development. To the contrary, permitting point-to-multipoint use will stimulate creative technology development and facilitate investment therein. It is in the public interest to afford 39 GHz licensees flexibility in the design of their systems to respond readily to consumer demand for their services, thus allowing the marketplace to dictate the best uses for this band. Accordingly, we find that the requirements of Section 303(y) of the Communications Act, as amended, are fulfilled to justify point-to-multipoint use of the 39 GHz band as part of a flexible use approach. While at this time, we are not determining the specific provisions for interference protection with regard to mobile use, we will adopt such requirements before permitting mobile operations in this band.

C. Channeling Plan

27. *Background.* The existing 39 GHz channeling plan consists of fourteen paired 50 MHz channel blocks, with a spacing of 700 MHz between the transmit and receive frequencies. Within this framework, 39 GHz licensees have the flexibility to subdivide their channels in the manner they deem most appropriate to meet service demands. As discussed in the *NPRM and Order*, TIA, however, has proposed that licensees who subchannelize their 50 MHz channel blocks be required to conform to an underlying grid of 1.25 MHz subchannels.[58] TIA argued that this restriction would ease frequency coordination at channel edges and at geographic boundaries.[59]

28. *Discussion.* We will retain our current channel plan and we decline to adopt TIA's proposal regarding subchannelization. Adopting a standard subchannelization plan at this early stage in the development of the 39 GHz service would potentially hamper licensees' efforts to meet their customer demands and could unnecessarily impose technical and economic costs on equipment users and limit the range of services potentially available. Moreover, given the short propagation transmission characteristics at these frequencies, lack of a subchannelization plan is not likely to cause any significant coordination problems in the 39 GHz band. Furthermore, because we anticipate that one of the uses for the 39 GHz

---

[56] 47 U.S.C. §303(y), as amended by the Balanced Budget Act of 1997, Pub. L. No. 105-33, § 3005, 111 Stat. 251 (1997).

[57] Although our current international and domestic allocations for this band include satellite operations, 47 C.F.R. §2.106, we did not propose to authorize such use in the 39 GHz band in the *NPRM and Order*.

[58] TIA Petition at 7.

[59] *Id.*

band is provision of CMRS infrastructure, we are concerned that adoption of a subchannelization plan may frustrate such use if it is inconsistent with the channeling plan for particular CMRS providers. Thus, we believe that the existing approach that allows 39 GHz licensees to freely subdivide their channel blocks will not only avoid this unintended result but also facilitate the most flexible and efficient use of 39 GHz spectrum. As we observed in the *NPRM and Order*, however, our decision not to adopt a standard subchannelization plan does not preclude the industry from developing its own voluntary standards in this area.[60]

D. Licensing Rules

1. Eligibility

29. *Background.* The issue of eligibility restrictions was first raised by TIA's original proposal that applicants receive a license for a single channel only after demonstrating their need for multiple paths within the service area.[61] Additional channels would be authorized only if the existing channels were operating at or near expected capacity.[62] Thus, our primary focus in the *NPRM and Order* was on the question of whether eligibility should be restricted to those entities who could demonstrate need for 39 GHz spectrum and the means for meeting that need. While we recognized that such restrictions are designed to weed out applicants who are financially unqualified or engaging in speculation, we tentatively concluded that use of competitive bidding would operate more effectively and efficiently in ensuring that this spectrum was put to its highest valued use.[63] Accordingly, we declined to recommend any eligibility restrictions.[64]

30. *Discussion.* Two commenters argue that eligibility restrictions should be imposed for somewhat different reasons than those suggested by the *NPRM and Order*. Specifically, ALTS and BizTel contend that eligibility restrictions should be imposed as a safeguard against potential anticompetitive abuses by LECs.[65] ALTS states that we should "establish safeguards to prevent incumbent LECs from

---

60 *NPRM and Order*, 11 FCC Rcd at 4941.

61 TIA Petition at 9.

62 *Id.*

63 *NPRM and Order*, 11 FCC Rcd at 4975-76.

