



1776 K STREET NW  
WASHINGTON, DC 20006  
PHONE 202.719.7000  
FAX 202.719.7049

7925 JONES BRANCH DRIVE  
McLEAN, VA 22102  
PHONE 703.905.2800  
FAX 703.905.2820

www.wileyrein.com

March 25, 2011

Jennifer D. Hindin  
202.719.4975  
jhindin@wileyrein.com

**VIA ELECTRONIC DELIVERY**

Roderick Porter  
Deputy Chief, International Bureau  
Federal Communications Commission  
445 12th Street, S.W.  
Washington, D.C. 20554

L. Barbee Ponder  
General Counsel & Vice President Regulatory Affairs  
300 Holiday Square Boulevard  
Covington, LA 70433

Re: Iridium Satellite LLC  
File # SAT-STA-20110311-00052

Dear Mr. Porter and Mr. Ponder:

Iridium Satellite LLC (“Iridium”), by its attorneys, opposes Globalstar, Inc.’s (“Globalstar”) assertion of interference with respect to Iridium’s use of the 1616-1617.775 MHz band.<sup>1</sup> As the Commission is aware, Iridium, with Globalstar’s consent, has been operating under special temporary authority (“STA”) in this additional 1.775 MHz of spectrum to accommodate the increase in demand for voice and data services by emergency response personnel and non-governmental relief organizations following the March 11, 2011 earthquake and tsunami in Japan.<sup>2</sup> Iridium has not caused harmful interference to Globalstar’s operations and has been available for coordination with Globalstar.

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<sup>1</sup> See Letter from L. Barbee Ponder, General Counsel & Vice President Regulatory Affairs, Globalstar, Inc. to Roderick Porter, Deputy Chief, International Bureau, Federal Communications Commission, IBFS File No. SAT-STA-20110311-00052 (filed Mar. 23, 2011) (“Globalstar Letter”).

<sup>2</sup> On March 11, 2011 the Commission granted Iridium STA for testing and operation of its MSS system for a period ending March 18, 2011, in support of relief efforts in Japan. See IBFS File no. SAT-STA-20110311-00052. On March 17, 2011, with Globalstar’s verbal consent, the FCC granted an extension of this STA for an additional period ending March 25, 2011. See IBFS File No. SAT-STA-20110316-00056.

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In its letter, Globalstar asserts that it “has experienced interference while using its IOTE at both the Clifton, Texas and Aussaguel, France gateways.”<sup>3</sup> To support this claim, Globalstar provides various in-orbit testing measurements taken before and after Iridium’s use of the 1616-1617.775 MHz band. These measurements show simply that Iridium is transmitting in the spectrum made available to it by STA and, as would be expected, Globalstar’s gateways have detected those transmissions. Notably, however, the measurements do not show—and Globalstar does not assert—that Iridium’s transmissions are causing *harmful* interference.<sup>4</sup> Iridium’s STA states that Iridium “shall not cause harmful interference to, and shall not claim protection from interference caused to it by, any other lawfully operating satellites.”<sup>5</sup> As explained more fully in the attached Technical Statement of Brandon Hinton, Globalstar has not provided any evidence of harmful interference.

Iridium’s STA indicates that “Iridium shall work with Globalstar to minimize any impact of emergency operations authorized under this grant of STA on the Globalstar network.”<sup>6</sup> Iridium has at all times been available to work with Globalstar to resolve any interference concerns. Globalstar’s request indicates that it detected Iridium’s transmission at least as early as March 17, 2011.<sup>7</sup> However, Globalstar did not contact Iridium with this information. Iridium first learned of the interference concern six days later, on March 23, 2011, during a phone call initiated by Iridium’s counsel to Globalstar to provide notice of Iridium’s intention to seek a further extension of STA. That same day Globalstar filed its letter. Since receiving the letter, Iridium has contacted Globalstar and offered to have Iridium engineers work with Globalstar engineers on this matter.

