ORIGINAL

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

In the Matter of	)	
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Amendment of Section 2.106 of the	)	ET Docket No. 95-18
Commission's Rules to Allocate	)	RM-7927
Spectrum at 2 GHz for Use by	)	
the Mobile-Satellite Service	)	

COMMENTS
OF
PERSONAL COMMUNICATIONS SATELLITE CORP.

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May 5, 1995

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SUMMARY

PCSAT fully supports the Commission's proposal to allocate the 1990-2025 MHz and 2165-2200 MHz bands to the Mobile-Satellite Service ("MS,"). The need for additional MSS spectrum is well established, and because of their proximity to spectrum allocated to terrestrial PCS services, the proposed MSS bands are ideal for facilitating a ubiquitous, low-cost system of satellite and terrestrial wireless communications. Use of the 2 GHz bands by MSS systems should not be constrained by any orbit or global coverage requirements. This will preserve the opportunity for the development of PCSAT's proposed MSS system in the 2 GHz bands -- an extremely spectrum-efficient geostationary system that will provide thousands of channels of high-quality voice and data service, and that will include the use of dual mode terrestrial/satellite handheld receivers.

PCSAT opposes the Commission's proposal to require MSS licensees in the 2 GHz bands to pay the costs of relocating displaced BAS and fixed microwave users. MSS systems operate on a national or worldwide scale. Since early this year. a group of representatives of the satellite industry, broadcasters and microwave users has been meeting to discuss relocation issues in the 2 GHz bands, and this group has concluded that the cost of relocating the users that would be displaced by MSS in the proposed bands would to be more than $2.5 billion. The magnitude of this estimate should force the Commission to reconsider its proposal to impose this cost on MSS licencees in these bands. Combined with the extraordinary costs of developing an MSS system, requiring MSS licensees to pay for relocating displaced incumbents would deal a serious blow to the development of MSS domestically and internationally. Moreover, the NPRM proposal for relocation would be complicated by the need to coordinate among the MSS systems, both domestic and international, that should be required to contribute to any payment of relocation

costs. Rather than placing the burden of paying for relocation on the MSS industry, the Commission should encourage incumbent users to minimize costs by relocating over time. At most, MSS licensees should be required to pay only the incremental cost of early retirement of BAS and fixed microwave equipment and duplication of its functions at other frequencies.

PCSAT also opposes the use of auctions to license MSS systems in the 2 GHz bands. Mandating auctions would be illegal at this point. as it is far too early to determine whether mutual exclusivity exists between MSS applicants for the bands. Aside from this, auctioning MSS spectrum would be bad policy. Auctions would drive up the price of what the Commission has envisioned to be an expensive service. They would also be unworkable, as the international coordination process makes it impossible for MSS applicants to foretell how much domestically allocated spectrum they will ultimately obtain. In addition, requiring auctions for domestic MSS systems without doing so for international systems would be inequitable. Finally, auctioning MSS spectrum may drive other countries to do the same, creating increased costs that would have serious repercussions in the world market for U.S. MSS compaies and the U.S. aerospace industry generally.

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COMMENTS OF
PERSONAL COMMUNICATIONS SATELLITE CORPORATION

Personal Communications Satellite Corporation ("PCSAT") hereby submits its comments on the Commission's Notice of Proposed Rulemaking ("NPRM") in the above-referenced proceeding.[1/] The NPRM proposes that the 1990-2025 MHz (Earth-to-space) and 2 165-2200 MHz (space-to-Earth) bands be allocated to the Mobile-Satellite Service ("MS,"). The NPRM also seeks comment on the placement of certain technical requirements on the use of the spectrum, the treatment of incumbent users of this spectrum, and the use of auctions to select licensees for the spectrum.