64 Because we also sought comment on an alternative licensing framework not based on competitive bidding, we requested comment on a series of potential eligibility restrictions. Specifically, we proposed to strengthen and codify the policy guidance given in a 1994 Public Notice, Mimeo No. 44787 (released Sept. 16, 1994), so that all applicants for channels in the 39 GHz band would be required to make a showing that the applicant had given detailed consideration to non-RF solutions; that an immediate requirement existed; that frequency re-use was impossible; that all previously authorized channel blocks within the licensed service area were constructed, operational, and loaded to 100 percent capacity; and that certain technical efficiency standards were met. *NPRM and Order*, 11 FCC Rcd at 4981-82. Finally, licensees would be required to construct their facilities and to be passing communications traffic on all of assigned channel blocks throughout their licensed service areas by the end of the eighteenth month after initial license grant. *Id.* If construction were not timely completed, the licensee's authority to construct additional links would be automatically cancelled and forfeited, and the licensee would be required to notify the Commission of those links that had been constructed so that those links could be grandfathered. *Id.* at 4982.

65 ALTS Comments at 2; BizTel Comments at 20-22; BizTel Reply Comments at 12, n.20.

obtaining all of the desirable channel blocks in a given market and to ensure an opportunity for CLECs to obtain licenses."[66] BizTel states that it is contrary to the public interest, and possibly an antitrust violation, for the Commission to allow a LEC with monopoly power to obtain a 39 GHz license covering any portion of its home operating territory. BizTel argues that allowing such LEC participation in bidding would "frustrate the most viable alternatives available today for deployment of competitive local telecommunications services."[67] BizTel asserts that, at a minimum, any LEC with monopoly power should be required to certify full compliance with the "Competitive Checklist" set forth at Section 271(c)(2)(B) of the Communications Act, as a prior condition to participating in the 39 GHz auction for licenses covering any portion of its home territory.[68] Other commenters propose that the Commission substitute its own assessment of the appropriate array of uses and users of 39 GHz spectrum for that of the marketplace.[69]

31. In opposition, a number of other commenters contend that there is no reason to restrict eligibility of the LECs.[70] U S West, for example, argues that neither ALTS nor BizTel provides evidence to support their assertion that LECs will impede competition.[71] According to U S West, the result of eliminating LECs from bidding for spectrum within their respective home operating territories could be that there would be no incentive for quick and economical deployment of wireless local loop in the rural areas of their service region.[72] Further, Pacific argues that the "Competitive Checklist" is associated with the ability of a LEC to offer inter-LATA services and has no relevance to eligibility for 39 GHz licenses. Pacific also states that a safeguard against the warehousing of spectrum by a LEC is to apply the same construction requirement on a LEC that applies to other 39 GHz licensees.[73]

---

66 ALTS Comments at 2.

67 BizTel Comments at 21.

68 BizTel Reply Comments at 12, n.20. The "Competitive Checklist" of Section 271(c)(2)(B) of the Act requires that access or interconnection provided by a Bell operating company to other telecommunications carriers must meet certain requirements, such as: (1) nondiscriminatory access to network elements, poles, ducts, conduits, and rights-of-way owned or controlled by the Bell operating company at just and reasonable rates, (2) local loop transmission from the central office to the customer's premises, unbundled from local switching or other services, (3) local transport from the trunk side of a wireline LEC switch unbundled from switching or other services, (4) nondiscriminatory access to 911 and E911 services, directory assistance services, and operator call completion services, and (5) white pages directory listings for customers of the other carrier's telephone exchange service. 47 U.S.C. 271(c)(2)(B).

69 *See, e.g.*, TGI Comments at 10 (proposing to reserve a portion of the 39 GHz band for non-CMRS applications); Ameritech Comments at 7-8 (proposing to restrict eligibility to existing mutually exclusive applicants in the BTA). Some commenters also proposed that the Commission reserve channels for link-by-link licensing. *See* Ameritech Comments at 7-9; Comsearch Reply Comments at 1-2; Pacific Comments at 5; TDS Comments at 6-9.

70 *See, e.g.*, Pacific Reply Comments at 9; U S West Reply Comments at 4-5; WinStar Comments at 37, n.123.

71 U S West Reply Comments at 4.

72 *Id.* at 5.

