

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

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JUN - 3 1998

In re Application of)
)
IRIDIUM LLC)
)
for Authority to Launch and Operate the)
Macrocell Mobile Satellite System)
in the 1990 to 2025 and 2165 to 2200 MHz)
Mobile Satellite Service Bands)

Federal Communications Commission
Office of Secretary

File No. 187-SAT-P/LA-97(96)

Received

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Satellite Policy Branch
International Bureau

To: CHIEF, INTERNATIONAL BUREAU

**CONSOLIDATED
RESPONSE AND OPPOSITION
TO PETITION TO HOLD IN ABEYANCE**

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SUMMARY

The unique limitations of the domestic 2 GHz MSS spectrum allocation, and the unusually broad array of proposals from applicants and non-U.S.-licensed entities in this processing round, require the Commission's heightened attention to its public interest (and WTO) responsibilities. Accordingly, the Commission should reject ICO's proposal that the Commission forego its traditional assignment function and authorize applicants to use the entire 70 MHz of allocated 2 GHz MSS spectrum, leaving it to the applicants to arrive at a band plan.

While several parties have raised issues regarding Iridium's Macrocell application, there are no legitimate legal, policy, or technical reasons that would justify the dismissal, denial, or deferral of Iridium's application. The Commission should reject ICO's and Celsat's proposal that previously-licensed MSS providers should be excluded from this processing round, because it contradicts the Commission's previous decision to make the 2 GHz spectrum available to Big LEO licensees for expansion. Moreover, Boeing's and ICO's requests for adoption of financial qualifications standards or "financial due diligence" requirements for 2 GHz proposals even before the Commission develops or adopts final, detailed service rules, are untimely, unnecessary and disruptive. In addition, Bell Atlantic's comments on Iridium's feeder link proposal are also untimely and therefore should be summarily dismissed.

Iridium responds to several parties who raise either interservice technical issues or who question Iridium's technical proposals. First, the Wireless Cable Association's concerns about MMDS and ITFS interference to MSS handsets can be

addressed through interservice coordination. Second, Iridium clarifies that its aeronautical route services ("AMS(R)S") proposal is but one aspect of a comprehensive package of MSS service to be provided by the Macrocell system. Should Iridium intend to offer AMS(R)S, it recognizes the need for an appropriate allocation to permit it. Finally, Iridium clarifies that its proposal to utilize both CDMA and TDMA signal coding protocols is not technically impossible.

TABLE OF CONTENTS

SUMMARY i

I. INTRODUCTION 1

II. THE COMMISSION SHOULD NOT ABDICATE ITS RESPONSIBILITY TO ENSURE ADEQUATE GLOBAL MSS SPECTRUM RESOURCES AND TO ASSIGN 2 GHz MSS FREQUENCIES IN THE PUBLIC INTEREST 2

III. SUGGESTIONS FOR ADDITIONAL QUALIFICATIONS CRITERIA OR OTHER ACCESS RESTRICTIONS TO THE 2 GHz BAND ARE INCONSISTENT WITH THE COMMISSION'S 2 GHz MSS ALLOCATION ORDER 3

 A. There is No Reason To Exclude Previously-Licensed MSS Providers from this Processing Round or Otherwise Favor the Applications of Celsat and ICO 3

 B. Boeing's And ICO's Procedural Requests are Untimely 6

IV. THE OBJECTIONS TO THE TECHNICAL ASPECTS OF IRIDIUM'S APPLICATION ARE WITHOUT MERIT 8

 A. Bell Atlantic's Comments Concerning Macrocell's Feeder Links 8

 B. Wireless Cable's Concerns Over Adjacent Channel Interference into 2 GHz Handsets 9

 C. Iridium's Proposal to Provide Services to the Aeronautical Market 10

 D. Iridium's Proposal to Employ CDMA and TDMA Signal Coding Techniques 11

V. CONCLUSION 11

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To: CHIEF, INTERNATIONAL BUREAU

CONSOLIDATED
RESPONSE AND OPPOSITION
TO PETITION TO HOLD IN ABEYANCE

Iridium LLC ("Iridium"), by its attorneys, and pursuant to Section 309(d) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(d), hereby respectfully submits its "Consolidated Response and Opposition to Petition to Hold in Abeyance" in connection with its above-captioned application for authority to launch and operate the Macrocell Mobile Satellite System ("MSS") in the 2 GHz band (the "Application").^{1/}

I. INTRODUCTION

In their comments and/or petitions filed in connection with Iridium's above-captioned Application, several parties have raised issues with respect to Iridium's Macrocell Application and questioned the appropriateness of considering applicants

^{1/} Iridium does not herein respond to every allegation and contention filed in connection with the 2 GHz MSS applications in this processing round. No conclusion or inference can or should be drawn from Iridium's silence herein with respect to any allegation or contention in any of the filings.

like Iridium in this processing round.^{2/} As is demonstrated herein, there is no legal or policy reason that would require or warrant dismissal, denial, or deferral of Iridium's Application in this processing round. Moreover, the technical questions raised are without merit. Indeed, Iridium is fully qualified and, as is demonstrated in its above-captioned Application, has the experience, knowledge, and resources to design and implement its proposed system.

