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January 22, 2007

ELECTRONIC SUBMISSION

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: IB Docket 02-364
Ex Parte

Dear Ms. Dortch:

On January 19, 2007, Donna Bethea-Murphy of Iridium, Don Jansky of Jansky-Barmat Telecommunications Inc., representing Iridium, Brandon Hinton of EDO NexGen, representing Iridium, and the undersigned and Tom Tycz of Goldberg, Godles, Wiener & Wright, representing Iridium (collectively, the "Iridium representatives") met with the following persons from the International Bureau: Robert Nelson, Howard Griboff, and Sankar Persaud.

The meeting focused on the merits of an approach proposed by Globalstar, Inc. ("Globalstar"), in an *ex parte* filing in the above-referenced proceeding dated September 21, 2006, for coordination of L-band MSS spectrum between Iridium and Globalstar. The Iridium representatives suggested that, rather than employing the principles proposed by Globalstar, the Commission should implement sharing of the L-band

spectrum based on traditional coordination principles. They distributed at the meeting a sample coordination agreement along these lines, a copy of which is attached to this letter.

Please direct any questions regarding this matter to the undersigned.

Respectfully submitted,

Joseph A. Godles
Attorney for Iridium

cc: Robert Nelson
Howard Griboff
Sankar Persaud

Draft Coordination Agreement
Between Iridium Satellite, LLC, and
Globalstar Inc.

1.0 Introduction

In its Order of September 3, 2004, the Federal Communications Commission (FCC) authorized Iridium to use an additional 3.1 megahertz of spectrum on a shared basis with other operators in the 1618.25-1621.35 MHz band. This was subsequent to the FCC adopting a revised band sharing plan in the "Big Leo Spectrum Sharing Order". The revised plan allows TDMA MSS operators to coordinate use of the 1618.25-1621.35 MHz band with CDMA MSS operators on a co-primary basis in the uplink direction, and on a secondary basis in the downlink direction.

Accordingly, Iridium's FCC license has been modified to allow access to the additional 3.1 MHz in the 1618.25-1621.35 MHz band; and was effective as of September 3, 2004.

As stated in paragraph 53 of the Order, the FCC indicates that neither TDMA MSS operators nor CDMA MSS operators have priority over the shared spectrum at 1618.25-1621.35 MHz; that the licenses should be able to coordinate with minimal Commission interaction.

The purpose of this document is to establish the technical basis for a coordination agreement between Iridium and Globalstar on the shared use of the band 1618.25-1621.35 MHz where it is demonstrated that the Iridium system will not cause unacceptable/harmful levels of interference to the Globalstar system. This is accomplished through application of the normal principles applied for such coordination agreements: 1) The technical assumptions of the relevant systems are established; 2) Interference analyses are performed, 3) Results are discussed, 4) Conclusions are reached. These steps are set forth below.

2.0 Technical Assumptions

The basic technical characteristics of the Iridium and Globalstar satellite system service links are those that have been notified to the ITU as Hibleo-2 and Hibleo-4, respectively. Further, as stated in the above referenced paragraph 53 of the FCC R & O, these existing TDMA and CDMA systems "have the STA experience which conclusively

demonstrated that the Iridium operations within the referenced 3.1 MHz spectrum as Globalstar does not create harmful interference to Globalstar."

For purposes of analyzing the impact of the Iridium system on the Globalstar system in the spectrum of concern, the operative system characteristics of the Iridium and Globalstar systems are in Table A

TABLE A

The power budget for the Iridium terminal and the Globalstar receiver as set forth below are the basis for service under the proposed sharing arrangement:

ISU Max. Tx Power EIRP	dBW	8.5
Time Average Over Frame Factor	dB	-10.4
Voice Activity Factor	dB	-4.0
Typical Power Control Reduction	dB	-4.0
Average Tx EIRP	dBWi	-9.9

The propagation characteristics from the Iridium terminal to the Globalstar satellite receiver are:

Globalstar Satellite Altitude	km	1414
Typical Globalstar Satellite Slant Range	km	1952
Frequency	GHz	1.618
Path Loss	dB	162.4

The Globalstar satellite receiver characteristics are as follows:

Globalstar Sat. Antenna Gain	dBi	14.6
Cross-Polarization Isolation (RHCP vs. LHCP)	dB	-6
Globalstar Satellite Rx Bandwidth	MHz	1.23
Iridium Terminal Interference Power Density	dB(W/Hz)	-224.6

Under the proposed band-sharing arrangement, Iridium, which is a Frequency Division Multiple Access (FDMA)/Time Division Multiple Access (TDMA)/Time Division Duplex (TDD) system, would share spectrum with Globalstar, which is a Code Division Multiple Access (CDMA) system. Iridium traffic channels are separated by 41.667 kHz and use a 8.28 ms timeslot within a 90 ms frame, where a frame supports

both uplink and downlink timeslots. Assignment of frequency channels and timeslots is made by the system as part of an overall frequency and timeslot reuse plan.

