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FEDERAL COMMUNICATIONS COMMISSION
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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
	)	
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

To: The Commission

COMMENTS OF BACHOW AND ASSOCIATES, INC.

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Summary of Comments

Bachow and Associates, Inc. ("Bachow"), a company with extensive telecommunications industry experience, is actively involved in the development of the 37-39 GHz portion of the spectrum as both an permittee of and applicant for system licenses and as a substantial investor in a 37-39 GHz RF equipment manufacturer. Bachow urges the Commission to adopt a regulatory structure for the 37-39 GHz band that will be conducive to the development of new equipment and services in a vibrant and competitive business environment. To accomplish this goal, however, the Commission must avoid the trap of seeing the 37-39 GHz band as merely a new home in the spectrum for the same old service offerings, and should instead allow great latitude and flexibility for the development of new services.

It is particularly important that the Commission recognize the unique technical, business, and operational problems associated with the new services likely to develop at 37-39 GHz. Most of the wireless services that the Commission has recently addressed have been point-to-multipoint in nature and have been services offered via a common facilities infrastructure to a mass consumer base. If viable commercial offerings are to develop at 37-39 GHz, however, they will tend to be point-to-point in nature, involving a substantial amount of dedicated equipment configured to the specifications of individual customers. These fundamental differences in the services and businesses require a different regulatory response.

In these comments, Bachow recommends specific policies the Commission should adopt to achieve these goals. The Commission should apply the current rules to all pending applications and afford an opportunity for resolution of mutually exclusive situations. Rather than following the "PCS Model" which provides for geographic licensing and simultaneous multiple round spectrum auctions, the Commission should adopt a going-forward licensing approach appropriate to the unique regulatory requirements of this band. Specifically, the regulations should provide for: (a) applicant-defined service areas, (b) public notice and thirty-day cut-off windows, (c) exhaustion of coordination efforts prior to any auction, and (d) reasonable build out requirements.

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To: The Commission

COMMENTS OF BACHOW AND ASSOCIATES, INC.

Bachow and Associates, Inc. ("Bachow"), by its attorney and pursuant to Section 4(b) of the Administrative Procedure Act, as amended, 5 U.S.C. § 553(c), and Section 1.415(a) of the Commission's Rules and Regulations, 47 C.F.R. § 1.415(a), hereby offers its comments on the *Notice of Proposed Rule Making and Order* ("*NPRM*"), FCC 95-500; released December 15, 1995, in the captioned matter.

I. INTRODUCTION

Bachow applauds the Commission's initiative to evaluate the existing regulations for the 39 GHz band and to allocate additional spectrum in and adopt regulations governing the 37 GHz band. Bachow has a vision of the 37-39 GHz band as the place were business can attempt to develop entirely new genres of local wireless services that do not merely mimic existing ones. This will require a regulatory environment conducive to the introduction of new services, additional competition to existing services, the advancement and improvement of existing technology, the development and nurturing of entirely new services and facilities (some of which may not have even yet been conceived), and more efficient use of the spectrum. Bachow offers in these comments specific recommendations it believes are essential to achieving this goal.

II. BACHOW AND IT'S INTEREST IN THESE PROCEEDINGS

A. Bachow is a Party-in-Interest in This Proceeding.

Bachow is the parent company of Bachow Communications, Inc. ("BCI"), an applicant for and permittee of facilities in the 39 GHz band in various locations throughout the country. Specifically, BCI

has received authorizations to construct 39 GHz facilities in fifteen different markets and has pending, single-channel applications in another seventeen markets. Bachow is also a substantial minority investor and an active participant in Innova Corp., an equipment manufacturer that is developing and marketing equipment to be used in the 37-39 GHz bands. Bachow thus has a direct stake in these proceedings as well as valuable industry insight and experience to guide the Commission as it considers these rule changes.