1/ PCSAT is a wholly-owned subsidiary of American Mobile Satellite Corporation ("AMSC"), whose owners include such communications industry leaders as GM Hughes Electronics Corporation; AT&T Corp. ; Mobile Telecommunications Technologies Corporation; and Singapore Telecommunications, Ltd. PCSAT filed at application in 1994 to construct and launch a geostationary MSS system in the 1970-1990 MHz and 2 160-2 180 MHz bands.

Another wholly-owned subsidiary of AMSC is the licensee of the U.S. domestic MSS system. See Memorandum Opinion. Order and Authorization, 4 FCC Rcd 604 1 (1989); Final Decision on Remand, 7 FCC Rcd 266 (1992), aff d sub nom. Aeronautical Radio, Inc. v. FCC, 983 F.2d 275 (D.C. Cir. 1993). The first satellite for that system was launched successfully one month ago; the system will operate its service links in the 1.5/1.6 GHz bands.

For the reasons set forth below, PCSAT strongly supports the new allocation. The need for additional spectrum to support the expected demand for MSS is well established, and the 2 GHz bands are uniquely suited to new Mobile Satellite Services. PCSAT urges the Commission in considering any technical rules to maintain an opportunity for the development of the kind of spectrum-efficient system proposed in PCSAT's application. PCSAT opposes any requirement to pay relocation costs for existing users or the use of auctions to allocate the spectrum. Requiring either the payment of relocation costs or competitive bidding for the new spectrum would be too expensive for the already risky satellite systems and would be extremely complicated in light of the expected mix of MSS systems using the bands.

I. The Commission Should Allocate the 1990-2025/2165-2200 MHz Bands to MSS

The present NPRM is the long-awaited first step in additional substantial MSS allocations. The NPRM proposes to allocate the 1990-2025 MHz (Earth-to-space) and 2165-2200 MHz (space-to-Earth) bands domestically to MSS. All but the upper fifteen megahertz of the proposed uplink allocation (2010-2025 MHz) are allocated to MSS internationally. All but five megahertz of the proposed downlink band (2 165-2 I 70 MHz) are allocated to MSS worldwide, and the 2165-2170 MHz band is allocated to MSS in Region 2.[2/]

As is recognized in the NPRM, it is well-established that there is considerable demand for Mobile Satellite Services. requiring substantial additional allocations for the service. NPRM,

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[2/] The Commission has indicated that it intends to pursue worldwide allocations at the 1995 World Radiocommunication Conference for those parts of the bands that are not allocated at this time.

para. 7. Market studies project that MSS subscribership will be between 22 million and 37 million by the year 2010.[3/] The Industry Advisory Committee ("IAC") for the 1995 World Radiocommunication Conference ("WRC-95") has conservatively estimated that between 150 and 300 MHz of service link spectrum will be required for MSS by the year 2005.

The bands proposed for allocation by the Commission in its NPRM are particularly valuable toward furthering the role of MSS in the wireless world of the future, both because for the most part they already have been allocated internationally for MSS and because they are sufficiently adjacent to bands allocated to terrestrial mobile service to permit the development of inexpensive dual-mode subscriber terminals. Indeed, the Commission notes in the NPRM that use of the 2 GHz bands by MSS can "help minimize transmission costs and ensure a relatively low cost service that will be within the economic reach of a large segment of the population." NPRM, para. 7. Because terrestrial communications services will never cover the entire land mass of the United States, MSS will play a critical role in the wireless environment of the twenty-first century. MSS will provide continuity of service between islands of terrestrially-based services by providing service to rural and remote areas. It will also facilitate a nationwide communications system for law enforcement, public safety and interstate transportation4

3/ See IWG-3 Report, "Mobile Satellite Service Above 1GHz" (April 14, 1995), at 4 (hereinafter "IWG-3 Report").

