

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554**

Received & Indexed  
DEC - 17 2008

In the Matter of	)	FCC Mail Room
	)	
Globalstar Licensee LLC	)	Call Sign S2115
GUSA Licensee LLC	)	Call Sign E970381
	)	
Iridium Constellation LLC	)	Call Sign S2110
	)	
Iridium Satellite LLC	)	Call Sign E960132
Iridium Carrier Services	)	Call Sign E960622
	)	
Modification of Authority to Operate a	)	
Mobile Satellite System in the 1.6 GHz	)	
Frequency Band	)	

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**OPPOSITION OF IRIDIUM SATELLITE LLC TO PETITION FOR  
RECONSIDERATION OF GLOBALSTAR INC.**

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**I. INTRODUCTION**

Iridium Satellite LLC (“Iridium”), by its attorneys and pursuant to 47 C.F.R. § 1.106(g), files this opposition to the Petition for Reconsideration of Globalstar Licensee LLC and GUSA Licensee LLC, dated November 14, 2008.<sup>1</sup> On November 9, 2007, the Commission released the *Reconsideration Order* in IB Docket No. 02-364 that set out a new plan for redistributing the electromagnetic spectrum allotted for Big LEO Mobile Satellite Service (“MSS”) providers by modifying the frequencies on which they may operate in both their U.S.-market FCC-licensed earth stations and their FCC-licensed satellite space stations.<sup>2</sup> In its original reassignment order,

<sup>1</sup> See *Globalstar Licensee LLC, GUSA Licensee LLC, Iridium Constellation LLC, Iridium Satellite LLC, Iridium Carrier Services, Modification of Authority to Operate a Mobile Satellite System in the 1.6 GHz Frequency Band, Call Sign S2115, Call Sign E970381, Call Sign S2110, Call Sign E960132, Call Sign E960622, Petition for Reconsideration of Globalstar Licensee LLC and GUSA Licensee LLC* (filed Nov. 14, 2008) (“Petition”). For purposes of this filing, Globalstar Licensee LLC and GUSA Licensee LLC are referred to collectively as “Globalstar.”

<sup>2</sup> *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, Second Order on Reconsideration, 22 FCC Rcd 19733 (2007)* (“*Reconsideration Order*”)

the Commission concluded that Iridium's demonstrated need for additional spectrum could be accommodated by allocating certain spectrum for use by both Globalstar and Iridium on a shared, co-primary basis.<sup>3</sup> However, after considering additional information submitted by Globalstar in a petition for reconsideration, the Commission determined that co-primary spectrum sharing between the two MSS providers (Iridium and Globalstar) becomes more difficult as the two systems approach full loading and thus was not an appropriate long-term solution to addressing Iridium's need for additional spectrum.<sup>4</sup> To accommodate claimed technical concerns related to Globalstar's system, however, the Commission retained a sharing approach for a small amount of spectrum—0.95 MHz. Globalstar appealed the *Reconsideration Order*, and this appeal is currently pending in the D.C. Circuit.

On May 7, 2008, the Commission released an *Order Proposing Modifications*, in order to effectuate by license modifications the spectrum reassignment established in the *Reconsideration Order*.<sup>5</sup> After considering Globalstar's Protest, which urged that the license modifications should have only a domestic effect, the Commission released the *Modification Order* on October 15, 2008, specifically explaining that the license modifications apply to Globalstar's and

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<sup>3</sup> *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, Report and Order, 19 FCC Rcd 13356 (2004) (“*Sharing Order*”).

<sup>4</sup> *Reconsideration Order*, 22 FCC Rcd at 19740 (¶ 15).

<sup>5</sup> *Globalstar Licensee LLC, GUSA Licensee LLC, Iridium Constellation LLC, Iridium Satellite LLC, Iridium Carrier Services, Modification of Authority to Operate a Mobile Satellite System in the 1.6 GHz Frequency Band*, Call Sign S2115, Call Sign E970381, Call Sign S2110, Call Sign E960132, Call Sign E960622, *Order Proposing Modifications*, 23 FCC Rcd 7984 (2008) (“*Order Proposing Modifications*”).