B. Bachow's Telecommunications Experience and Expertise

Bachow has been an active participant in the telecommunications industry well before its 39 GHz band activities. Bachow is or has been an active operator of communications businesses since 1986, including cable TV, cellular, common carrier microwave, and broadcast TV. Bachow has also invested in manufacturing companies that supply products to the communications industry. Two of Bachow's investments are Anadigics (Gallium Arsenide Micro-electronic RF devices) and Innova (milliwave radio manufacturer). Starting in 1986, Bachow bought cable systems that required investment in plant facilities and management. By making these investments Bachow was able to improve the operating cash flow of these systems and realize a gain on its efforts. Bachow is an owner and operator of cellular properties. Bachow entered the cellular business through the acquisition of systems from its own funds not through the speculative lottery process.[1] Bachow successfully built and managed these systems to produce positive operating results. Most of the purchased properties Bachow acquired were unbuilt. Bachow had to design and install the cellular infrastructure and build a marketing organization from the ground up, and operate the systems efficiently. Bachow has realized a gain for its efforts.

In connection with both its cable television and its cellular operations, Bachow has licensed, constructed, and operated point-to-point and CARS microwave facilities in the 2, 6, and 18 GHz bands. Bachow recently entered the broadcast TV industry through the acquisition of an operating company with three stations. Through its active involvement in these communications service areas Bachow saw opportunities in the manufacturing areas. Anadigics is a manufacturer of Gallium Arsenide micro-

[1] Bachow did unsuccessfully apply in some "lottery" markets, but its subsequent purchase, construction, and operation of systems demonstrates that its motivation is entrepreneurial rather than speculative.

electronic devices to the satellite, cellular, fiber, and cable equipment companies. Innova is a manufacturer of milliwave radio products and will be described in more detail later in these comments. Bachow is not a "speculator" in these areas but is an entrepreneur. Bachow invests both its financial and management resources in these areas and takes the risk of loss or gain for its efforts.

C. Bachow's Demonstrated Commitment to This Vision for the 37-39 GHz Band

Bachow would like to see the development of the 37-39 GHz band as a home to new, better, and different local wireless services and products. A proper regulatory environment is very important in this regard, but is not by itself enough. The private sector must also play an active role. Bachow has devoted substantial time, money, and other resources to realizing its vision for the 37-39 GHz band. The most important activities in this regard have been: (1) Bachow's investment in and work with Innova Corp. ("Innova") to develop modern 39 GHz band equipment; and (2) Bachow's efforts to obtain FCC authorization for and construct economically viable 39 GHz systems.

1. Equipment Development

Increasing demand for spectrum and the imperative of efficient spectrum use requires the Commission and the industries it regulates continually to seek out ways to exploit unused spectrum at ever higher and higher frequencies. A frequent obstacle in this regard is the lack of suitable and/or affordable equipment in the higher frequency bands. Bachow foresees great opportunity in the 37-39 GHz band, but it also recognizes that the availability of 39 GHz equipment will be critical.

Current manufacturers' offerings for this band are based on older technology using high cost designs based on the traditional point-to-point microwave economics. Typical systems are designed for installations that change very little over relatively long periods of time and have limited .remote monitoring capabilities. When there are changes, they are not usually substantial in comparison to the network as a whole. The ability to offer new and innovative services in this band and in a competitive market will require the rapid deployment of links and the flexibility to modify the network routinely and remotely. The equipment must be frequency agile, quickly and easily deployable, software configurable, and able to seamlessly integrate into an established network. Another extremely important requirement is that the equipment be manufactured in large volume. Volume production will, of course, provide the

economies of scale necessary to provide the equipment at an affordable price, and it will also allow the fulfillment of orders on a time table that enables licensees to rapidly respond to market conditions and customer needs.

In doing its part to address these issues, Bachow has become directly involved in the development of state of the art equipment for this band by making a substantial financial investment in and working closely with Innova, a Seattle-based microwave equipment manufacturer.[2] This was a separate business action undertaken independently of Bachow's 39 GHz licensing activities. Bachow believes in the potential for this band in general and not solely in the context of its own authorizations. Its investment in and work with Innova, demonstrates Bachow's commitment to developing the 37-39 GHz band.

2. 39 GHz Band Licensing Activities

Bachow filed applications for 39 GHz facilities in thirty-two cities. Fifteen of these applications were granted after amendments were filed to resolve mutual exclusivity with other applicants, and seventeen remain pending. These were most definitely not speculative filings. Each of these applications was filed in August of 1994, and Bachow did not file further applications after its initial batch, declining to join in the "rush" of mass applications that began in 1995. Bachow carefully targeted its proposed service areas, limiting its applications to certain cities where a larger potential market would be available to support the development of new types of service, or to smaller markets in which Bachow owned or operated cellular systems. Bachow also selected markets with appropriate atmospheric climate for the 39 GHz band.

