

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

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Federal Communications Commission
Office of Secretary

In re Application of)
Iridium LLC)
For Authority to Launch and)
Operate the MACROCELL)
Mobile Satellite System in the)
2 GHz and 28 GHz Bands)

File No. 187-SAT-P/LA-97

Received

Satellite Policy Branch
International Bureau

REPLY

Hughes Communications Galaxy, Inc. ("HCG") hereby replies to the Consolidated Opposition and Response filed by Iridium LLC ("Iridium")¹ in response to HCG's Petition to Deny the MACROCELL Mobile Satellite System Application (the "MACROCELL Application").²

The Iridium Opposition fails to establish that the MACROCELL System Application complies with the Commission's Rules.³ Instead, the Opposition, like the MACROCELL Application, simply asserts that Iridium is "committed to complying with the

¹ In re Iridium LLC, FCC File No. 187-SAT-P/LA-97, *Consolidated Opposition and Response* (filed Feb. 2, 1998) ("*Iridium Opposition*").

² Iridium LLC, *Application for Authority to Launch and Operate the MACROCELL Mobile Satellite System in the 2 GHz Band*, File No. 187-SAT-P/LA-97 (filed June 12, 1997) ("*MACROCELL Application*").

³ See 47 C.F.R. 25.258(d) (requiring "NGSO MSS systems applying to use the 29.25-29.5 GHz band for feeder link earth station uplink . . . to demonstrate that their system can share with the authorized U.S. GSO/FSS systems operating in this band.").

Commission's rules and policies."⁴ This vague and conclusory assertion is inadequate and provides no basis for MACROCELL to be licensed at 29.25-29.5 GHz. The Commission's Rules are clear: Iridium must *demonstrate* that the MACROCELL System can share with authorized U.S. GSO/FSS systems operating in the 29.25-29.5 GHz band.⁵ Moreover, Iridium simply fails to rebut HCG's technical demonstration, which establishes that the proposed MACROCELL System will, in fact, cause substantial interference into GSO FSS satellites, such as SPACEWAY.⁶ Finally, Iridium fails to show how it would design interference mitigation techniques into the MACROCELL architecture that would solve this substantial interference problem. These failures mandate the summary denial of the MACROCELL Application.⁷

A. Iridium Fails to Comply with the Commission's Rules

Throughout its Opposition, Iridium re-asserts its commitment to comply with the Commission's Rules regarding interference into licensed GSO FSS systems.⁸ Conspicuously absent, however, is any demonstration that the proposed MACROCELL can share with GSO

⁴ *Iridium Opposition* at 2.

⁵ *See* 47 C.F.R. 25.258(d).

⁶ Iridium acknowledges HCG's "claim" of harmful interference, but does not acknowledge, let alone rebut, HCG's technical analysis. That analysis, attached to the HCG Petition to Deny, clearly demonstrates that the proposed MACROCELL System will cause interference into SPACEWAY. Moreover, that technical analysis establishes that Iridium's proposed mitigation techniques, which would impermissibly place the burden of interference mitigation on licensed GSO FSS, would fail to eliminate interference in any event.

⁷ Iridium misquotes HCG when it claims that HCG's Petition to Deny is based on punitive reasons and not technical ones. *See Iridium Opposition* at 7 ("Hughes petitions the Commission to deny [Iridium's] application in its entirety, apparently not for technical reasons but for punitive ones -- 'because it threatens the delicate compromise embodied in the Commission's 28 GHz Band Plan'") (citation omitted). HCG Petition, like this pleading, is based solely upon Iridium's abject failure to comply with the Commission's Rules, and the technically established interference that the MACROCELL System will cause into SPACEWAY.

⁸ *See, e.g., Iridium Opposition* at 2, 7-8.

FSS systems that are already licensed to operate in the 29.25-29.5 GHz band. Iridium's vague assertions and conclusory declarations simply do not provide a sufficient basis upon which to grant the MACROCELL Application, particularly when the Commission's Rules clearly mandate that a technical *demonstration* is required in advance of licensing.

