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April 17, 2015

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**VIA ELECTRONIC FILING**

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 Twelfth Street, N.W.  
Washington, D.C. 20554

Re: Iridium Constellation LLC Petition for Rulemaking  
RM-11697; RM-11685; IB Docket No. 13-213

Dear Ms. Dortch:

Throughout this proceeding, Iridium Constellation LLC (“Iridium”) has attempted to develop solutions for its pressing spectrum needs that avoid harm to Globalstar LLC’s (“Globalstar”) current or future operations. As a result of the International Bureau’s constructive efforts to bring the parties together for discussions of their respective operational circumstances, Iridium is now submitting an elegant solution to the spectrum conundrum that neither takes spectrum away from Globalstar nor impairs Globalstar’s ability to pursue its Terrestrial Low Power Service (“TLPS”) or Big LEO MSS plans. Moreover, the approach outlined below also addresses any lingering concerns about (1) unexpected interference during peak system uses during rare and unpredictable natural or manmade disaster; and, (2) the effects on radioastronomy of Globalstar concentrating its traffic in the lower band channels.

Specifically, Iridium submits that actions based on the following framework will promote competition, result in efficient use of spectrum and benefit the public by enabling continued and improved Big LEO MSS:

*First*, the record before the Commission shows that Iridium can share additional 1.6 GHz Band spectrum without causing harm to Globalstar. Since sharing addresses Iridium’s spectrum needs, it is not necessary now to pursue a reassignment of spectrum from Globalstar for Iridium’s exclusive use. Accordingly, Iridium is proposing to only pursue sharing of the 1616-1618.725 MHz band at this time.

*Second*, to allay any concerns about interference during simultaneous peak uses by both Big LEO MSS systems, Iridium and Globalstar would be required to engage in active and direct operational coordination in the unlikely circumstances that it might be needed. To the extent that the coordination cannot be resolved in a mutually

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acceptable outcome, the International Bureau would be engaged to resolve such issues should they actually arise.

*Third*, some representatives of the radioastronomy service (“RAS”) expressed concerns that Iridium’s proposal for reallocation of 1616-1618.725 MHz would result in Globalstar increasing traffic in spectrum closer to bands they use. By withdrawing the exclusive spectrum proposal, Iridium has mooted this alleged problem. In addition, Iridium already has coordinated its current-generation satellite system with radio astronomers in the U.S. and is actively coordinating its next-generation satellite systems. Iridium is committed to continuing these processes, and any issues associated with sharing of 1616-1618.725 MHz can be resolved in the appropriate coordination contexts.

\* \* \*

**Background.** In its May 5, 2014 Supplemental Comments, to address concerns raised by Globalstar related to Iridium’s Petition for Rulemaking seeking a moderate expansion of spectrum access in the 1.6 GHz Big LEO MSS band,<sup>1</sup> Iridium requested that the Commission designate the 1616-1617.5 MHz portion of the Big LEO MSS band for shared use between Iridium and Globalstar and assign the 1617.5-1618.725 MHz spectrum (which includes 0.95 MHz of currently shared spectrum) exclusively to Iridium.<sup>2</sup> Subsequent to that proposal, the Commission’s International Bureau convened a series of meetings between the Big LEO MSS operators, which were followed by substantive filings and engineering analyses addressing the merits of the proposal.<sup>3</sup> The evidence compiled on the record in this proceeding demonstrates that Globalstar and Iridium currently are sharing heavily used spectrum without Globalstar detecting any Iridium signal, let alone experiencing harmful interference from Iridium; that Iridium can immediately make use of expanded sharing to fulfill existing and future demand for its services; and

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<sup>1</sup> Iridium Constellation LLC, Petition for Rulemaking, RM-11697 (filed Feb. 11, 2013).

<sup>2</sup> Supplemental Comments of Iridium Constellation LLC, RM-11697, IB Docket No. 13-213, RM-11685 (filed May 5, 2014) (“Iridium May 5, 2014 Supplemental Comments”).

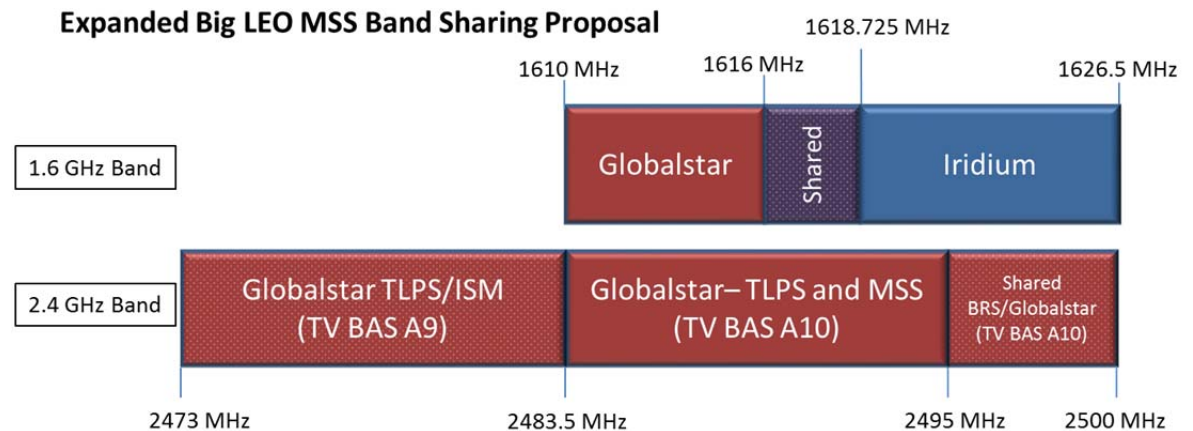
<sup>3</sup> See, e.g., Letter from R. Michael Senkowski, Counsel to Iridium, to Marlene H. Dortch, Secretary, Federal Communications Commission, RM-11685, RM-11697, IB Docket No. 13-213 (filed Feb. 5, 2015) (“Iridium Feb. 5, 2015 Letter”); Letter from Regina M. Keeney, Counsel to Globalstar, to Marlene H. Dortch, Secretary, Federal Communications Commission, RM-11697 (filed Jan. 14, 2015) (“Globalstar Jan. 14, 2015 Letter”); Supplemental Comments of Iridium Constellation LLC, RM-11697, IB Docket No. 13-213, RM-11685 (filed Nov. 5, 2014) (“Iridium Nov. 5, 2014 Supplemental Comments”); Letter from Nancy J. Victory to Marlene H. Dortch, RM-11697, IB Docket No. 13-213, RM-11685 (Oct. 20, 2014).