Bachow voluntarily complied with the Common Carrier Bureau's September 19, 1964, Public Notice requiring, *inter alia*, that each application be amended to reduce the size of the requested service area to an area not more than 50 miles in radius,[3] and to deleting all but one requested channel pair. And Bachow has devoted extensive time, personnel, and financial resources to resolving co-channel conflicts

[2] Bachow has invested $9.1 Million in Innova, representing an approximately 30% stake in the company. Bachow holds a seat on the Innova board of directors, and a Bachow employee served for over a year on site as interim CEO of Innova.

[3] Because the rules for the 39 GHz band provide for *rectangular* service areas, the limitation to a 50 mile *radius* was ambiguous. Not knowing how to define the radius of a rectangle, Bachow opted for the conservative solution and reduced each of its requested service areas to a rectangle that could be entirely circumscribed by a circle of 50 miles radius.

with other timely filed mutually exclusive applicants. As a result, fifteen of Bachow's applications were freed of all conflicts and granted by the Commission. Seventeen of Bachow's applications remain pending, the vast majority of which are mutually exclusive with applications filed by other parties. Of Bachow's remaining mutually exclusive situations, many involve conflicts with other applicants who did not participate in the post-filing coordination efforts to resolve their differences. Nearly all of Bachow's remaining conflicts are largely attributable to the fact that the other mutually exclusive applicants have not complied with the Commission's direction to reduce their requests to a single channel pair per market. Despite these difficulties Bachow has been consistently working to resolve all remaining conflicts.[4]

III. THE EXISTING RULES SHOULD BE APPLIED TO PENDING 39 GHZ APPLICATIONS.

Many 39 GHz applications that were filed pursuant to the current regulations are still pending. The Commission will continue processing most pending non-mutually exclusive applications,[5] *NPRM* at ¶ 122, and Bachow supports that decision. The Commission is holding all other pending applications in abeyance during this rule making proceeding, and has sought "comment on how these applications . . . should later be treated if new licensing and service rules are ultimately adopted." *Id.* at ¶ 123.

As described in Section II, above, Bachow exercised great care and sound business and technical judgment in selecting the 32 markets for which it made application. When the Commission staff requested applicants to scale back their requests in terms of geographic service area and number of channels, Bachow timely complied. And Bachow had devoted considerable resources to resolving as many mutually exclusive cases as possible, thus reducing the burden on Commission staff and expediting the licensing process. Bachow does not expect rewards or special treatment for this, but also does not want these efforts simply erased without justification. Entrepreneurial efforts by private business enterprise is the heart and soul of advancing the telecommunications industry and maintaining a healthy competitive environment for its growth. The Commission should make every regulatory effort to

[4] Bachow has become aware of some ostensibly mutually-exclusive applications that were filed after the applicable cut-off date and is addressing such situations on a case-by-case basis with Commission staff.

[5] "Pending [39 GHz] applications will be processed if (1) they were not mutually exclusive with other applications at the time of the [November 13, 1995 freeze order], and (2) the 60-day period for filing mutually exclusive applications expired prior to November 13, 1995." NPRM at ¶ 122.

encourage this. Thus, when an application for FCC license is made in full compliance with existing regulations, the Commission should process that application under the rules in effect at the time of its filing, absent compelling reasons for retroactively discarding those rules.

There is no compelling reason for retroactive application of new rules to the pending 39 GHz band applications. Whatever the new licensing and regulatory structure, it can be applied to the entire 37 GHz band where there will be no prior-filed applications or incumbent licensee. The 39 GHz licenses already issued or to be issued under the Commission's interim procedures represent virtually all of the 39 GHz channel pairs in virtually all of the significant metropolitan areas of the country. Little would be gained by attempting to license the handful of available channels in the remaining small markets and rural areas.

In resuming the processing of all pending 39 GHz applications, the Commission should afford mutually exclusive parties a prescribed period of time (Bachow recommends six months) to resolve their remaining conflicts. To facilitate this process and make it fair, however, the Commission should immediately dismiss any pending application that is not in compliance with the Common Carrier Bureau's September 19, 1964, Public Notice. Bachow and several other parties timely complied with the Bureau's direction to reduce the size of proposed service areas and to eliminate multiple channel requests from each application. Others, however, did not comply with this directive. These pending multiple channel requests unduly complicate the settlement process, but there is an additional reason why they should be dismissed. It is inequitable (and places the compliant applicant in a very weak negotiating position) to require an applicant who has, at the Commission's instruction, deleted multiple channel requests from its application, to attempt to coordinate a resolution of conflicts with an applicant who has ignored the directive and retained all of its requested channels and/or retained a larger than 50 mile radius service area. This has the effect of rewarding the applicant who disregarded the Commission's directions. Dismissing the non-compliant applications will at once restore equity and facilitate the conflict resolution process.