4/ Worldwide, 2 GHz MSS systems are expected to be a crucial component of Future Public Land Mobile Telecommunications Services, a concept of the International Telecommunication Union for an integrated global satellite/terrestrial communication system that was fundamental to the 1992 WARC allocations. More recently, the international community has recognized the critical role of MSS in the Global Information Infrastructure, an anticipated worldwide "information superhighway" that will integrate virtually all means of wireless and wired communications technologies. Report and Order. CC Docket No. 92- 166.9 FCC Rcd 5936.5940-4 1 (1994).

Only a small fraction of the spectrum allocated to MSS internationally is likely to be available for MSS in the U.S. or elsewhere. In many cases the MSS allocations are shared with other services that have existing facilities. Whatever spectrum is available for MSS must be shared with many foreign systems through international frequency coordination. More than one hundred MSS systems have been Advance Published with the ITU Radiocommunication Bureau to use the bands in which AMSC's first satellite will operate. Thirty-two systems have been Advance Published for the 2 GHz bands.

The PCSAT proposal demonstrates the benefits of using 2 GHz spectrum for Mobile Satellite Service. PCSAT is prepared to build an $885 million, two-satellite MSS system in these bands that will permit the use of affordable mobile terminals that can operate with both terrestrial PCS systems and MSS systems, and will therefore afford universal PCS service to millions of customers in the United States that will want the expanded coverage that only a satellite system can provide.

II. Any Technical Requirements the Commission Considers Should Be Consistent With the Design of PCSAT's System

The NPRM seeks comment on any sharing or technical matters that may be pertinent to the allocation. NPRM, para. 16. In particular, the Commission seeks comments on limiting use to geostationary or non-geostationary satellites and minimum coverage requirements. Id. The Commission also seeks comment on the need for feeder link spectrum to support MSS systems at 2 GHz.

PCSAT urges the Commission to preserve the opportunity for the development of the kind of MSS system envisioned in PCSAT's 1994 application. As described in its application,

the next generation of geostationary MSS systems will provide extremely spectrum-efficient service including use of dual-mode handheld receivers. PCSAT's two high-powered satellites will be able to serve 6300 channels of high-quality voice service or 9.6 kbps data service to over one million subscribers. Similar geostationary satellite systems are being developed for regional service in other parts of the world.5'

PCSAT opposes any specific global coverage requirement for any individual system. Much of the demand for MSS is in North America, and there should not be any disincentive to target the U.S. market for optimal service. As evidenced by the existing Inmarsat system and the proposed systems of Afro-Asian Satellite Communications Ltd. and the various LEOs, there is no need for a government mandate to provide global service.

In the development of any proposals for technical requirements the Commission should keep in mind that already several MSS systems have been Advance Published for operation in these bands, proposing a variety of technical designs. Any attempt to develop domestic rules will need to take account of this international aspect.

With respect to feeder links, PCSAT proposes to use spectrum in the 11/13 GHz bands. (As a general matter, geostationary satellite systems have much less difficulty with securing and coordinating feeder link allocations than do systems using non-geostationary satellites.) The 11/13 GHz bands are used presently for domestic fixed satellites, making sharing with MSS feeder links relatively practical. AMSC's first-generation MSS system is using these bands for feeder links. PCSAT anticipates that there will be sufficient spectrum available to meet the

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5/ "New Central Asian Regional MSS System Signs $700 Million Hughes Contract," Mobile Satellite News, January 26, 1995, at 5.

needs of the follow-on system. Moreover, the use of this same band for both systems will provide certain efficiencies.

III. MSS Providers Should Not Be Forced to Pay for the Relocation of Incumbent Users of the 2 GHz Bands

The 1990-2025 MHz band is allocated to Broadcast Auxiliary Services ("BAS"), which includes electronic newsgathering ("ENG") mobile units, studio-transmitter links, and relay stations. The NPRM concludes that sharing between BAS and MSS is not feasible, and therefore that it will be necessary to relocate BAS incumbents using this spectrum. The NPRM proposes to add 35 megahertz of spectrum at the upper end of the BAS band (21 lo-2145 MHz) to accommodate incumbent BSS users. NPRM, para. 9. Noting that sharing between BAS and fixed microwave services in the proposed 211 O-2145 MHz relocation band is probably unworkable, the NPRM states that its proposal likely would necessitate the relocation of fixed microwave services operating in this band. NPRM, para. 10. Fixed microwave users also would be required to relocate from the 2 165-2200 MHz band.