73 Pacific Reply Comments at 8-9.

32. In addressing this eligibility issue, we inquire whether open eligibility poses a significant likelihood of substantial competitive harm in specific markets, and, if so, whether eligibility restrictions are an effective way to address that harm. This approach results in reliance on competitive market forces to guide license assignment absent a compelling showing that regulatory intervention to exclude potential participants is necessary. Such an approach is appropriate here because it best comports with our statutory guidance. When granting the Commission authority in Section 309(j)(3) to auction spectrum for the licensing of wireless services, Congress acknowledged our authority "to [specify] eligibility and other characteristics of such licenses."[74] However, Congress specifically directed that we exercise that authority so as to "promot[e] . . . economic opportunity and competition."[75] Congress also emphasized this pro-competitive policy in Section 257, where it articulated a "national policy" in favor of "vigorous economic competition" and the elimination of barriers to market entry by a new generation of telecommunications providers.[76] This approach is also consistent with our analysis in the *LMDS R&O*.[77] Finally, implementation of this approach is consistent with the court's treatment of eligibility issues in *Cincinnati Bell*. In that decision, the Court looked to statistical data and general economic theory as support for predictive judgments by the Commission such as that eligibility restrictions are required.[78]

33. In the case of the 39 GHz band, it is unlikely that substantial anticompetitive effects would result from LEC eligibility for two primary reasons. First, increased LEC provision of services other than those provided in local exchange markets, such as point-to-point backhaul and backbone transmission, will not diminish the generally competitive environment in which those services are now available. Second, even presuming that 39 GHz licenses will enable effective provision of services that can compete with local exchange service, such as wireless local loop, incumbent LECs should have little or no incentive to acquire those licenses with the anticompetitive intent of foreclosing entry by other firms and preserving market power. An incumbent strategy of preserving expected future profits by buying 39 GHz licenses cannot succeed because there are numerous other sources of actual and potential competition. As explained above, there are many non-LEC license holders in the 39 GHz band currently, and these licensees will be able to provide services that compete with wireline local exchange. In addition, our overall 36-51 GHz band plan contemplates making available considerable additional spectrum, including substantial unencumbered spectrum, for flexible terrestrial use at frequencies close to those covered by this Order. These future licenses should enable provision of whatever competitive services can be provided with the 39 GHz licenses. Further, entry by other wireless licensees is possible as well, such

---

[74] 47 U.S.C. § 309(j)(3).

[75] *Id.*

[76] 47 U.S.C. § 257.

[77] Rulemaking To Amend Parts 1, 2, 21, and 25 of the Commission's Rules To Redesignate the 27.5-29.5 GHz Frequency Band, To Reallocate the 29.5-30.0 GHz Frequency Band, To Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, Petitions for Reconsideration of the Denial of Applications for Waiver of the Commission's Common Carrier Point-to-Point Microwave Radio Service Rules, CC Docket No. 92-297, Suite 12 Group Petition for Pioneer Preference, PP-22, Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rulemaking, FCC 97-82, released Mar. 13, 1997, para. 160 (*Second Report and Order*), adopting Subpart L of Part 101 of the Commission's Rules, 47 C.F.R. §§ 101.1001-1112; *appeal pending sub nom.* Melcher v. FCC, Case Nos. 93-110, et al. (D.C. Cir., filed Feb. 8, 1993); Erratum, released Apr. 7, 1997 (*First Erratum*); Erratum, released May 1, 1997 (*Second Erratum*); Order on Reconsideration, FCC 97-166, released May 16, 1997 (*First Reconsideration*).

[78] Cincinnati Bell Tel. Co. v. FCC, 69 F.3d 752 (6th Cir. 1995) (*Cincinnati Bell*), at 760.

as CMRS firms now authorized to provide fixed services. Moreover, the 1996 Act has set the stage for new facilities-based, wireline entrants such as interexchange carriers and competitive LECs, and non-facilities-based wireline entrants utilizing the new local competition provisions. Finally, we have now provided for one additional potential competitive option in every region of the country in the form of the 1150 MHz LMDS licensee. We have imposed an eligibility restriction preventing in-region LECs (and cable television companies) from acquiring these large LMDS licenses for three years, guaranteeing that each license will be acquired by a firm new to provision of local exchange in the service area.[79] Therefore, these licensees also constitute potential competition for incumbent LECs providing local exchange services. Given all these competitive possibilities, it is implausible that incumbent LECs would pursue a strategy of buying 39 GHz licenses in the hope of foreclosing or delaying competition, and implausible that they would succeed if that strategy were attempted. Therefore, we find that LEC eligibility for these licenses poses no likelihood of substantial competitive harm.