IV. UNDUE EMPHASIS ON CMRS BACKBONE AND BACKHAUL USES WILL RESULT IN INEFFICIENT USE OF THE SPECTRUM.

The Commission apparently anticipates that the 37-39 GHz band will be used primarily to provide ancillary infrastructure for commercial mobile radio service ("CMRS") systems (*i.e.*, backbone and backhaul), *e.g.*, *NPRM* at ¶¶ 1, 5, & 13, and has even expressed concern "that the current demand for spectrum in the 39 GHz band may preclude use of that band to provide adequate support spectrum for broadband PCS." *Id.* at ¶ 13. But the Commission also appreciates that this spectrum might be used to "facilitate the development of competitive wireless local telephone service," *id.* at ¶ 1, and has specifically sought "comment on whether the 37 GHz band or a portion of it should be made available for a wider array of fixed services," including point-to-multipoint and mobile. *Id.* at 13.

Bachow respectfully submits that the strong emphasis on CMRS support infrastructure is misplaced and that the public interest will be better served by a broad and flexible approach to regulating permissible uses in this band. The 37-39 GHz band will likely be used for CMRS infrastructure (and other traditional point-to-point applications), but that should not be the focus of this proceeding. It is a mistake to focus on any one band as the exclusive, or even primary, source of spectrum for CMRS infrastructure.

With the variety of path lengths and capabilities needed by users, no single microwave band can satisfy all of the requirements of typical point-to-point microwave networks. CMRS providers (and other point-to-point users) must rely on a wide variety of microwave bands, not on any one particular band. Several technical, topographic, environmental, financial, business, and other factors dictate the use of widely different regions of the microwave spectrum, as well as non-RF solutions, for different paths. Even assuming for the sake of argument that the Commission should earmark certain spectrum for CMRS infrastructure,[6] the emphasis on any one microwave band is neither necessary nor advisable. Due to its

[6] Bachow submits that such earmarking is not necessary. The design requirements of a CMRS backbone/backhaul system are not significantly different from that of any other complex point-to-point network. These requirements can continue to be satisfied by combinations of spectrum from the more than dozen different point-to-point microwave bands designated in Part 21, Subpart I, of the Commission's Rules, *cf.* 47 C.F.R. § 21.701(a), different bands being selected for different paths as requirements dictate.

technical limitations,[7] the 37-39 GHz band will not meet all the needs of a typical CMRS system. And if it could, the 100 MHz bandwidth[8] of just a single paired channel in the 37-39 GHz band is far more than that required in even the most complex of CMRS systems.[9]

Cellular systems have been operating throughout the country for more than a decade now, and during that entire time, virtually no significant use of the 39 GHz band has been made for cellular backbone and backhaul requirements. As one who has constructed and operated cellular systems, Bachow is not surprised by this. In addition to the technical limitations and equipment issues, there is also the inescapable fact that a CMRS operator will rely on a variety of different microwave bands to fulfill its infrastructure needs. Indeed, non-RF solutions are also considered. For example, in some of its cellular markets, Bachow found leased private lines to be less expensive than microwave.

By making accommodation of CMRS infrastructure requirements a primary focus of this proceeding, therefore, the Commission thus runs a substantial risk of placing into the hands of a single user a block of spectrum that is incapable of meeting all of the user's needs on the basis of technical characteristics, but that is also substantially more spectrum that the user needs on the basis of bandwidth. In other words, a regulatory policy that places undue emphasis on CMRS infrastructure, or any other traditional point-to-point use, is not consistent with principles of efficient spectrum usage.