II. THE COMMISSION SHOULD NOT ABDICATE ITS RESPONSIBILITY TO ENSURE ADEQUATE GLOBAL MSS SPECTRUM RESOURCES AND TO ASSIGN 2 GHz MSS FREQUENCIES IN THE PUBLIC INTEREST

ICO proposes a novel but unworkable solution to the number of mutually-exclusive proposals in this processing round. ICO suggests that the Commission forego its traditional assignment function and authorize applicants to use the entire 70 MHz of allocated 2 GHz MSS spectrum, leaving it to the applicants to arrive at a band plan.^{3/} The Commission should reject this invitation to depart from its established processes.

The unique limitations of the domestic 2 GHz MSS spectrum allocation, and the unusually broad array of proposals from applicants and non-U.S.-licensed entities in this processing round, require the Commission's heightened attention to its

^{2/} Herein, Iridium responds to the following filings: Comments, filed May 4, 1998, in connection with FCC File Nos. 179-SAT-P/LA-97(16), 90-SAT-AMEND-98, by Aeronautical Radio, Inc. ("ARINC Comments"); Comments of Bell Atlantic, filed May 4, 1998, in connection with File No. 187-SAT-P/LA-97(96) ("Bell Atlantic Comments"); Comments of Celsat America, Inc., filed May 4, 1998 ("Celsat Comments"); Comments of Constellation Communications, Inc., filed May 8, 1998 ("Constellation Comments"); Consolidated Comments of ICO Services Limited, filed May 4, 1998 ("ICO Comments"); Comments, filed May 4, 1998, by Wireless Cable Association International, Inc. ("WCAI Comments"); Petition to Hold in Abeyance of the Boeing Company, filed May 4, 1998, in connection with FCC File No. 187-SAT-P/LA-97(96) ("Boeing Petition").

^{3/} ICO Comments at 5.

public interest (and WTO) responsibilities in making spectrum assignments in this band. Unlike other situations in the past that permitted streamlined applicant-negotiated frequency assignments,^{4/} in this processing round there are many complicating regulatory factors. For example: there are inconsistencies between the domestic spectrum allocations and the international allocation; there are potentially mutually-inconsistent geostationary and non-geostationary proposals; there are certain non-global/regional proposals that potentially justify appropriate limits on spectrum access; and there are mutually-inconsistent MSS and non-MSS service proposals. The Commission cannot discharge its public interest obligations by adopting ICO's proposed blanket approach to assignments for this non-generic applicant pool, especially given the need to meet the global spectrum requirements of bona fide global MSS systems. As Iridium has already demonstrated, the Commission must consider the vital public interest issues attendant to assignment of scarce 2 GHz MSS frequencies as part of its consideration of the applications in this processing round.

III. SUGGESTIONS FOR ADDITIONAL QUALIFICATIONS CRITERIA OR OTHER ACCESS RESTRICTIONS TO THE 2 GHz BAND ARE INCONSISTENT WITH THE COMMISSION'S 2 GHz MSS ALLOCATION ORDER

A. There is No Reason To Exclude Previously-Licensed MSS Providers from this Processing Round or Otherwise Favor the Applications of Celsat and ICO

In their respective comments, Celsat and ICO urge the Commission to exclude from consideration in the instant processing round applicants that already hold MSS licenses and, instead, afford a preference to Celsat's and ICO's own

^{4/} See, e.g., *Assignment of Orbital Locations to Space Stations in the Ka-Band*, 13 FCC Rcd 1030 (1997).

applications.^{5/} Erroneously citing Iridium as an example,^{6/} both Celsat and ICO specifically contend that Big LEO licensees, in particular, should be categorically excluded based upon the claim that they will "warehouse" spectrum and, thereby, undermine competition.^{7/} The Commission should reject Celsat's and ICO's suggestion and proceed with consideration of Iridium's application in this processing round.