Iridium's "global space station operations."<sup>6</sup> Globalstar now purports to seek reconsideration of the *Modification Order*.

## II. SUMMARY

Globalstar's Petition for Reconsideration should be summarily denied, as it is procedurally defective in two significant respects. *First*, the Petition at its core is an untimely request for reconsideration of two central components of the spectrum reassignment in the *Reconsideration Order*—the worldwide effect of that reassignment, as it concerns space station authorizations, and the requirement that 0.95 MHz of the spectrum be shared. Under 47 U.S.C. § 405, any petition for reconsideration of the *Reconsideration Order* should have been brought, if at all, within thirty days of public notice of the order, a deadline that passed ten months ago. Globalstar may not evade that statutory deadline by now challenging the *Modification Order*, as this order is little more than a ministerial action giving effect to the spectrum assignment.

*Second*, Globalstar has offered nothing more than recycled arguments that were rejected by the Commission in the *Modification Order* and an untimely argument that it could have raised in its Protest. The FCC has, time and again, refused to consider similarly deficient petitions for reconsideration and should similarly do so here.

Even absent these fatal threshold defects, however, Globalstar's Petition should still be denied. Contrary to Globalstar's assertion, the Commission did not depart from longstanding policy or precedent in the *Modification Order*, but simply followed its consistent practice of managing and coordinating the transmissions from U.S.-licensed space stations to earth stations

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<sup>6</sup> *Globalstar Licensee LLC, GUSA Licensee LLC, Iridium Constellation LLC, Iridium Satellite LLC, Iridium Carrier Services, Modification of Authority to Operate a Mobile Satellite System in the 1.6 GHz Frequency Band*, Call Sign S2115, Call Sign E970381, Call Sign S2110, Call Sign E960132, Call Sign E960622, Order of Modifications, FCC 08-248, 2008 WL 4601493 (¶ 1) (rel. Oct. 15, 2008) (emphasis added) ("*Modification Order*").

located within or outside the United States. Globalstar produces no precedent or policy that supports its position. Nor could it, as its contention that the FCC lacks authority over the operations of space stations outside the territory of the United States would render the Commission—absurdly—without authority over *any* space stations whatsoever.

Moreover, Globalstar's challenge to the *Modification Order's* "interference prevention" rationale is premised on the false assertion that the FCC has concluded that spectrum sharing between Globalstar and Iridium is flatly impossible. The Commission has not reached that conclusion; instead, it has found, based in part on evidence that Globalstar itself submitted, that co-primary sharing of Big LEO spectrum between Globalstar and Iridium becomes more difficult as the systems approach full load and thus is not an appropriate long-term solution to Iridium's need for additional spectrum. ~~However, if Globalstar believes that a limited amount of spectrum sharing, originally designed to protect its system, is either unnecessary or untenable, the Commission should simply return half of that spectrum to each systems' exclusive use.~~

Finally, Globalstar's further request for a hearing is no more than an assertion of disagreement with the FCC's conclusion in the *Modification Order*. Globalstar does not show any material error or omission in the *Modification Order* or raise additional facts not known before. Globalstar's only contention is that the Commission failed to consider the potential harm of spectrum reassignment to Globalstar and its customers, but the agency did do so and even assumed Globalstar's worst-case scenario to be true.

Accordingly, the Commission should deny the Petition.

### III. GLOBALSTAR'S PETITION FOR RECONSIDERATION MUST BE SUMMARILY DENIED.

#### A. Section 405 Precludes Consideration of Globalstar's Untimely Attack on the Reconsideration Order.

Under 47 U.S.C. § 405(a), a “petition for reconsideration must be filed within thirty days from the date upon which public notice is given of the order, decision, report, or action complained of.”<sup>7</sup> A party cannot evade the statutory deadline for a petition for reconsideration simply by disguising the true nature of its pleading.<sup>8</sup> While Globalstar frames its filing as a petition for reconsideration of the *Modification Order*, the heart of the Petition is in fact an attack on two aspects of the Big LEO spectrum reassignment established in the *Reconsideration Order*—the worldwide effect of the space station portion of that reassignment<sup>9</sup> and the requirement that 0.95 MHz of the spectrum be shared.<sup>10</sup> Because Globalstar's filing is in reality a request that the FCC reconsider central aspects of the *Reconsideration Order*, it is required to have been filed no later than January 14, 2008.<sup>11</sup> As the request is now ten months late, it is untimely and should be summarily denied.