The Commission should not base its regulatory structure on the assumption or desire that the 37-39 GHz band will be used primarily for any one category of use. Rather, this rule making should be seized as a golden opportunity for the development of an entirely new variety of local wireless industry. The regulatory environment established for the 37-39 GHz band should encourage and accommodate the use of the spectrum in various new and innovative ways in addition to traditional point-to-point applications to CMRS. The Commission should provide the regulatory environment most conducive to

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[7] Under ideal conditions, the maximum path length in the 37-39 GHz band will be approximately eight miles. This band is very susceptible to rain fading, and in those climates that experience frequent heavy rains, the maximum path length is not likely to be more than five to six miles. Clearly, this is not a band that can satisfy all of the needs of a complex point-to-point microwave network.

[8] Under the channel plan currently in effect for the 39 GHz band and that proposed for the 37 GHz band, each paired channel consists of two 50 MHz channel halves.

[9] Certain non-CMRS uses, however, may well exhaust the 100 MHz of bandwidth fairly quickly. For example, full motion color video applications, e.g, video conferencing, will require capacity several magnitudes greater than would a CMRS carrier.

the introduction of new and additional competition to existing services, the advancement and improvement of existing technology, the development and nurturing of entirely new services and facilities (some of which may not have even yet been conceived), and more efficient use of the spectrum.[10]

V. THE "PCS" MODEL IS NOT APPROPRIATE TO THE 37-39 GHZ BAND.

The Commission has proposed a regulatory structure for this band that is similar to that applied to other recently-auctioned spectrum allocations, *e.g.*, PCS, SMR and MMDS. [11] In Bachow's view, the Commission should not apply the PCS model to the 37-39 GHz band. The differences between the spectrum allocations heretofore auctioned and this band, as well as the policy of fostering the development of new services in this band, indicates different treatment.

All of the services in which the Commission has heretofore used spectrum auctions have involved multipoint distribution applications, rather than point-to-point. The system design for such services involves providing coverage to a broad geographic area where potential customers are located, rather than deployment at specific locations designated by actual customers. Moreover, with the possible exception of IVDS, they have been in established industries with a demonstrated market demand for the proposed services, *e.g.*, MMDS, SMR, and DBS. Even PCS, although a new service in terms of the spectrum allocation and anticipated digital technology, is nonetheless part of an overall service category (personal mobile communications) that has a demonstrated successful track record in the marketplace in the forms of cellular, SMR, and paging.

The same cannot be said of the 37-39 GHz band. The entrepreneurs who develop this band take many risks. Equipment that is both technically adequate and fiscally prudent is by no means today guaranteed. There is no prior model for predicting the market strength or success of new types of

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[10] The Commission has asked "whether the 37 GHz band or a portion of it should be made available for a wide array of fixed services, such as point-to-multipoint systems [and] whether there is a requirement for mobile operations in the 37 GHz band and, if so, whether such operations should be on a co-primary or secondary basis to point-to-point operations." *NPRM* at ¶ 13. Bachow believes the regulations should afford licensees the maximum flexibility to use the spectrum in whatever ways may be indicated by market demand. Moreover, this policy should apply equally to the entire 37-39 GHz band.

[11] Some of the key aspects of this model are: (a) Geographic Licensing: the licensee is issued for a channel or block of channels throughout a fairly large pre-defined geographic market, *e.g.*, a BTA; (b) · Performance Benchmarks: the licensee is obligated to meet certain objective build out requirements (typically keyed to the timing and scope of system expansion) with potential loss of the authorization as the penalty for noncompliance; and (c) · Simultaneous Multiple Round Spectrum Auctions: a process in which all or a large number of potentially interdependent licenses are subjected, simultaneously, to a multiple round auction, with bidding on all such licenses remaining open until the final round.

competitive offerings. There is a risk that even the more traditional point-to-point telecommunications services cannot be provided with the perceived reliability of and at a price that will be competitive with other sources, *e.g.*, private line service, fiber, microwave in other bands, *etc.* Bachow believes that services can be competitive to existing service offerings and has made a substantial commitment to the band, but it is not naïve. This is a risk. A calculated business risk, to be sure, but a risk nonetheless. While any new business venture must contend with risk factors, the licensees who truly attempt to advance the public interest in the 37-39 GHz band will encounter more of them and in greater degrees of difficulty than will any CMRS or wireless cable auction winner. The commitment to develop an economically viable service in the 37-38 GHz band is far riskier.