Celsat's and ICO's warehousing rationale for excluding Big LEO applicant's from processing must be rejected because, at least insofar as Iridium is concerned, it is entirely false.^{8/} Nothing in the present record or in Iridium's conduct supports the conclusion that Iridium has in the past, or will in the future, warehouse spectrum. On the contrary, Iridium (together with its investor, Motorola) has led the MSS industry in expeditiously deploying its first generation MSS service. Indeed, ICO concedes that Iridium has "made significant progress in constructing and launching [its] satellites"^{9/} In point of fact, as recent press accounts attest^{10/} and ICO surely knows, Iridium has completed the launch of 72 satellites for its 66 satellite constellation; and, on September 23 of this year, Iridium will become the first private operator to

^{5/} See Celsat Comments at 2-3; ICO Comments at 11-12.

^{6/} In point of fact, Iridium does not hold an license for an MSS system.

^{7/} Celsat Comments at 5; ICO Comments at 11-12. It is not clear why ICO is advocating this position since it could operate to exclude ICO (by virtue of its relationship with Inmarsat) as well as Iridium (by virtue of its relationship with Motorola).

^{8/} Celsat also incorrectly asserts that Iridium has requested "exclusive use" of all of the 70 MHz allocated by the FCC to MSS at 2 GHz. Celsat Comments at 5.

^{9/} ICO Comments at 11.

^{10/} See M. Mills, *Satellite Launch Globally Links Wireless Phones*, WASH. POST, May 18, 1998, at A1.

provide a full range of truly global commercial MSS services to the public. Motorola and Iridium have therefore far exceeded the due diligence obligations required by the Commission, completing construction and launch, and commencing operations, years before they were required to do so.^{11/}

Celsat's and ICO's proposal to exclude Iridium and Big LEO licensees from this processing round also expressly contradicts the Commission's previous determination that the 2 GHz spectrum would be available for expansion by existing Big LEO operators:

As a result of the . . . allocation of additional spectrum to MSS at 1990-2025 MHz and 2165-2200 MHz, in March of this year, unassigned spectrum with equivalent propagation characteristics [to that of the spectrum allocated to the Big LEO services] is now available either for new systems or for expansion of existing systems, that could be used to provide service such as the Big LEO systems would provide.^{12/}

Moreover, it is indisputable that Big LEO systems will require more spectrum to meet anticipated demand for MSS services. As the Commission acknowledged in the *2 GHz MSS Allocation Order*, "the Radiocommunication Sector of the ITU estimates that up to 206 megahertz of additional spectrum will be needed for MSS by the year 2005."^{13/}

^{11/} See *Motorola Satellite Communications, Inc.*, 11 FCC Rcd 13952, 13960 (1996) (*Order and Authorization* in File No. 85-SAT-ML-96). The Commission required the first two satellites of the Iridium system to be completed by October 2000; construction of the remaining space stations to be commenced by October 1999; and the system to be fully operational by October 2002. *Id.* Accordingly, with the commencement of full commercial operations this September, Motorola and Iridium will have fulfilled these milestone obligations more than three years ahead of the prescribed deadline.

^{12/} *Mobile Communications Holdings, Inc.*, 12 FCC Rcd 9663, 9673 (1997) (*Order and Authorization*) (emphasis added).

^{13/} *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, 12 FCC Rcd 7388, 7394-95 (1997) ["2
(continued...)]

From the time it was authorized by the Commission, Iridium has undertaken considerable effort and expense to deploy and commence operations of its system in an expeditious fashion. In light of the Commission's recognition that the limited spectrum initially allocated for Big LEO systems will not suffice to meet the growing demand for MSS service around the world, no basis exists to exclude Big LEO operators from the instant processing round.^{14/}

B. Boeing's And ICO's Procedural Requests are Untimely

In its Petition to Hold in Abeyance, Boeing urges the Commission to defer processing of Iridium's application pending completion of an expedited rulemaking to establish financial qualifications standards for 2 GHz applicants.^{15/} In its comments,

^{13/}(...continued)

GHz MSS Allocation Order']. Moreover, in its Petitions to Deny and Comments filed in this proceeding, MCHI cites a study by Arthur Andersen which forecasts a market for MSS services in 2005 exceeding 60 million subscribers. See Petitions to Deny and Comments of Mobile Communications Holdings, Inc., filed May 4, 1998, at 8. ICO also calls on the Commission to require incumbent MSS licensees to demonstrate a need for additional spectrum. ICO Comments at 10. Yet, not only does ICO fail to explain why new applicants should not be held to this same standard to avoid "warehousing," its proposal also ignores the fact that the Commission has eliminated the requirement for such forecasts in applications. See *Streamlining the Commission's Rules and Regulations for Satellite Application and Licensing Procedures*, 11 FCC Rcd 21581, 21586 ¶ 11 (1996).

