



International Bureau

Federal Communications Commission
Washington, DC 20554

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November 21, 2003

R. Michael Senkowski
Wiley Rein & Fielding LLP
Counsel for Iridium Satellite, LLC
1776 K Street, N.W.
Washington, DC 20006

Re: Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite
Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, IB Docket
No. 02-364 – Request for Additional Information

Dear Mr. Senkowski:

Iridium Satellite, LLC (Iridium) has filed comments in response to the Notice of Proposed Rulemaking (NPRM) in the above-referenced proceeding. As part of our consideration of this matter, we request from Iridium the following additional information:

1. An explanation of how, from a technical, system-engineering perspective, access to additional spectrum in the United States supports an increase in Iridium system capacity for services provided in other geographic areas. Can the Iridium system use different frequency assignments over different geographic areas? If not, what modifications to the Iridium system would be necessary to permit use of different frequency assignments over different geographic areas?
2. Given that Iridium has a bidirectional-system, how does Iridium plan to provide protection to the Radio Astronomy Service if Iridium were to receive 10.5 MHz of MSS spectrum in the 1.6 GHz band?
3. In the Technical Annex of its May 8, 2003 letter,¹ Iridium provided information on a number of bench-mark user terminals. These terminals were referred to as "Autodialers" in Table Attachment 5. Specifically, the annex listed the number of monthly transmissions and the percentage of successful monthly transmissions for the following Autodialers "Virginia to DoD" and "Australia to Tempe." Please provide the daily values of the same two numbers (the number of daily transmissions and

¹ Letter from Peter Shields to Thomas Tycz dated May 8, 2003, responding to Globalstar's opposition of continuing STA for Iridium (May 8 *Ex Parte* Letter).

We request that Iridium respond to this request within twenty days of the date of this letter so the record in the above-referenced proceeding can be updated and more complete. We appreciate your help in this matter. Please contact Paul Locke (202-418-0756) of my office if you have any questions concerning this request.

Sincerely,

/Signed James L. Ball/

James L. Ball
Chief, Policy Division
International Bureau

either the number of successful daily transmissions or the percentage of successful daily transmissions) for these Autodialers from March 15, 2003 to May 30, 2003.

4. Please provide the same information as provided in Attachment 3 of the May 8 *Ex Parte* Letter for satellites with more than 150 connections. In the same attachment, Iridium mentioned that "each satellite randomly assigns channels to spot beams." Does this mean that the Iridium system can distribute channels throughout the entire system? If not, please explain the meaning of this statement. How does Iridium reuse its frequency channels in this situation? How is the gateway used to assign frequencies for subscriber use in this scenario?
5. Please provide estimates of your total number of paying subscribers in: January 2001, January 2002, January 2003 and September 2003 and of the number of paying US subscribers for the same dates.
6. With respect to the following Iridium system technical parameters: (1) FDMA channel spacing, (2) TDMA duplex timeslots, (3) frequency reuse factor, and (4) required guard band, have there been any changes from those values given on pages 46 and 47 of Motorola's Report on Band Segmentation and Sharing in the Report of MSS Above 1 GHz Negotiated Rule Making, dated April 6, 1993? If so, please provide any new values for these parameters along with an explanation of the reason for the change.
7. How many simultaneous satellite calls can Iridium handle for CONUS, for the Middle East, and for all satellites?
8. How does Iridium control the volume of uplink user traffic when all, or nearly all, TDMA time slots have been filled for a particular satellite? Was this volume control in place prior to April 7, 2003? Was this volume control in place after April 11, 2003?
9. What are the maximum inter-satellite data rates between an Iridium satellite and its co-plane satellites and adjacent-plane satellites?
10. What percentage of time are intersatellite links available for adjacent-plane satellites?
11. What are the maximum satellite-to-gateway earth station data rates in both the uplink and downlink directions from a single satellite?
12. How many operational antennas are at the Tempe and Hawaii gateways?
13. How many active gateways does Iridium have? That is, are the gateways in Tempe, AZ and Hawaii gateways the only active gateways?
14. How many simultaneous calls can each of the gateways handle?