In the PCS model the Commission licenses all the spectrum in a relatively short period of time on the basis of large geographic areas comprising all of the country, and each license is subject to specific objective build-out milestones. The deployment and, to a large extent, the growth of each system is thus prescribed by FCC regulation rather than determined by the licensee's response to market conditions. Because the rapid issuance of all licenses and a mandated minimum rate of system expansion satisfy other legitimate regulatory and business objectives, this approach is appropriate for PCS. It is reasonable for the Commission to assume, based on its cellular, paging, and SMR experience, that there is demand for personal mobile communications services throughout the country, including rural and sparsely populated areas, so the regulatory requirements are not likely to significantly conflict with marketplace realities.

In view the greater economic risks assumed by entrepreneurs seeking to develop the 37-39 GHz band, however, the Commission should refrain to the extent possible from adopting regulations that dictate the economic choices to be made by licensees. Things like the magnitude, geographic scope, and rate of growth of demand for these services are much more uncertain. Moreover, the nature of the services to be provided in this band can be expected to be much more dependent upon customer location than are other commercial services. For example, the mobile nature of CMRS and the point-to-multipoint nature of MMDS makes it possible and necessary to provide signal coverage over a wide geographic area and, in so doing, reach a large potential customer base. With the point-to-point services to be provided in the 37-39 GHz band, on the other hand, facilities deployment must be dictated by "actual" customers, not

"potential" customers. The facilities must be deployed at locations that are impossible to predict in advance because each individual customer must designate the specific sites for its particular needs. And each customer's system requirements (data speed, bandwidth, traffic volumes, reliability requirements, *etc.*) will be different. Point-to-point customers want links installed in very specific locations. For example, a customer may want one end of a link installed in a particular window in a building. This is all the more reason why the licensee must have wide latitude and flexibility in its system design and deployment schedule.

To rapidly license large geographic areas subject to mandatory performance and build out requirements imposes an artificial schedule for service deployment that might not otherwise be indicated by sound business judgment. Unless the Commission's regulatory judgment coincides exactly with the marketplace forces (very unlikely) the government-imposed deployment requirements will either be too aggressive or too conservative, and either can lead to adverse public interest consequences, including inefficient use of the spectrum. If the Commission's requirements are too aggressive, the licensees will be forced to deploy more rapidly and/or over a wider area than would be otherwise economically feasible. At best this will drain resources the licensee might otherwise use to improve existing or develop new services. At worst it will cause the failure of the enterprise. If the Commission's requirements are too conservative, licensees would have a potential disincentive to deploy services as rapidly or as widely as a less regulated market might dictate, opting instead to warehouse territory that is "in compliance" with the FCC standards, preventing its use by another party who may be willing to use it immediately.

VI. SPECIFIC RECOMMENDATIONS FOR THE 37-38 GHZ BAND REGULATORY STRUCTURE

There may no perfect solution to this problem, but Bachow believes the Commission can balance its regulatory goals and the desire for a totally free and unfettered market conducive to innovation, and it offers the following specific suggestions for doing so.

A. Applicant-Defined Service Areas

Retaining the current system of applicant-defined service areas, as opposed to moving to geographic licensing, has much to recommend it. It allows the industry players to determine size of the service area and the deployment schedule based on competitive and marketplace factors, not artificial

government regulation. A given area is filed for when an applicant determines it is willing to assume the risk for it. The Commission may adopt some maximum area requirement along the lines of the current informal rectangle-within-a-50-mile-radius policy. Such minimal interference with the applicant's choice is justified because it will: (a) substantially reduce the number of mutually exclusive applications, (b) facilitate coordination; and (c) still leave the applicant free to specify a larger service area by simply filing multiple applications. Specifically, Bachow recommends adopting a rule requiring the applicant to specify an rectangular service are of no greater than 5,000 square miles in a single application. This is sufficiently large enough to give the licensee flexibility in deploying the system, while small enough to satisfy the policy and economic concerns just discussed.

B. Public Notice and Thirty Day Cut-Off Windows

The notice and cut-off method of deploying spectrum is more conducive to the natural development of the spectrum in this context where the precise nature of the services to be offered and the market demand therefor are not known. An application for a given area is filed when an applicant is willing, based on business judgment, to take the risk of constructing a system and providing service. If there are others also willing to assume the risk for that particular area at that time, they are given notice and an opportunity to file. There is no basis for concern that *bona fide* parties who truly wish to use the spectrum in the public interest are not adequately informed of its availability under this system. In fact, the large number of applications filed with the Commission in the past two years is compelling evidence to the contrary.