^{14/} ICO cites the Commission's initial proposal to limit first round Little LEO licensees from participating in the second Little LEO processing round. See ICO Comments at 4 & n.4 and 6 (citing *Amendment of Part 25 of the Commission's Rules to Establish Rules and Policies Pertaining to the Second Processing Round of the Non-Voice, Non-Geostationary Mobile Satellite Service*, 11 FCC Rcd 19841 (1996) ["Little LEO NPRM"]). However, the Commission obviously ultimately rejected this proposal, allowing existing Little LEO licensees to obtain expansion spectrum. See *Amendment of Part 25 of the Commission's Rules to Establish Rules and Policies Pertaining to the Second Processing Round of the Non-Voice, Non-Geostationary Mobile Satellite Service*, 10 Comm. Reg. (P & F) 1, 5 (1997).

^{15/} See Boeing Petition at 5-6.

ICO similarly proposes that the Commission impose "financial due diligence" requirements on U.S. 2 GHz applicants "even before developing final, detailed service rules."^{16/} These proposals are essentially untimely petitions for reconsideration of the Commission's previous determinations.

In the *2 GHz MSS Allocation Order*, the Commission expressly stated that it was deferring action on the technical parameters and licensing issues for MSS in the 2 GHz band.^{17/} The Commission further underscored its intention not to require a new financial showing from applicants in this processing round in its Public Notice clarifying the *Cut-Off Notice* stating that "[o]ur rules do not yet require financial information for other mobile-satellite services (e.g., 2 GHz MSS)," and that parties "submitting applications or letters of intent for services not currently covered under our rules need not file information to demonstrate financial qualifications at this time."^{18/} ICO and Boeing had the opportunity to challenge these determinations by the Commission previously but apparently elected not to do so. They cannot now seek to rectify their failure to seek reconsideration of the Commission's decisions in the guise of comments concerning matters that were to required be contained in the now pending applications.

Boeing's request that Iridium be subject to a new financial showing requirement -- even before service and technical rules are established -- is very

^{16/} See ICO Comments at 6.

^{17/} *2 GHz MSS Allocation Order*, 12 FCC Rcd at 7388.

^{18/} See Public Notice, *Clarification and Corrections to Public Notice Report No. SPB-88 and SPB-89 establishing deadlines for applications, letters of intent, and amendments to applications in the 2 GHz and 36-51.4 GHz Frequency Bands*, DA 97-1723, released August 13, 1997, at 2 (emphasis added).

strange.^{19/} The Commission has established the procedural course it intends to pursue. Iridium agrees that all applicants, and entities that have submitted letters of intent, should be required to demonstrate their financial qualifications when the applicable requirements are adopted. But establishing a special proceeding in addition to the service rules proceeding seems peculiarly untimely, unnecessary and disruptive.

IV. THE OBJECTIONS TO THE TECHNICAL ASPECTS OF IRIDIUM'S APPLICATION ARE WITHOUT MERIT

A. Bell Atlantic's Comments Concerning Macrocell's Feeder Links

In its Comments, Bell Atlantic contends that Iridium's feeder link operations will cause interference to Bell Atlantic's fixed microwave operations in the 18 GHz band and questions the ability of Bell Atlantic's operations and Iridium's proposed system to share the band.^{20/} Bell Atlantic's claims are grossly out of time and must be summarily dismissed. The Commission invited comments on the feeder link proposals in Iridium's Macrocell application nearly eight months ago,^{21/} and comments were due on December 22, 1997.^{22/} Indeed, the pleading cycle on Iridium's feeder links for its

^{19/} Curiously, Boeing fails to explain why it should be exempt from the financial standard it promotes.

^{20/} See *generally* Bell Atlantic Comments.

^{21/} See Public Notice, *Satellite Policy Branch Information*, Report No. SPB-106, DA 97-2202, released October 15, 1997.

^{22/} See *Applications of Globalstar, LP; Iridium, LLC; and Motorola Global Communications, Inc. (Order)*, DA 97-2496, released November 26, 1997 (Granting requests by PanAmSat Corporation, Loral Space & Communications, Ltd.; GE American Communications, Inc.; Lockheed Martin Corporation; and Hughes Communications Galaxy, Inc., for extension of time to file comments and/or petitions).

Macrocell application closed four months ago, on February 2, 1998.^{23/} Accordingly, the Commission should not entertain these extraordinarily late comments.