The NPRM proposes to apply the involuntary relocation policy it adopted in the Emerging Technologies proceeding to users displaced by the newly-proposed MSS bands. NPRM, para. 6. It would require that MSS systems using these bands pay relocation expenses and construct comparable facilities for both displaced BAS users in the 1990-2025 MHz band and displaced fixed microwave users. The Commission does not provide any estimate of the costs of relocation or the number of facilities that would need to be relocated, but notes that (i) with respect to BAS, adding the 21 lo-2145 MHz band "would involve minimal engineering changes to BAS systems because of the proximity of this band to the existing BAS allocation"

(NPRM, para. 10); and (ii) with respect to microwave users, the cost of relocating them "would be significantly mitigated" by the fact that most of the microwave links at 2 1 lo-2145 MHz form one half of a duplex system with the paired links operating in the 2160-2195 MHz band, most of which will be allocated to MSS; thus, most microwave links in the 21 lo-2145 MHz band will be cleared anyway. NPRM, paras. 11-12.

Subsequent to the release of the NPRM, an Ad-Hoc Sub-Working Group of Informal Working Group 3 of the Industry Advisory Committee was formed to develop a transition plan to introduce MSS in the 2 GHz bands and examine the costs of relocating BAS and microwave users currently operating in these bands. Meetings of the Ad-Hoc Sub-Working Group were held beginning in early 1995 and were attended by representatives of the satellite industry, broadcasters and microwave users. These included AMSC, Comsat, Iridium, Loral Qualcomm, TRW, Celsat, the National Association of Broadcasters, the Association of Maximum Service Telecasters, the American Petroleum Institute, the Cellular Telecommunication Industry Association, the Utilities Telecommunications Council. and Columbia Spectrum Management. FCC staff members also attended. The results of the Sub-Working Group's efforts demonstrate the extraordinarily high cost of relocating particularly microwave users. The Sub-Working Group estimated that the cost of relocating common carrier and private operational fixed service facilities in the affected bands is approximately $2.5 billion, based on a relocation cost of $250,000 per microwave path and the existence of over 10,000 microwave paths.[6/] Estimates for clearing ENG are substantially less -- approximately $39 million, based on the assumption that the cost of re-tuning ENG equipment to operate in the higher frequency bands would be $1500-

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6/ Minutes from The 2 GHz MSS Transition Plan Ad Hoc Sub-Working Group, y 23, 1995, at 2.

$3000 per transmitter and $500-$1000 per receiver." No estimates were made concerning studio-transmitter links and relays.

The magnitude of these costs requires the Commission to re-think its approach for the payment of relocation costs. While the impact on a given individual incumbent user in a market affected by the 2 GHz relocation may be relatively small, forcing a handful of MSS licensees to absorb the entire cost of relocation for the whole country results in a massive cost to these entities. Unlike terrestrial systems, which for the most part operate on a local basis, MSS systems operate on a nationwide (and in some cases a worldwide) basis. Requiring an MSS licensee to negotiate with and pay the costs of relocating all of the thousands of microwave licensees that are operating in proposed MSS spectrum worldwide would not only be unworkable, but would impose extraordinary costs on MSS licensees, even if the cost of relocating an individual BAS or microwave facility is relatively inexpensive.[8/]

Moreover, the cost of relocating an entire nation of BAS and fixed microwave users presently using the proposed MSS bands would come on top of the already significant costs associated with the development, construction, marketing and administration of a mobile satellite system. These costs are much larger than those for terrestrial PCS systems. For instance, PCSAT anticipates that the cost of its system will be approximately $885 million, and the projected costs of the Big LEO MSS systems being proposed for other MSS bands range from

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7/ Id.