C. Exhaustion of Coordination Efforts Prior to any Auction

When there are mutually exclusive filings under the foregoing approach, the Commission should afford the parties a reasonable opportunity to resolve their conflict through coordination or settlement, and indeed should encourage and facilitate their doing so. This is consistent with the principles set forth in Section 21.100(a) of the Commission's Rules,[12] and is *required* by Section 309(j)(6)(E) of the

[12] "All applicants for, and licensees of, stations in [the Domestic Public Fixed] services shall cooperate in the selection and use of the frequencies assigned in order to minimize interference and thereby obtain the most effective use of the authorized facilities." 47 C.F.R. § 21.100(a).

Communications Act.[13] Bachow recommends that the Commission afford the parties a period of six months from the cut-off triggered by the first-filed mutually exclusive application in which to resolve the conflict prior to the use of FCC procedures to select between or among the applicants.

If the matter is not resolved by the parties within the prescribed time, Bachow is not opposed in principle to the use of auctions for resolution of any remaining conflicts. In setting the procedural framework for such auctions, however, the Commission must accommodate the fundamental significant differences between this and many of the other services to which it has heretofore applied auctions. Thus, in Bachow's view, auctions are appropriate only in the context described above, *i.e.*, applicant defined service areas, public notice and cut-off window procedures, and prior exhaustion of efforts to resolve conflicts by coordination and agreement.

D. Reasonable Build-Out Requirements

Bachow respectfully submits that the Commission's proposed requirement of one link per 10 square miles[14] is too onerous. It effectively requires approximately 500 links for the typical rectangular service area (*i.e.*, a square contained within a circle of 50 miles radius). Even at a fraction of that, this represents an ill-advised intrusion of the Commission into the economic development of the system. To require a licensee to make this sort of expenditure without regard to the nature, extent, or geographic distribution of communications demand is not in the public interest. As explained earlier, the number and location of point-to-point microwave links will be driven by the requirements of actual customers and specific end points, not the geographic distribution of potential customers.

Moreover, the marketing and sales process with respect to broadband point-to-point services is substantially different from that in other services to which the Commission has applied objective build out requirements. CMRS services are largely substitutable from one service provider to another, and sales

[13] "Nothing . . . in the use of competitive bidding[] shall . . .be construed to relieve the Commission of the obligation in the public interest to continue to use engineering solutions, negotiation, threshold qualifications, service regulations, and other means in order to avoid mutual exclusivity in application and licensing proceedings." 47 U.S.C. § 309(j)(6)(E).

[14] Bachow recognizes that the Commission proposed application of this requirement to existing 39 GHz band licensees wishing to secure grandfathered protection of their rectangular service areas from BTA licensees, and that the Commission did not propose (but sought general comment on) a specific build out requirement for BTA licensees. In view of Bachow's proposal to used applicant-defined service areas limited to a maximum size of 5,000 square miles, however, Bachow is addressing the Commission's specific proposal in this broader context.

decisions tend to be made quickly, especially in the consumer arena. Broadband point-to-point services are much more complex and have a much longer sales cycle. Users will be making substantial and long term financial commitments, and their requirements are much more complex. Closing on a sale for these services will include such matters as access and lease negotiations, securing locations in buildings for interconnection to the wired network, interfacing with the customer's existing communications and network equipment, consideration and evaluation of alternatives to 37-39 GHz and/or alternatives for redundancy, customer specified locations that may require zoning variances or approvals, *etc.* This deployment process is characterized by large capital outlays and complex construction timetables. The process simply can not be compressed solely for the purpose of satisfying an arbitrarily imposed regulatory deadline.

Bachow therefore recommends a more reasonable approach that will address these serious public interest concerns while still enabling the Commission to apply appropriate corrective and/or enforcement measures in the event of demonstrated spectrum warehousing or stockpiling. First, the Commission should retain the current requirement that at least one path be constructed and placed into operation within 18 months of receipt of the authorization. Thereafter, the licensee would submit annually to the Commission a showing that it is making efficient and substantial use of its licensed spectrum to provide public service in response to market demand in its licensed service area. The Commission should not, however, dictate any particular objective threshold of what constitutes "efficient and substantial use of the spectrum." The licensee should be permitted to rely on any factors and information that may be relevant to the determination. At a later time, after this service has had the opportunity to grow and mature, the Commission can revisit the issue. The Commission may determine that there are no significant problems or concerns in this regard, or it may decide that an objective build out standard is necessary. If it decides the latter, it will have the benefit of the information presented in the licensees' annual showings.