It is plain that both the international impact of the FCC's reassignment of spectrum for space station use and the requirement that 0.95 MHz of spectrum be shared flow from the policy

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<sup>7</sup> 47 U.S.C. § 405(a); *see also* 47 C.F.R. § 1.106(f).

<sup>8</sup> *See, e.g., In re MCI Telecommunications Corp.*, 3 FCC Rcd 3155, 3155 (¶ 2) (1988) (refusing to consider the aspects of a petition for revocation of authority that were in fact “in the nature of an untimely petition for reconsideration” of a prior Commission decision).

<sup>9</sup> Petition 2 (arguing that “the Commission should rescind the *Modification Order* insofar as it restricts Globalstar's global space station operations”).

<sup>10</sup> *Id.* at 10-13.

<sup>11</sup> Pursuant to 47 C.F.R. § 1.4(b)(1), a petition for reconsideration of the *Reconsideration Order* was due thirty days from the date on which the order was published in the Federal Register—December 13, 2007. *See Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, 72 Fed. Reg. 70807 (Dec. 13, 2007) (to be codified at 47 C.F.R. pt. 25).

decisions made by the Commission in the *Reconsideration Order*, not from the ministerial implementation of these decisions in the *Modification Order*. First, when the Commission ordered the reassignment of Big LEO spectrum for space station use in the *Reconsideration Order*, it was an evident and natural consequence that this reassignment would have a global effect. As the agency noted in the *Modification Order*, it is and was “well-settled” that, outside the United States, FCC-licensed Big LEO space stations must operate in conformance with the specific frequencies authorized by the FCC and have done so “since they began service in the 1990s.”<sup>12</sup> Indeed, in the 2003 notice of proposed rulemaking that ultimately resulted in the *Reconsideration Order*, the Commission gave express notice that any spectrum reassignment would have global effect. Specifically, the agency sought comment “on how the U.S. Big LEO spectrum-sharing plan fits with international band plans for Big LEO operations and what impact changes to the U.S. plan would have on plans in other regions.”<sup>13</sup>

Moreover, due to the nature of Iridium’s system, which is designed to provide service coverage throughout the world rather than being sectorized by geographic region, any change in spectrum use by or assignment to Iridium would, as a practical and inevitable matter, occur worldwide. As Globalstar itself explained to the Commission on several occasions, because “the Iridium system is not currently able to assign frequencies based on geographic location,” “any decision by the Commission to grant Iridium the use of [additional spectrum] would have the effect . . . of permitting Iridium to operate in those channels anywhere in the world that Iridium

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<sup>12</sup> *Modification Order* ¶¶ 13-14. Thus, as the Commission observed in the *Modification Order*, Iridium was required in 2003 to seek special temporary authority from the FCC before using additional spectrum in the Middle East. *See id.* ¶ 16.

<sup>13</sup> *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, Report and Order and Notice of Proposed Rulemaking, 18 FCC Rcd 1962, 2090 (¶ 270) (2003).



subscribers may find themselves.”<sup>14</sup> Thus, soon after the *Reconsideration Order* was issued, Globalstar submitted a working paper to the European Conference of Postal and Telecommunications Administrations in which it explained that the FCC’s change in spectrum assignment had an inescapable global effect.<sup>15</sup>

*Second*, the requirement that Globalstar and Iridium share 0.95 MHz of Big LEO spectrum was, on its face, an explicit directive of the *Reconsideration Order*.<sup>16</sup> Globalstar acknowledges as much, as it is currently challenging this aspect of the *Reconsideration Order* in its pending case in the D.C. Circuit. In fact, Globalstar’s argument here is indistinguishable from the argument it already is making to the D.C. Circuit in challenging the *Reconsideration Order*—specifically, that the requirement that Globalstar and Iridium share 0.95 MHz of spectrum is inconsistent with the notion that spectrum sharing by the two parties could cause harmful interference.<sup>17</sup>

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<sup>14</sup> Comments of Globalstar Canada, Co. at 2, IB Docket No. 02-364 (filed July 11, 2003); *see also* Joint Reply Comments of L/Q Licensee, Inc., Globalstar, L.P. and Globalstar USA, L.L.C. at ii, iii, 21, 25, IB Docket No. 02-364 (filed July 25, 2003); Letter from William T. Lake, Counsel to Globalstar, Inc., to Marlene H. Dortch, Secretary, FCC, at 3 n.10, IB No. 02-364 (Sept. 21, 2006).