Iridium fails to provide such a demonstration because it cannot. Instead, Iridium offers that it "will take such steps as are necessary to ensure compliance"⁹ with § 22.258 of the Commission's Rules. HCG objects to this approach because Iridium simply has failed to demonstrate how Iridium can share the 29.25-29.5 GHz band with licensed GSO FSS systems such as SPACEWAY. The Commission's Rules require such a demonstration in order to facilitate a thorough technical evaluation of the proposed application,¹⁰ and such a demonstration must be made *before* an application is granted in order to ensure that licensed GSO FSS systems will not be subject to harmful interference. As set forth below, HCG's unrebutted analysis unequivocally demonstrates that MACROCELL creates an interference risk to SPACEWAY.

B. Iridium Does Not Rebut HCG's Technical Analysis

As demonstrated in the HCG Petition, MACROCELL poses a clear and substantial interference threat to SPACEWAY. In addition, the proposed mitigation techniques mentioned in the MACROCELL Application are inadequate to solve this problem.¹¹ Iridium simply fails to address these issues in its Opposition. Moreover, even if these proposed

⁹ *Iridium Opposition* at 8.

¹⁰ *See* 47 C.F.R. 25.258(d). Indeed, Iridium recognizes that "[t]here is no justification for excluding NGSO MSS systems from using this band for feeder links *if they can coordinate* with GSO FSS systems." *Iridium Opposition* at 11 (emphasis added).

¹¹ *See HCG Petition* at 5-6, Appendix A.

mitigation techniques might work, they would impermissibly shift the burden of interference mitigation to the licensed SPACEWAY System. Iridium posits that GSO FSS systems operating in the 29.25-29.5 GHz band segment will utilize only a few large co-frequency earth terminals, and that coordination with these terminals is possible. However, SPACEWAY is authorized to contain ubiquitously deployed earth stations. Iridium's proposed techniques thus appear to require changes in SPACEWAY's design.¹² Moreover, Iridium's proposed techniques do not work. As HCG demonstrated, GSO FSS systems will cause interference into the uplinks of the MACROCELL System.¹³

Rather than dispute or rebut HCG's technical analysis, Iridium merely reiterates its commitment to coordinate with GSO FSS systems. But such a *commitment*, without a concomitant *demonstration* of a feasible technical solution is meaningless. Iridium provides no substantive basis whatsoever for licensing MACROCELL in the face of HCG's uncontroverted technical demonstration of substantial interference into SPACEWAY. The burden is on Iridium to show how it will design and employ interference mitigation techniques to solve this substantial interference problem. And the MACROCELL Application may not be granted absent such a showing.

12 The Commission has clearly established that the burden squarely falls on newly introduced NGSO MSS systems, such as the proposed MACROCELL System. *See* 47 C.F.R. 25.258. Iridium contends that "nowhere in its filing does Hughes dispute ILLC's position that other effective solutions to spectrum sharing between NGSO MSS and GSO FSS systems exist that do not suffer from the shortcomings of Section 25.258(c)." *Iridium Opposition* at 8 n.9. The relevant point is not whether theoretical techniques might exist, but whether the Iridium system is designed to effectively employ them. Iridium has failed to show how the proposed MACROCELL successfully would employ such solutions. This failure to demonstrate compliance with a critical Commission Rule mandates the summary denial of the MACROCELL Application.

13 *See HCG Petition* at 5-6.

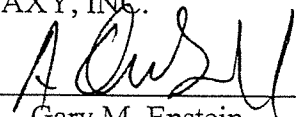
C. Conclusion

Iridium fails to dispute HCG's technical analysis demonstrating the existence of substantial interference from MACROCELL into SPACEWAY. Iridium is obligated to show how it will design interference mitigation techniques into its system to solve this interference problem but it has failed to do so. In light of these facts, Iridium's mere assurance that its proposed MACROCELL will comply with the Commission's Rules regarding interference into licensed GSO FSS systems is wholly inadequate. These failures mandate that the MACROCELL Application be denied.