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<sup>3</sup> Globalstar Letter at 1.

<sup>4</sup> See 47 C.F.R. § 2.1 (Under the Commission’s rules, harmful interference is “[i]nterference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with [the ITU] Radio Regulations.”).

<sup>5</sup> See IBFS File Nos. SAT-STA-20110311-00052, SAT-STA-20110316-00056.

<sup>6</sup> *Id.*

<sup>7</sup> See Globalstar Letter, Attachment at 4.



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Should you have any further questions, please feel free to contact Donna Bethea Murphy of Iridium or me.

Sincerely,

*/s/ Jennifer D. Hindin*

Jennifer D. Hindin  
*Counsel to Iridium Satellite LLC*

cc: Gardner Foster  
Robert Nelson  
Karl Kensinger  
Cassandra Thomas  
Kathryn Medley  
Stephen Duall

## ATTACHMENT

### Engineering Technical Statement

This attachment provides an engineering analysis of the March 23, 2011 letter from Globalstar to the FCC in which claims of interference were made as a result of the recent STA granted to Iridium earlier this month in support of the Japanese earthquake disaster relief effort. This STA allowed Iridium to extend the lower edge of its operational frequency band from 1617.775 MHz to 1616.0 MHz, which does overlap Globalstar system channels 5 and 6.

The Globalstar letter included an attached briefing providing a summary description, supported by technical measurements, of Iridium interference into Globalstar satellites as a result of increased Iridium activity following the grant of the STA. Observations and measurements were made prior to and after the STA, at various locations around the world. These measurements appear to indicate that after the STA was enacted, an increase in RF emissions above 1616.0 MHz occurred and that these emissions appear to be similar in nature to Iridium system emissions.

The information provided by Globalstar, however does not indicate that the emissions observed in the 1616.0 – 1617.775 MHz band can be described as “harmful interference”. All radio systems receive unwanted signals (i.e., “interference”), but this interference is only considered harmful if it significantly degrades a wanted signal. Globalstar have not claimed this, nor shown any data that might support it. One would fully expect to see measurable Iridium emissions in this extended band with use of a spectrum analyzer, as shown in Globalstar’s document. However, the mere occurrence of this energy does not warrant being regarded as “harmful”. After all, Globalstar was designed to accept small amounts of co-frequency, co-regional interference from multiple other systems as part of the original “Big LEO” band plan.

Globalstar refers to Iridium carriers that are “5 to 7 dB higher than Globalstar’s broadband carriers”. This is perfectly normal, given that Globalstar carriers are spread-spectrum in nature: a Globalstar carrier in a 1.25 MHz channel will have an EIRP density about 16dB less than the same power of an Iridium carrier occupying a bandwidth of 33 kHz. Spread-spectrum processing gain in the Globalstar receiver will result in a received signal with a high carrier-to-interference ratio, and remove any artifact of the Iridium signal. Furthermore, the time burst nature of a single Iridium transmission at any point in time has a 10% duty cycle, which effectively reduces the average signal power seen by the Globalstar receiver by 10dB.

Nothing in the Globalstar document seems to identify any impact on the Globalstar link performance. In fact, noting that the FCC mandated shared use of the 1617.775 – 1618.725 MHz band, it is perhaps unsurprising that Globalstar cannot provide any evidence of harmful interference affecting system performance.

In summary, Globalstar has not successfully demonstrated that increased Iridium emissions resulting from the spectrum extension in the granted STA are in any way harmful or negatively impact Globalstar's services or customers.

I hereby certify that I am a technically qualified person and am familiar with Part 25 of the Commission's rules and regulations and the terms and conditions of Iridium's special temporary authorization to use the 1616.0 to 1617.775 MHz band. The contents of this engineering technical statement were prepared by me or under my direct supervision and to the best of my knowledge are complete and accurate.

/s/ *Brandon Hinton*  
Brandon Hinton  
ITT Corporation

March 25, 2011  
Date