<sup>15</sup> Globalstar, Requirement for a TDMA/CDMA Band Segmentation Plan and Provision for Implementation of a Complementary Ground Component in the New ECC Decision for the 1.6/2.4 GHz Bands at 2, FM44(07)35, 5th Meeting of the FM PT44, Copenhagen, 6-7 December 2007 (Nov. 29, 2007) (noting “the inability of the Iridium system to differentiate spectrum assignments on a regional basis”) (attached as Exhibit A); *see also* Globalstar, Outcome of Consultations Between Iridium and Globalstar on Band Segmentation in the 1.6 GHz Band as Requested by WGFM, FM44(07)34, 5th Meeting of the FM PT44, Copenhagen, 6-7 December 2007 (Nov. 29, 2007) (attached as Exhibit B).

<sup>16</sup> *See Reconsideration Order*, 22 FCC Rcd at 19741 (¶ 18).

<sup>17</sup> *Compare* Petition 13 (“The order fails to explain why coordination is possible for th[e] 0.95 MHz—as it also presumably was when the Commission ordered the companies to share 3.1 MHz of the band in 2004—but is not possible to accommodate differences in national Big LEO band plans.”), *with* Brief for Petitioner Globalstar, Inc. at 34-35, No. 08-1046 (D.C. Cir. filed Sept. 17, 2008) (“The FCC’s suggestion that the infeasibility of sharing supports its reassignment order is also undermined by the agency’s concurrent decision to require the parties to share 0.95 MHz of spectrum. . . . The *Reassignment Order* does not even attempt to explain why such

Globalstar's opportunity to request reconsideration of these two aspects of the Big LEO spectrum reassignment established in the *Reconsideration Order* has long passed. Indeed, rather than file a timely petition to reconsider the order, Globalstar chose instead to seek review of the Commission's decision in the D.C. Circuit.<sup>18</sup> Although it is black-letter law that "a party may not simultaneously seek both agency reconsideration and judicial review of an agency's order,"<sup>19</sup> that is precisely the goal of Globalstar's current Petition—to attack central components of the *Reconsideration Order* simultaneously before both the D.C. Circuit and the FCC.

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It is no answer to assert that these aspects of the spectrum reassignment decision may now be properly challenged as components of the license modification in the *Modification Order*. The license modification is merely a ministerial act giving effect to the spectrum reassignment, and therefore the sole basis for challenging the *Modification Order* on reconsideration would be if that order did not properly implement the policy decisions made in the *Reconsideration Order*. However, the international implications of the reassignment of Big LEO spectrum and the requirement to share 0.95 MHz of spectrum cannot be regarded as mistakes in the implementation of the *Reconsideration Order*—indeed, both would be necessary features of any order designed to effectuate the policy decisions of the *Reconsideration Order*. Substantive challenges to the policy choices involved in the spectrum reassignment, such as those made here by Globalstar, should have been brought, if at all, against the order promulgating that reassignment, namely the *Reconsideration Order*. Globalstar's request for reconsideration of the *Modification Order* thus constitutes nothing more than an "indirect

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coordination is feasible for the spectrum it orders to be shared but not for the spectrum it assigns to Iridium.").

<sup>18</sup> See Petition for Review, No. 08-1046 (filed D.C. Cir. Feb. 5, 2008).