34. Note that several factors, taken together, explain the distinction between our resolution of the eligibility issue here and in the case of the 1150 MHz LMDS licenses. The 1150 MHz LMDS license blocks are unusually large, making possible the provision of voice, video, data, or some combination of these services. With the possibility of providing voice cheaply as part of a set of services, the 1150 MHz LMDS license is a particularly attractive competitive option, and incumbents are particularly likely to attempt acquisition in order to prevent entry by new competitors using the LMDS license. In addition, with only one large LMDS license available per geographic area, anticompetitive preemption is quite feasible and thus the risk of such acquisition is increased. Moreover, the 39 GHz licenses being made available within the near future (*i.e.*, within a similar time frame as the LMDS spectrum), are encumbered, while LMDS licenses are largely unencumbered. Thus, we believe, 39 GHz licenses are less likely to be acquired by incumbent LECs for anticompetitive motives. Most importantly, as noted above, given the fact that we have now provided for an additional competitive option by imposing the 1150 MHz LMDS eligibility restriction, the competitive circumstances we face in this proceeding differ from those we faced in the LMDS proceeding. Our eligibility analysis and conclusion here, in fact, are consistent with our treatment of eligibility for the small, 150 MHz, LMDS licenses.[80]

35. Because we see no likely and substantial competitive harm flowing from LEC eligibility, we reject the argument that LECs should be required to certify compliance with the "Competitive Checklist" as a precondition to participation in the 39 GHz auction. We also note as a general matter that LEC eligibility can be expected to yield efficiency benefits if there are complementarities between the ultimate use(s) of 39 GHz spectrum and the existing LEC services when offered in the same service area. For example, LECs might be able to achieve savings not available to new entrants by taking advantage of their current infrastructure, and imposition of restrictions would prevent realization of such savings. Restrictions might also prevent incumbent LECs from experimenting with certain technology and market combinations, and preclude or delay desirable entry by incumbents into new markets.

2. License Term

36. *Background.* Under our previous rules, all common carrier 39 GHz licensees who were licensed before August 1, 1996 (*i.e.*, those licensed previously under Part 21 of our Rules) were subject

---

79 *LMDS Second Report and Order, supra.*

80 *Id.* at para. 181.

to a fixed license term ending February 1, 2001, regardless of the grant date of their individual licenses.[81] Private carrier 39 GHz licensees authorized before August 1, 1996 (*i.e.*, those licensed previously under Part 94 of our Rules), received a five-year license which would run from the date of license grant. However, both private and common carrier licenses granted on or after August 1, 1996, the effective date of the *Part 101 Report and Order*, have a license term not to exceed ten years.[82] In addition, neither the former fixed microwave rules in Parts 21 and 94, nor the current ones in the new Part 101, expressly provide for a renewal expectancy for common carrier or private carrier 39 GHz licensees.

37. *Discussion.* Two parties argue that we should increase the term to ten years for incumbents who have received a shorter period under the rules that predated those adopted in the *Part 101 Report and Order*.[83] We decline to take this action. When we adopted the Part 101 rules, we decided to conform the license terms of common carrier and private carrier 39 GHz licensees on a going forward basis. We did not, therefore, alter the conditions under which incumbent licensees had taken their licenses, and we left in place a bifurcated approach toward renewal that would exist until the incumbents' current licensing cycle runs its course. We are unpersuaded that this approach, adopted only a year ago, should be altered.[84]

3. Performance Requirements: Renewal and Build-out

38. *Background--Renewal.* We noted in the *NPRM and Order* that both cellular and PCS licensees receive a renewal expectancy, and we proposed adopting a similar standard in this proceeding.[85] Under the PCS standard, a licensee receives a renewal expectancy upon demonstration that substantial service has been rendered during the license term and that there has been compliance with applicable Commission rules and policies and the Communications Act.[86] In the broadband PCS context, we observed that a renewal expectancy will provide the PCS community with a stable regulatory environment that is conducive to investment, thereby fostering the rapid development of that service.[87] Commenters

---

81 With this former rule, we established a fixed, ten-year license cycle, so that all licenses, no matter when granted, would be subject to renewal at the same time. Consequently, licenses granted less than ten years before the fixed renewal date would have a license term of less than ten years.

82 47 C.F.R. § 101.67.

83 BizTel Comments at 38 n.40; GEC Comments at 6-7.

84 In addition, we note that no one has sought reconsideration of this approach.

85 *See NPRM and Order*, 11 FCC Rcd at 4976, 4978. While we made this proposal expressly for future licensees of the 37 GHz band, we had proposed generally to conform the 39 GHz rules to those proposed for the 37 GHz band.