Bell Atlantic's concerns should also be rejected on their merits. It is clear that Bell Atlantic's interference concerns must be addressed through interservice coordination, and it is equally clear that such coordination can be successfully completed. As Iridium observed in the earlier feeder link phase of this proceeding, it "has committed in its Application to ensure that the MACROCELL system will comply with FCC rules regarding sharing and coordination in these frequency bands."^{24/} Indeed, feeder link coordination has already been successfully completed for the Iridium system,^{25/} and Iridium intends to proceed in similar fashion in the deployment of the Macrocell system.

B. Wireless Cable's Concerns Over Adjacent Channel Interference into 2 GHz Handsets

The Wireless Cable Association contends, without offering any specific technical details, that 2 GHz MSS handsets may encounter interference from MMDS and ITFS operations in the adjacent bands.^{26/} This issue may be addressed in interservice coordination.

^{23/} See *In the Matter of SPB-105 (DA 97-2201), SPB-106 (DA 97-2202) (Order)*, DA 98-21, released January 7, 1998 (Granting requests by Iridium LLC and Motorola Global Communications, Inc., for extension of time to file reply comments and/or oppositions).

^{24/} Consolidated Opposition and Response, filed February 2, 1998, by Iridium LLC, at 5.

^{25/} See *U.S. Leo Services, Inc.*, 11 FCC Rcd 13962 (1996) (granting license to construct and operate transmit-receive gateway fixed Earth station facilities).

^{26/} WCAI Comments at 3.

C. Iridium's Proposal to Provide Services to the Aeronautical Market

ARINC and Constellation criticize that portion of Iridium's Application that proposes to provide aeronautical route services ("AMS(R)S").^{27/} Both of these commenters observe that, at present, neither an allocation nor the appropriate priority and preemption protections have been established to permit operation of AMS(R)S services within the 2 GHz band. Indeed, Iridium made these very points in its Comments concerning Boeing's application.^{28/}

In its Application, Iridium did state that "[t]he MACROCELL system will also include priority preemptive capabilities designed to be consistent with the requirements for the Global Maritime Distress and Safety System (GMDSS) and the Aeronautical Mobile Satellite (Route) Service (AMS(R)S)."^{29/} However, the Application makes clear that such capabilities are proposed as one aspect of a comprehensive package of MSS services to be provided by the Macrocell system. Iridium recognizes the present limitations on AMS(R)S service in the 2 GHz band and does not believe that its current technical proposal requires a specific allocation. Should Iridium intend to offer AMS(R)S, Iridium recognizes that it would need an appropriate allocation to permit it. Unlike Boeing's proposal, however, Iridium's Macrocell system would provide a wide array of MSS services currently authorized for the 2 GHz band.

^{27/} See ARINC Comments at 1 n.1; Constellation Comments at 24.

^{28/} See Iridium Comments at 7-9.

^{29/} Iridium Application at 13 (emphasis added).

D. Iridium's Proposal to Employ CDMA and TDMA Signal Coding Techniques

Several commenters question Iridium's proposal to employ both CDMA and TDMA signal coding protocols.^{30/} Iridium recognizes the technical incompatibility of these two protocols if used simultaneously within the same frequency band. Iridium has no intention to so employ them. Rather, Iridium's proposal contemplates use of each protocol within discrete sub-bands to support specific types of services: TDMA to support Iridium's voice communications services, and CDMA to support a variety of variable rate data transmissions.

V. CONCLUSION

In its Macrocell application, Iridium provided all of the information required by the Commission's *2 GHz MSS Allocation Order* and the relevant public notices soliciting the filing of MSS applications to operate in the 2 GHz band. Iridium has proposed a global system that will enhance competition in the global MSS market and contribute to the expansion in MSS capacity which will be necessary to satisfy projected demand levels in the future.

As demonstrated in the Application, and again herein, Iridium is fully qualified to construct, launch, and operate its proposed system. Accordingly, for the reasons set forth herein, the Commission should reject the arguments of the


^{30/} See Boeing Petition at 10; ICO Comments at 15-16; Constellation Comments at 24-25.

commenters and petitioner and proceed with processing and grant of Iridium's Application in this processing round.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Deirdre A. Johnson, a secretary for the law firm of Verner, Lipfert, Bernhard, McPherson, and Hand, Chartered, hereby certify that this third (3rd) day of June, 1998, I caused a copy of the foregoing "Consolidated Response and Opposition to Petition to Hold in Abeyance" to be sent, by first class United States Mail, postage prepaid (* or by hand delivery), to each of the following:

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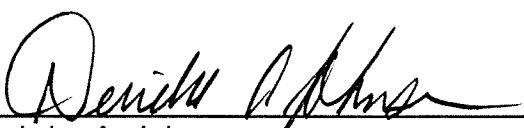
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