8/ AMSC raised these same arguments in its Petition for Reconsideration in ET Docket No. 92-9 (October 4, 1993). In response, the Commission indicated that it would consider AMSC's request to not impose relocation requirements on MSS systems in a proceeding specifically pertaining to MSS in the Emerging Technologies bands. Memorandum Opinion and Order, ET Docket No. 92-9, 9 FCC Rcd 1943, 1952 (1994).

over half a billion to nearly four billion dollars." In addition, unlike terrestrial PCS systems, which are designed to serve densely populated urban areas, MSS is a service designed to serve areas of the nation and the world where the population density cannot support terrestrial services.[10/] The combined cost of relocation and construction would significantly impede the development of MSS in the United States.

Adding to the inevitable high cost of paying for relocation of incumbent users is the uncertainty of how those costs will be shared among the different MSS systems that may have access to these bands. PCSAT, for example, may need to coordinate relocation of BAS and microwave users with Inmarsat's system and with any number of other systems, including systems that may not be designed to serve the United States -- all of which may have different implementation schedules. (Although the Commission does not address the issue in the NPRM,

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9/ AMSC has raised $650 million for the development of its first generation U.S. domestic MSS system. The estimated cost of construction and first full year of operation for the Big LEO systems is as follows: Constellation, $1.721 billion, Order, File Nos. 17-DSS-P-91(48), CSS-91-013, 9-SAT-LA-95, lo-SAT-AMEND-95 (DA 95-129)(released January 3 1, 1995); Loral Qualcomm, $1.554 billion Order and Authorization, File Nos. 19-DSS-P-91(48), CSS-91-014, 21-SAT-MISC-95 (DA-95-128)(released January 3 1, 1995); Mobile Communications Holdings, Inc. , $564 million, Order, File Nos. ll-DSS-P-91(6), 18-DSS-P-91(18); ll-SAT-LA-95, 12-SAT-AMEND-95 (DA 95-132)(released January 3 1,1995), at para. 8; Motorola Satellite Communications, Inc., $3.759 billion, Order & Authorization, File Nos. 9-DSS-P-9(87), CSS-91-010, 43-DSS-AMEND-92, 15-SAT-LA-95, 16-SAT-AMEND-95 (DA 95-13 l)(released January 31, 1995) ; TRW, Inc., $1.8 billion, Order & Authorization, File Nos. 20-DSS-P-91(12), CSS-91-015, 17-SA-LA-95,18-SAT-AMEND-95 (DA 95-130)(released 3 1,1995).

10/ In comparison, MSS operators in the 2 GHz bands also face considerably higher relocation costs than PCS licensees. Though the average cost of relocating microwave users is comparable for both PCS and 2 GHz MSS licensees, there are many more microwave paths in the proposed MSS bands. Specifically, there are approximately 100 microwave paths per MHz of terrestrial PCS spectrum, and more than 140 microwave per megahertz in the proposed MSS bands.

PCSAT assumes that all MSS systems licensed to operate in the 2 GHz bands, at least in the U.S. market, would be required to contribute to whatever relocation payments are required.) Moreover, the failure of one or more MSS systems could result in a dramatic further increase in cost for the remaining licensees. These issues will need to be resolved before the Commission can go further in contemplating requiring MSS systems to pay for relocation of incumbents.

Moreover, because the international coordination process will significantly reduce the amount of spectrum available to an MSS licensee, it will be years before the MSS licensee will know which bands to clear. For example, a licensee with access to 35 megahertz may be limited to operating in fifteen megahertz following international coordination. Thus, it would be uneconomical to pay for relocation in the entire band until the specific frequencies have been determined, which could take many years.