<sup>19</sup> *Wade v. FCC*, 986 F.2d 1433, 1433 (D.C. Cir. 1993) (per curiam).

challenge[] to [a] Commission decision[] adopted in proceedings in which the right to review has expired,” and it therefore should be “considered [an] impermissible collateral attack[] and . . . properly denied.”<sup>20</sup>

**B. The Petition for Reconsideration Simply Restates Globalstar’s Previous Claims and, Contrary to the Commission’s Rules, Presents No New Arguments or Facts Not Known Before.**

Even if Globalstar’s Petition were properly directed toward the *Modification Order*, rather than the *Reconsideration Order*, the Petition is procedurally defective. As the Commission has often explained, “[r]econsideration is appropriate only where the petitioner either shows a material error or omission in the original order or raises additional facts not known or existing until after the petitioner’s last opportunity to present such matters.”<sup>21</sup> Thus, a petition for reconsideration will be considered only “if [it presents] arguments and facts [that] could not have been known at the time of the last opportunity for submission.”<sup>22</sup> By contrast, “[a] petition for reconsideration that reiterates arguments that were previously considered and rejected will be denied.”<sup>23</sup> Indeed, the Commission has previously rejected petitions for reconsideration where the party “presented no new evidence that would cause [the agency] to reconsider [its] prior determinations”<sup>24</sup> and where the party “largely re-argue[d] the issues that it

<sup>20</sup> *Syntax-Brilliant Corp.*, 23 FCC Rcd 6323, 6331 (¶ 17) (2008).

<sup>21</sup> *General Motors Corp. and Hughes Electronics Corp.*, 23 FCC Rcd 3131, 3132 (¶ 4) (2008); accord *One Mart Corp.*, 23 FCC Rcd 9910, 9911 (¶ 5) (2008).

<sup>22</sup> *Investigation of Equal Access Rate Elements Filed Pursuant to Waivers of Part 69*, 3 FCC Rcd 6572, 6572 (¶ 8) (2008).

<sup>23</sup> *One Mart Corp.*, 23 FCC Rcd at 9911 (¶ 5); accord *Implementation of the Telecommunications Act of 1996*, 15 FCC Rcd 1161, 1161 (¶ 1) (2000) (“Because no party raises new arguments that the Commission did not consider previously in this docket, we deny the petitions.”).

<sup>24</sup> *Gen. Motors Corp.*, 23 FCC Rcd at 3135 (¶ 11) (quoting *Lockheed Martin Corp., Assignors, and Intelsat, Ltd., Assignees*, Order on Reconsideration, 18 FCC Rcd 16605, 16612-14 (¶ 10) (2003)).

raised in its Petition to Deny . . . [and that had been] addressed and rejected in the Order.”<sup>25</sup>

Globalstar’s Petition suffers from these failings in that it rehashes issues raised in its Protest that were addressed and rejected in the *Modification Order*, and also raises an argument that could have been made before. For this additional and independent reason, the Petition should be summarily denied.

In its Petition, Globalstar first argues that, under longstanding FCC policy and precedent, any license modification by the Commission should not have a global effect.<sup>26</sup> In making this claim, Globalstar specifically relies on the FCC’s policy underlying Big LEO MSS,<sup>27</sup> alleged Commission precedent,<sup>28</sup> an erroneous understanding of an MSS provider’s authority to construct satellites,<sup>29</sup> and a misreading of a December 2003 order by the FCC’s International Bureau (“IB”).<sup>30</sup>

This argument was considered and rejected by the Commission in the *Modification Order*. Globalstar has not varied the substance of this contention one iota: it made the same incorrect claims about FCC policy and precedent,<sup>31</sup> and all the same constituent parts of the

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<sup>25</sup> *Id.* at 3138 (¶ 20).

<sup>26</sup> Petition 2-10.

<sup>27</sup> *Id.* at 3-5.

<sup>28</sup> *Id.* at 5-7.

<sup>29</sup> *Id.* at 8-9.

<sup>30</sup> *Id.* at 9-10.