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that the risks of interference, in the unlikely event that it should occur, are borne by Iridium and not Globalstar.

In light of this record, Iridium hereby revises its spectrum proposal, to withdraw without prejudice its request for additional exclusive 1.6 GHz Big LEO MSS spectrum at this time. Below, Iridium discusses three main features of this framework: expanded spectrum sharing, direct operator-to-operator coordination with Globalstar during times of peak usage, and continued engagement with the radioastronomy service (“RAS”) community in appropriate venues.

**Expanded Spectrum Sharing.** As illustrated below, Iridium now requests only that the Commission expand the segment of the Lower Big LEO MSS band currently shared by the operators down to 1616 MHz. Per this proposal, Iridium and Globalstar would have shared access to the spectrum at 1616-1618.725 MHz, and Iridium’s exclusive spectrum assignment at 1618.725-1626.5 MHz would remain unchanged.



This revision to Iridium’s proposal addresses Iridium’s spectrum needs without increased detrimental impact to Globalstar. Indeed, the proposal takes no spectrum away from Globalstar and does not harm its ability to pursue its TLPS or Big LEO MSS plans. Moreover, Globalstar would retain its significant spectrum advantage over Iridium, continuing to have access to over 25 MHz of spectrum (nearly 36 MHz, if you count the 2.4 GHz ISM spectrum to which Globalstar seeks access through its TLPS proposal) paired across the 1.6 GHz and 2.4 GHz band, compared to only 10.5 MHz of unpaired spectrum for Iridium (of which more than a quarter will be shared with Globalstar). As Iridium explained previously, the “power

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robbing” impact on satellite capacity asserted for the first time by Globalstar in its January 14, 2015 filing, if it exists at all, was explained by Globalstar’s consultant to result from a design flaw of Globalstar’s system, which receives and repeats the entire Lower Big LEO MSS passband—as such, the problem exists regardless of whether Iridium gets access to additional spectrum, and increased sharing would have no additional impact.<sup>4</sup> The expanded sharing would, however, give Iridium access to an important incremental infusion of additional spectrum, which it could use immediately to improve the capacity, stability, and performance of its current generation system, and expand the range of advanced voice and data services that will be offered over Iridium NEXT.

***Coordination with Globalstar.*** Iridium is confident that this expanded sharing can occur with no additional harmful interference being experienced by either operator, as the evidence in this proceeding demonstrates that the operators have shared heavily-used spectrum in the past, and continue to do so today, without a problem. However, to allay any concerns that might be raised about the potential for harmful interference at rare, isolated and time limited events, Iridium commits to engaging in any needed direct operator-to-operator coordination of the use of the shared spectrum at times and locations of simultaneous peak usage, such as natural and man-made disasters and other emergencies. Coordination can occur directly between the two operators, pursuant to well-established practices that have been employed successfully in shared bands for decades. To the extent that the coordination cannot be resolved in a mutually acceptable outcome, either party can engage the International Bureau, which is amply qualified and capable of resolving such issues, should they actually arise.

***RAS Concerns.*** Finally, the National Radio Astronomy Observatory (“NRAO”) raised concerns about the potential RAS impacts of Iridium’s proposal due to concentration of Globalstar’s operations in a smaller band segment and the introduction of Iridium operations lower in the 1.6 GHz band.<sup>5</sup> However, by withdrawing without prejudice the request for an exclusive allocation of additional spectrum, Iridium has now mooted any concerns about an increased potential for harmful interference to radioastronomy services as a result of additional Globalstar traffic being placed in the lower portion of its 1.6 GHz band assignment—Globalstar’s operations will be spread across the same spectrum they are today.

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<sup>4</sup> Iridium Feb. 5, 2015 Letter 13-14.

<sup>5</sup> Letter from Harvey S. Liszt, Scientist and Spectrum Manager, NRAO, RM-11697 (Oct. 21, 2014); *see also* Globalstar Jan. 14, 2015 Letter at 3 n.9, 4-5.



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And for its part, Iridium has mutual coordination agreements with radio astronomers in the US since beginning operations in 1998. Iridium also regularly engages with RAS operators in the U.S. and abroad to discuss Iridium NEXT-RAS interaction. Iridium is committed to continuing these efforts to coexist with RAS, and looks forward to addressing any concerns regarding the expanded spectrum sharing in the appropriate coordination contexts.

To conclude, the voluminous record in this proceeding has demonstrated that it would serve the public interest to grant Iridium access to additional spectrum in the 1.6 GHz Big LEO MSS band. With the revision of its spectrum proposal articulated above, Iridium has addressed any legitimate concern regarding its proposal. As such, the Commission should promptly take steps to expand the 1.6 GHz Big LEO MSS band segment shared between Iridium and Globalstar to 1616-1618.725 MHz.

Respectfully Submitted,

/s/ R. Michael Senkowski  
R. Michael Senkowski  
*Counsel to Iridium Constellation LLC*