86 *See* 47 C.F.R. §§ 22.940(a)(1), 24.16.

87 *See PCS Second Report and Order*, 8 FCC Rcd at 7753.

support adopting a renewal expectancy for the 39 GHz service for similar reasons, as they recognize the benefits that such a presumption offers.[88]

39. *Background--Build-out requirements.* Incumbent 39 GHz licensees are currently subject to the build-out requirements of Part 101 of our Rules, which require that at least one link be constructed in a licensee's geographic service area within eighteen months of the date of license grant.[89] In the *NPRM and Order*, we proposed new build-out requirements for incumbent 39 GHz licensees in order to ensure that the spectrum was being used to provide service to the public. Because of our concern that such licenses be used to provide service to the public, we solicited comment on our proposal to allow incumbent 39 GHz licensees to retain their licenses only by meeting specific construction and loading requirements. We suggested three basic construction build-out options, each of which depended upon a specific number of fixed stations to be built within the licensees' geographic service area.[90] The build-out options were each intended to ensure a minimum level of service. While the proposals represented a significant departure from the current build-out rules applicable to these licensees, in the *NPRM and Order* we stated that the purpose of these proposed measures was to minimize speculation without harming existing 39 GHz licensees who are responsibly developing the spectrum they have been assigned.[91]

40. We also requested comment on build-out requirements for new licensees authorized pursuant to the competitive bidding rules promulgated herein.[92] In the *NPRM and Order*, we observed that the Communications Act requires that any regulations implementing a competitive bidding system include performance requirements -- such as appropriate deadlines and penalties for performance failures -- to ensure prompt delivery of service to rural areas, to prevent stockpiling or warehousing of spectrum by licensees, and to promote investment in and rapid deployment of new technologies and services.[93] The build-out requirements that apply to other fixed, microwave services licensed on a link-by-link basis, as well as those requirements that apply to mobiles services, did not appear appropriate for a fixed, geographically licensed service like 39 GHz.[94] Accordingly, we asked for comment on what other methods we might employ to ensure that licensees are using their spectrum, servicing rural areas, and enabling the provision of new services to the public. We suggested that these goals might be

---

88 *See, e.g.*, GEC Comments at 6-7 (asserting that renewal expectancies for all 39 GHz licensees will encourage financial backers to make capital investments); WinStar Comments at 36-37 (arguing that such expectancies will inspire licensees to make investments in their systems); Commco Comments at 11 (contending that adoption of renewal expectancy provisions will provide industry with sufficient time to permit the service to evolve fully).

89 *See* 47 C.F.R. § 101.63.

90 *NPRM and Order*, 11 FCC Rcd at 4979-81.

91 *Id.* at 4980.

92 *Id.* at 4976.

93 *Id.* (citing 47 U.S.C. § 309(j)(4)(B)).

94 We indicated that construction deadlines in a link-by-link licensing environment appear to be an ill fit for geographically licensed services. Similarly, we observed that construction deadlines in a mobile environment, which typically require the provision of service to a percentage of the population in the service area, would be inappropriate for a fixed service. *See id.*

accomplished if we required licensees to demonstrate substantial service in their service areas.[95] As we noted in the *NPRM and Order*, the use of a substantial service standard has precedent in our Rules -- for example, Section 24.203(b) gives certain PCS licensees the option of meeting their build-out requirement by making a substantial service showing.[96]

41. *Discussion.* The performance rules we are adopting for the 39 GHz band require each licensee to prove substantial service in order to achieve license renewal. We arrived at this approach based on two factors. First, the approach satisfies the dictates of Section 309(j)(4)(B) of the Communications Act, which requires the Commission to adopt effective safeguards and performance requirements for licensees in connection with any competitive bidding system. We believe that the requirements we establish herein will fulfill this obligation, because a license will be assigned in the first instance through competitive bidding, with the result that it will be assigned efficiently to an entity that has shown, by its willingness to pay market value, its willingness to put the license to its best use.