Rather than placing the burden of relocation on the MSS industry, the Commission should encourage incumbent users to relocate over time. For example, incumbents could be encouraged to relocate over a fixed period of time such as five years, or within three years from the commencement of construction of an MSS system in the bands.

If the Commission decides that MSS providers must pay for the cost of relocating 2 GHz incumbents despite the strong practical and policy considerations militating against such a decision, 2 GHz incumbents should be entitled to only limited compensation. Only the incremental cost of early retirement of equipment and duplication of its functions at other frequencies should be included. If equipment has reached the end of its useful life, compensation should be due only if the incumbent can show that the cost of the equipment is greater than purchasing new equipment to operate in higher frequencies. The Commission has already agreed

to issue tax certificates allowing incumbents to defer any tax consequences of relocation, thereby easing the burden of relocation."[11]

IV. Spectrum Auctions Are Inappropriate for MSS

The NPRM gives "advance notice" of the Commission's intent to award MSS licenses in the new bands by competitive bidding on segments of the spectrum. The NPRM requests comment as to whether this proposal is appropriate for awarding MSS licenses. NPRM, para. 17. AMSC believes that auctioning MSS spectrum would be unlawful at this point, and in any event would be inappropriate for a number of policy reasons.[12]

The Commission is authorized to use auctions to allocate spectrum only if there are mutually exclusive applications for an initial license or construction permit. Before auctioning, the Commission is required by statute to use "engineering solutions, negotiation, threshold qualifications, service regulations, and other means" to avoid mutual exclusivity.[13]

It is far too early in the process for the Commission to conclude that MSS applications for the 2 GHz bands will be mutually exclusive. The bands are only in the proposed allocation stage. No service rules have been adopted for MSS in the bands. Moreover, as the Commission is aware most recently from the Big LEO proceeding, it is not at all uncommon for satellite applicants to resolve mutual exclusivity and interference problems through

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[11] See Third Report and Order and Memorandum Opinion and Order, ET Docket No. 92-9, *8* FCC Rcd 6589, 6606 (1993).

[12] AMSC has previously argued against auctions of MSS spectrum. See Comments of AMSC Subsidiary Corporation, PP Docket No. 93-253 (November 10, 1993).

[13] Budget Reconciliation Act of 1993 (the "Act"), *codified at 47* U.S.C.A. § 309(j)(l) & 309(j)(6)(E) (West Supp. 1995).

coordination and negotiation.[14/] Thus, it is impossible for the Commission to conclude at this point that it is faced with a situation of mutual exclusivity among MSS applicants for the 2 GHz bands. Until such mutual exclusivity is conclusively established -- and after alternatives to avoid it are pursued -- mandating auctions would exceed the Commission's statutory authority.

Aside from the legal impropriety of mandating auctions at this point in time, there are also a number of policy reasons why auctions are inappropriate for awarding MSS licenses for the 2 GHz bands.

Added Cost. As with relocation costs, the costs of bidding for MSS spectrum would be stifling and potentially crippling burdens to impose on the service. Auctions will also reduce access to MSS by draining capital that would otherwise be available for expansion of service and development of additional capacity.

These concerns are all-important because, as acknowledged in the NPRM, the Commission envisions MSS as a low cost service to rural areas that are currently unserved by terrestrial mobile communications. NPRM, para. 7. By mandating auctions, the Commission would force the providers of MSS to bid against each other, thus driving up the cost of that service. Moreover, the use of auctions would provide an incentive for MSS providers -- whose start-up costs are already high -- to focus their marketing efforts on the most densely populated markets, undermining the Commission's professed hope of bringing ubiquitous, low cost mobile communications to the most rural and unserved areas. In its Second Report and

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14/ In fact, the legislative history of the Act cites MSS specifically as an example of a service where alternative solutions should be explored before resorting to auctions. See H.R. 103-l 11, 103d Cong.. 1 st Sess. (1993), renrinted in 1993 U.S. Code Cong. & Adm. News 378.