<sup>31</sup> See *Globalstar Licensee LLC, GUSA Licensee LLC, Iridium Constellation LLC, Iridium Satellite LLC, Iridium Carrier Services, Modification of Authority to Operate a Mobile Satellite System in the 1.6 GHz Frequency Band, Call Sign S2115, Call Sign E970381, Call Sign S2110, Call Sign E960132, Call Sign E960622, Protest of Globalstar Licensee LLC and GUSA Licensee LLC at 8-19 (filed June 6, 2008) (“Protest”)*.

argument,<sup>32</sup> in its Protest and Reply. In the *Modification Order*, the Commission responded directly to Globalstar's contention that spectrum reassignment should not have an international effect, explaining that it is "well-settled precedent" that "the Commission has always required Big LEO space stations to operate outside the United States in conformance with the authorized operating bands in their licenses."<sup>33</sup> The FCC specifically rejected Globalstar's reading of the IB's December 2003 order,<sup>34</sup> and broadly concluded that Globalstar had not provided "any reason to deviate from the general Commission policy that requires U.S. space station licensees to operate their space stations in a manner consistent with their U.S. licenses, regardless of whether the end user of the communication service is using an earth station subject to the territorial jurisdiction of another country."<sup>35</sup>

Globalstar next argues in its Petition that the Commission incorrectly refused a hearing under section 316<sup>36</sup> and that the waiver process is not a legally sufficient substitute for such a hearing.<sup>37</sup> But these arguments, too, are merely recycled from Globalstar's Protest,<sup>38</sup> and were

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<sup>32</sup> *Id.* at 8-10 (discussing alleged Commission precedent); *id.* at 11 (discussing MSS provider's authority to construct satellites); *id.* at 16-18 (discussing FCC policy underlying Big LEO MSS); *see also Globalstar Licensee LLC, GUSA Licensee LLC, Iridium Constellation LLC, Iridium Satellite LLC, Iridium Carrier Services, Modification of Authority to Operate a Mobile Satellite System in the 1.6 GHz Frequency Band, Call Sign S2115, Call Sign E970381, Call Sign S2110, Call Sign E960132, Call Sign E960622, Reply of Globalstar to Opposition of Iridium at 13-14 (filed June 23, 2008) ("Reply") (discussing December 2003 IB order).*

<sup>33</sup> *Modification Order* ¶ 13.

<sup>34</sup> *Id.* ¶ 23.

<sup>35</sup> *Id.* ¶ 32.

<sup>36</sup> *See* Petition 14-17.

<sup>37</sup> *See id.* at 15, 16-17.

<sup>38</sup> *See* Protest 19-22.

considered and rejected by the Commission in the *Modification Order*.<sup>39</sup> Indeed, Globalstar does not even attempt to contend that the FCC failed to consider its previous arguments and makes clear that it simply disagrees with the Commission's conclusions. Globalstar certainly offers no new evidence or additional facts as a basis for reconsideration.

Only Globalstar's argument about the 0.95 MHz of shared Big LEO spectrum<sup>40</sup> was not previously raised in Globalstar's Protest and, thus, can arguably be considered "new." That alone does not suffice, however, as the FCC has made clear that "new" arguments in a petition for reconsideration must be truly novel: Thus, "[r]econsideration is only appropriate if arguments . . . could not have been known at the time of the last opportunity for submission."<sup>41</sup> For this reason, while Globalstar's argument about the 0.95 MHz of shared Big LEO spectrum is "new" in the sense that it was not directly raised in Globalstar's Protest and disposed of in the *Modification Order*, it is nevertheless just as procedurally defective. There is no question that, as a matter of timing, Globalstar could have raised the argument in its Protest.<sup>42</sup> Accordingly, Globalstar cannot do so now for the first time in a petition for reconsideration.

#### **IV. THE MODIFICATION ORDER WAS CORRECTLY DECIDED.**

Even if the Commission reaches the merits of the arguments in Globalstar's Petition, it should find that the *Modification Order* was correctly decided. As set forth below, Globalstar has failed to demonstrate that the FCC departed from any longstanding policy or precedent. In

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<sup>39</sup> See *Modification Order* ¶¶ 25-31.

<sup>40</sup> Petition 10-14.

<sup>41</sup> *Investigation of Equal Access Rate Elements Filed Pursuant to Waivers of Part 69, 3* FCC Rcd at 6572 (¶ 8).

<sup>42</sup> Indeed, as shown above, any request for reconsideration of the sharing decision should properly have been brought as a petition against the *Reconsideration Order* itself.

addition, Globalstar's challenge to the "interference prevention" rationale is unfounded, and its criticism of the FCC's refusal to grant a hearing under Section 316 is without merit.