VII. ALTERNATIVE RECOMMENDATION FOR THE 39 GHZ BAND

Bachow has recommended processing all pending 39 GHz application under the existing rules, and has proposed a going-forward rules regulatory scheme that retains many elements of the current regulations (*e.g.*, applicant defined rectangular service areas, public notice and cut-off procedures, *etc.*).

Should the Commission nonetheless adopt a geographic based license scheme subject to simultaneous multiple round auctions, however, Bachow alternatively recommends that different procedures be applied to the 37 and 39 GHz bands.

The 37 GHz band will represent new spectrum with no prior-filed applications or incumbent licensees. The 39 GHz band, on the other hand, is a different matter. A substantial number of licenses have already been issued, more non-mutually exclusive applications will be granted during the pendency of this rule making, some facilities have already been constructed, and other systems are being constructed. Even if the Commission eventually dismisses the applications that are currently mutually exclusive, there will still be very little territory and very few channel pairs available for licensing in the 39 GHz band. While the Commission has authorized auctions "over the top of" incumbent licensees and applicants in other services (Broadband PCS, MMDS, and 900 MHz SMR), there are two important factors that distinguish this situation: (1) the auctioned authorization is not for a service that is different in any significant way from that being provided by the incumbents,[15] and (2) there is an entire unused band immediately adjacent to the 39 GHz band that can be used for auctioned, geographic licenses.

There is no justification for opening the 39 GHz band to additional applications for the auctioning of geographic based licenses, and several reasons not to do so. Accordingly, Bachow recommends the following procedures in the event the Commission adopts a geographic based license scheme subject to simultaneous multiple round auctions:

- For the 37 GHz band, any otherwise eligible applicant may apply for any channel or channels in any BTA. Any mutually exclusive applications would, after an opportunity for the parties to resolve their conflicts in accordance with Section 309(j)(6)(E) of the Communications Act, be set for auction.

- Prior to receipt of any additional 39 GHz band applications, the Commission will afford a six-month window of opportunity for existing 39 GHz applicants to resolve any remaining conflicts. At the end of such period the Commission will process any further pending applications and amendments, and would dismiss any remaining mutually exclusive applications. (Dismissed applicants will remain eligible to file 39 GHz BTA applications.)

[15] Broadband PCS and 2 GHz fixed microwave are, of course, extremely different services. While the differences between incumbent MMDS and 900 MHz licensees from those that will obtain licenses in the auction are not quite that pronounced, they are nonetheless substantial in terms of the wide geographic areas and the blocking of large numbers of channels for the auction licenses. In this proceeding the Commission does propose geographic licensing but it does not propose to block or group the channel pairs (although it does propose to permit an applicant to bid on up to six paired and two unpaired channel blocks), but in light of the point-to-point nature of the service this is largely a matter of licensing and does not have a direct impact on the nature of the service.

- The FCC would thereupon receive applications for BTA authorizations for the 39 GHz band. For any given 39 GHz band channel, only an otherwise eligible applicant who has an attributable interest in an existing authorization or a pending non-mutually exclusive application for that channel[16] in some part of the BTA may apply for that channel in that BTA. Any mutually exclusive applications would, after an opportunity for the parties to resolve their conflicts in accordance with Section 309(j)(6)(E) of the Communications Act, be set for auction.

VIII. CONCLUSION

The 37-39 GHz band holds great potential for the development of new and exciting broadband point-to-point services. The Commission can best accommodate and encourage this by adopting a regulatory framework that recognizes the significant and substantial differences between this spectrum allocation and other services for which the FCC has recently adopted geographic licensing and spectrum auctions. If these differences are not taken into account, the 37-39 GHz band will become, at best, simply another frequency band in which point-to-point services are provided, and at worst, a technical and financial failure. If, on the other hand, the Commission appreciates these distinctions and allows for them in its regulations, market forces will be free to advance the state of the art in the public interest.

Respectfully submitted,

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[16] The Commission must, of course, first resolve the issue of pending applications for multiple channel grants. Bachow has recommended elsewhere in these comments that such applications be dismissed.