Respectfully submitted,

HUGHES COMMUNICATIONS
GALAXY, INC.

By: _____


Gary M. Epstein

John P. Janka

Abid R. Qureshi

LATHAM & WATKINS

1001 Pennsylvania Avenue, N.W.

Suite 1300

Washington, D.C. 20004

(202) 637-2200

Of Counsel

Scott B. Tollefsen
Senior Vice President, General Counsel
& Secretary
1500 Hughes Way
Long Beach, CA 90810
(310) 525-5150

February 23, 1998

CERTIFICATE OF SERVICE

I, Margaret Schock, hereby certify that the foregoing Reply was sent, this 23d day of February, 1998 by hand,* or by first-class mail to the following persons:

*Regina M. Keeney, Chief
International Bureau
Federal Communications Commission
2000 M Street, N.W., Suite 800
Washington, D.C. 20554

*James L. Ball, Associate Chief
International Bureau
Federal Communications Commission
2000 M Street, N.W., Suite 800
Washington, D.C. 20554

*Thomas S. Tycz, Chief
Satellite and Radiocommunication Division
International Bureau
Federal Communications Commission
2000 M Street, N.W., Suite 800
Washington, D.C. 20554

*Fern J. Jarmulnek, Chief
Satellite Policy Branch
Satellite and Radiocommunication Division
International Bureau
Federal Communications Commission
2000 M Street, N.W., Suite 500
Washington, D.C. 20554

*Virginia Marshall
Satellite and Radiocommunication Division
International Bureau
Federal Communications Commission
2000 M Street, N.W., Suite 500
Washington, D.C. 20554

*William Bell
Satellite and Radiocommunication Division
International Bureau
Federal Communications Commission
2000 M Street, N.W., Suite 800
Washington, D.C. 20554

*Jennifer Gilsenan
Satellite Policy Branch
Satellite and Radiocommunication Division
International Bureau
Federal Communications Commission
2000 M Street, N.W., Suite 500
Washington, D.C. 20554

*Steve Sharkey, Chief
Satellite Engineering Branch
Satellite and Radiocommunication Division
International Bureau
Federal Communications Commission
2000 M Street, N.W., Suite 500
Washington, D.C. 20554

Patricia A. Mahoney
Iridium LLC
1575 Eye Street
Suite 500
Washington, D.C. 20005

Stephen E. Coran, Esq.
Rini, Coran & Lancellota, P.C.
1350 Connecticut Avenue, N.W., Suite 900
Washington, D.C. 20036

Dennis Couillard, Chairman
Eric Schimmel, Vice President
Telecommunications Industry Association
2500 Wilson Boulevard, Suite 300
Arlington, VA 22201

Robert J. Miller, Esq.
Gardere & Wynne, LLP
1601 Elm Street, Suite 3000
Dallas, TX 75201

Raymond G. Bender, Jr., Esq.
Dow, Lohnes & Albertson, PLLC
1200 New Hampshire Avenue, N.W., Suite 800
Washington, D.C. 20036

Gerald Musarra
Space & Strategic Missiles Sector
Lockheed Martin Corporation
1725 Jefferson Davis Highway
Arlington, Virginia 22202

John Hane
Lockheed Martin Telecommunications
12350 Pinecrest Road
Reston, Virginia 20191

Michael R. Gardner, Esq.
1150 Connecticut Avenue, N.W., Suite 710
Washington, D.C. 20036

Philip L. Malet, Esq.
Steptoe & Johnson, LLP
1330 Connecticut Avenue, N.W.
Washington, D.C. 20036

Michael D. Kennedy, Esq.
Motorola, Inc.
1350 I Street, N.W.
Washington, D.C. 20005

Cheryl A. Tritt, Esq.
Morrison & Foerster, LLP
2000 Pennsylvania Avenue, N.W.
Washington, D.C. 20006-1888

* Via Hand Delivery


Margaret Schock