Given that an Iridium handset transmitter is bursting in only 8.28 ms of every 90 ms frame, the average transmit power is 10.4 dB less than the peak power. Iridium handsets also employ automatic power control that provides a reduction of up to 8 dB in non-faded links.

Globalstar channels are 1.2288 MHz wide and may support a number of users. In order to characterize the potential number of Iridium users that could be received into a Globalstar channel within a Globalstar satellite beam, two factors need to be considered. First, the number of Iridium channels within a Globalstar channel has to be calculated. In the extreme case of 100% frequency reuse, there would be 29.5 (=1228800/41667) Iridium channels per Globalstar channel. However, Iridium in fact reuses its frequency channels among its spot beams by a typical factor of about 6. Therefore, a practical, number of Iridium carriers per Globalstar channel is, conservatively, about 6.

A second factor is the relative size of spot beams used by both systems. A very conservative comparison of Globalstar and Iridium spot beam sizes indicates that, on average, there are approximately 3 Iridium spot beams per Globalstar beam. Therefore, a reasonable, number of Iridium channels that could illuminate a Globalstar satellite spot beam receiver within a Globalstar channel is found by taking the number of Iridium channels (6) times the number of Iridium spot beams (3), for a resulting number of 18.

3.0 Interference Assessments

Using the above parameters, an analysis can be made of potential Iridium handset interference into the Globalstar satellite receiver. Globalstar has stated that it has allocated an amount of external interference equal to a 3% rise in its overall noise and interference density floor. In other words, external interference sources may contribute a 3% increase to Globalstar's overall noise and interference density floor.

The interference budget below in Table B shows that Iridium, even under maximum loading assumptions, introduces a very small amount of interference into Globalstar satellites: a 1.1% rise in Globalstar's noise and interference density. The Table shows that Globalstar's noise and interference density is dominated by self interference, which exceeds the noise floor density by nearly 9 dB.

TABLE B

	Value	Units
Frequency	1620	MHz
Iridium handset burst EIRP	8.5	dBW
Iridium timeslot per frame time average	-10.4	dB
Voice activity factor	-4.0	dB
Power control (typical)	-4	dB
Single Iridium handset average EIRP	-9.9	dBW
Average number of Iridium beams in a Globalstar beam	3	
Number of Iridium channels in a Globalstar 1.23 MHz channel	18	
Aggregate Iridium EIRP	**2.7**	**dBW**
Typical slant range to Globalstar satellite at 40º elevation	1952	km
Path loss	162.4	dB
Globalstar spot beam antenna gain	14.6	dBi
Cross-polarization isolation	-6	dB
Received Iridium interference level at Globalstar satellite	-151.1	dBW
Received interference density	**-212.0**	**dBW/Hz**
Typical Globalstar self interference density[1]	-193	dBW/Hz
Typical Globalstar self interference plus thermal noise density[1]	-192.485	dBW/Hz
Allowable Globalstar % degradation due to external interference[1]	3	%
Allowable external interference (for 3% degradation of self-interference plus noise)[1]	-192.357	dBW/Hz
Total interference (Globalstar self interference plus Iridium interference) and noise density	-192.437	dBW/Hz
Actual degradation (due to Iridium interference) in self-interference plus noise	**1.1**	**%**

[1]Globalstar self interference and noise density figures taken from *Comments of Globalstar LLC*, delivered to FCC (IB Docket No. 02-364), September 8, 2004.

This analysis shows that there are a maximum of 18 possible Iridium terminals within a Globalstar spot beam (per 1.23 MHz channel). Globalstar has stated in the public record that it can support up to 60 users per spot beam, per channel. Therefore, one can

assume that if the 1610.85-1620.1 MHz band ("Channel 8") or the 1620.1-1621.35 MHz band ("Channel 9") were being used exclusively by Globalstar, that each of these channels would be supporting 3 to 4 times the number of user terminals than Iridium terminals support, with each Globalstar terminal providing a received signal level at least 6 dB higher than an Iridium terminal.

The results of the above analyses indicate that there will be no capacity loss to Globalstar, and that there will be negligible interference from the co-frequency operation of the Iridium system. Therefore, the two networks may share equal amounts of spectrum .

4. Coordination Agreement

On the basis of the assumptions in section 2.0 and the analyses presented in section 3.0 above, Iridium Systems and Globalstar agree that the shared 3.1 MHz of spectrum, 1618.25-1621.35 MHz, which has been designated as available for use on an equal basis in their FCC licenses, can be used together and each will so notify the FCC of this successful result.

In the event that the Iridium system was to experience measured unacceptable levels of interference from Globalstar, Iridium shall immediately contact XXX who will immediately examine and correct the problem. Also, if the Globalstar system was to experience measured unacceptable levels of interference from the Iridium system, this is to be reported to XXXXXX , the Chief Technical Officer of Iridium Systems LLC.

For Globalstar	For Iridium Systems LLC