Order in PP Docket No. 93-253,[15] the Commission exempted the Basic Exchange Telephone Radio Service ("BETRS") from auctions in order to further the goal of providing low-cost rural telephone service. The same considerations are applicable to MSS.[16]

The Difficulty of Assessing the Value of the Spectrum. The market forces on which auctions rely to determine the value of spectrum fail when applied to MSS. MSS spectrum is subject to numerous unpredictable factors that make any attempt to place a value on the spectrum at auction purely speculative. Unlike other spectrum, an MSS provider that successfully bids for spectrum is unlikely to receive the full amount of spectrum for which it bids. This is because of the need for international coordination of satellite spectrum -- a requirement which generally does not apply to terrestrial PCS. In addition, because coordination is an ongoing process, it is impossible to know whether future compromise will necessitate a further reduction in the amount of usable spectrum. Thus, a potential buyer would have no idea how much spectrum it was buying or how to devise a price for such spectrum. This concern is borne out by AMSC's own experience. Though the coordination process for AMSC's presently authorized spectrum is still not complete after six years, it appears that when the international coordination process is complete, AMSC will have access to considerably less than the amount of spectrum the Commission assigned in the domestic proceeding. Moreover, as new MSS systems are proposed for the 1.5/1.6 GHz bands, AMSC may be required to cede further spectrum. No one can reasonably predict what the ending figure will be.

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[15] 9 FCC Rcd 2348, 2356 (1994).

[16] Similarly, to the extent MSS must provide priority access to aviation safety communications, a certain segment of MSS should be exempt from auctions in any event.

Further, if the Commission decides that MSS providers must pay for the cost of relocating 2 GHz incumbents, MSS bidders will be faced with the added uncertainty of the cost of clearing the spectrum. Even if the Commission adopts clear rules for the relocation of 2 GHz incumbents, the process of relocation will take years to complete. The magnitude of the cost may become clear only years into the process and could well be far more than anticipated.

The Inequity of Auctioning Spectrum Only for Domestic Systems. Although the Commission has not determined whether international systems such as Inrnarsat-P will be permitted to provide domestic service, any requirement for auctions must be applied equally to all entities having access to the proposed new MSS bands. Otherwise, the Commission will put U.S. licensees at an economic disadvantage vis-a-vis their international competitors.

The Potential for MSS Auctions in Other Nations. Although the focus of PCSAT's efforts is on the U.S. domestic market, the impact of the Commission adopting competitive bidding is likely to be significant for systems proposing to serve other markets as well. If the Commission decides to auction MSS spectrum, other countries may also adopt this policy. As a consequence, the cost of providing global service will not merely rise, it will rise in a completely unpredictable manner. Those countries not adopting auctions may view auctions as a form of trade barrier and retaliate with higher regulatory fees or licensing practices that favor that country's own MSS provider. The result will be the creation of a climate of uncertainty for MSS providers, with the result that the goal of ubiquitous global communications could be stalled indefinitely. Given the importance of the U.S. aerospace

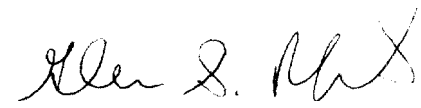
industry to the domestic economy, it would be imprudent for the Commission to legitimize a process that could have such a drastic adverse impact on U.S. industry.

Conclusion

Based on the foregoing, PCSAT urges the Commission to allocate the 1990-2025 MHz and 2165-2200 MHz bands to MSS for use by both geostationary and non-geostationary systems. The Commission, however, should not require MSS providers to pay relocation costs for incumbent users. The Commission also should not license the new MSS bands by auction.

Respectfully submitted,

PERSONAL COMMUNICATIONS SATELLITE CORPORATION



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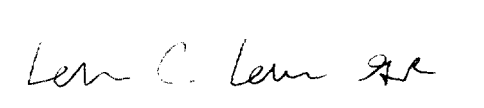

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