42. Second, the approach we are taking with regard to performance rules is also based on the record in this proceeding, which strongly supports giving 39 GHz licensees a significant degree of flexibility in meeting their performance requirement. As described above, the types of service available from 39 GHz providers is tremendously varied, and the service promises to develop in ways we cannot predict at this time. Thus, an inflexible performance requirement might impair innovation and unnecessarily limit the types of service offerings 39 GHz licensees can provide. Permitting licensees to demonstrate that they are meeting the goals of a performance requirement with a showing tailored to their particular type of operation avoids this pitfall.[97] Moreover, our examples of presumed substantial service, based on a specific number of links per population standard, provides licensees with a degree of certainty of regarding their license requirements. Accordingly, we believe that the performance requirements we establish herein will permit flexibility in system design and market development, yet provide a clear and expeditious accounting of spectrum use by licensees to ensure that service is indeed being provided to the public.

43. We decline to adopt any of the build-out proposals we made for incumbent 39 GHz licensees in the *NPRM and Order*. The first option would have required licensees to meet a specific build-out benchmark. We have considered a number of possibilities for such a benchmark, and we have rejected those that appear infeasible. Our principal proposal fell into this category. We had proposed to require any licensee to construct and put in operation at least four links per 100 square kilometers of their service area within 18 months of adoption of a Report and Order in this proceeding.[98] We are persuaded by several commenters' arguments that such a build-out requirement would be unduly restrictive and

---

[95] *See id.*

[96] *See id.;* 47 C.F.R. § 24.203(b) (setting forth build-out requirements for PCS licensees of 10 MHz channel blocks).

[97] A showing tailored to a particular type of operation (*e.g.*, a point-to-multipoint system) might consist of a demonstration of the level of loading on the system, which would give greater weight to a high capacity link than is recognized by the specific build-out option.

[98] *NPRM and Order*, 11 FCC Rcd at 4979.

burdensome, thus unnecessarily limiting licensees' service options.[99] For the same reasons, we reject a variant of our principal proposal, which would have combined the alternatives discussed below with an 18-month requirement to construct a certain number of links per 100 kilometers.[100]

44. The other two alternatives we had proposed for providing licensees with specific build-out benchmarks are also problematic. One alternative provided for a specific number of links, increasing over time, per geographic area served by each licensee. This alternative does not adequately take into account the differences among licensees. Under this requirement, a licensee in a sparsely populated BTA would have to build an operation that could provide the same level of service as a licensee of a metropolitan BTA. Such an approach would result in either an overly burdensome requirement for the licensee of the smaller market or a very lenient and almost meaningless requirement for the licensee of the metropolitan BTA. Moreover, since market size is a reasonable proxy for gauging the appropriate comparative levels of spectrum use, we agree with the consensus of the commenters that any build-out standard should therefore be based on market population or population density.[101] This approach is, in fact, an underpinning of standards that have been adopted for CMRS services such as PCS and SMR.[102]

45. The second alternative would have required licensees to construct a specific number of link installations based on the market's population.[103] In the case of 39 GHz, however, the services to be offered generally will be customized for each subscriber, and, for the most part, each subscriber will have equipment dedicated to its location. Moreover, 39 GHz licensees are not likely to install equipment until they receive an order. We further note that some commenters argue that adoption of a concrete standard would discourage growth, stymie new development, and deter investment in the 39 GHz arena.[104] Accordingly, we are concerned that a requirement for a fixed number of links may interfere with the market decisions of a particular licensee and its customers.[105]

46. We conclude that a showing of substantial service, the approach we proposed for new 39 GHz licensees, should be applied to both incumbent and new licensees in the band. This approach will permit flexibility in system design and market development, while ensuring that service is being provided to the public. Although a finding of substantial service will depend upon the particular type of service offered

---

[99] *See, e.g.*, ART Comments at 12-13; Biztel Comments at 31; Cambridge Partners, Inc. Reply Comments at 3; Microwave Partners Reply Comments at 8-9; Milliwave Reply Comments at 8-10.

[100] *See NPRM and Order*, 11 FCC Rcd at 4980.

[101] *See, e.g.*, ART Comments at 15-16; TIA Comments at 20; Biztel Reply Comments at 12-13; Microwave Partners Reply Comments at 9.

[102] *See* 47 C.F.R. §§ 24.203 and 90.665.

[103] *NPRM and Order* 11 FCC Rcd at 4980.

[104] *See* DTC Comments at 10; BizTel Comments at 31-32.

[105] The second alternative proposed in the *NPRM and Order* gave, as an example, a requirement that a licensee in the top 10 markets install a minimum of 15 links for each licensed channel block; 10 links for markets 11-25; and 5 links for all other markets. *Id.*