**A. The FCC Did Not Depart from Longstanding Policy or Precedent.**

Contrary to Globalstar's assertion, the Commission did not depart from longstanding policy or precedent in the *Modification Order*, but simply followed its consistent practice of requiring U.S.-licensed space stations to obtain spectrum-specific operating authority from the FCC before transmitting from the space station to earth stations located outside the United States. As the Commission explained in a 2001 order, although the ultimate provision of satellite service between space and earth stations will depend on "foreign *earth*-station licensing procedures," the spectral transmission authority of any U.S.-licensed *space* stations is "routinely a matter determined by the FCC."<sup>43</sup> Thus, the Commission, through its International Bureau, has issued many licenses that specifically authorize a U.S.-licensed space station to "operate its . . . satellite" on certain frequencies "for space-to-earth transmissions to earth stations in foreign territory."<sup>44</sup> Of course, foreign jurisdictions exercise precisely the same control over those space stations that they license.

As Iridium explained in its Opposition to Globalstar's Protest, this longstanding approach by the FCC is effectively mandated by international treaties and telecommunications law.<sup>45</sup>

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<sup>43</sup> *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, Memorandum Opinion and Order, 16 FCC Rcd 11464, 11469 (¶ 14) (2001) (emphasis added) ("*Hughes Modification Order*").

<sup>44</sup> *Application by Columbia Communications Corp.*, Order and Authorization, 16 FCC Rcd 4725, 4728 (¶ 14) (IB 2001); see also *Application by Hughes Communications Galaxy, Inc.*, Order and Authorization, 16 FCC Rcd 12627, 12628 (¶ 3) (IB 2001).

<sup>45</sup> *Globalstar Licensee LLC, GUSA Licensee LLC, Iridium Constellation LLC, Iridium Satellite LLC, Iridium Carrier Services, Modification of Authority to Operate a Mobile Satellite System in the 1.6 GHz Frequency Band*, Call Sign S2115, Call Sign E970381, Call Sign S2110,

Under that body of law, every space station must receive authorization to operate from a particular sponsoring administration, and that administration, in turn, has an affirmative duty to police its satellite licensees.<sup>46</sup> The IB similarly explained in October 2003 that “[t]he United States, as the licensing administration for Iridium, is responsible for its global operations in accordance with International Telecommunication Union treaty obligations.”<sup>47</sup> In light of this duty under international law, the only reasonable policy that the Commission can have is one in which U.S.-licensed space stations must obtain operating authority from the FCC before transmitting from the space station to earth stations located outside the United States.

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Thus, the FCC committed no error when it stated in the *Modification Order* that it is “well-settled precedent” that “U.S. Big LEO licensees may provide service in other countries only on frequency bands in which the Commission has given them specific authority to operate.”<sup>48</sup> Indeed, Globalstar does not contest the FCC’s factual assertion that, “since [Big LEO licensees] began service in the 1990s, all Big LEO space station systems, including Globalstar, have operated outside the United States in a manner consistent with the operating bands specified in their U.S. space station licenses *except* upon grant of authority by the Commission to operate in another portion of the band.”<sup>49</sup> It is true that “[c]ountries have full discretion to decide whether to use a U.S.-licensed satellite to provide Big LEO service in their country.”<sup>50</sup>

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Call Sign E960132, Call Sign E960622, Opposition of Iridium Satellite LLC to License Protest of Globalstar Inc. at 16-17 (filed June 16, 2008) (“Opposition”).

<sup>46</sup> *Id.*

<sup>47</sup> *Modification of Licenses Held by Iridium Constellation, LLC and Iridium, US LP*, Order, 18 FCC Rcd 20023, 20028 (¶ 12) (IB 2003) (“October 2003 IB Order”).

<sup>48</sup> *Modification Order* ¶¶ 13, 23.

<sup>49</sup> *Id.* ¶ 14.

<sup>50</sup> *Id.* ¶ 23 n.60.



However, “the U.S.-licensed space station may operate with those earth stations only on those frequency bands authorized for operation in its U.S. license, or on a subset of those frequency bands.”<sup>51</sup>

The allegedly contrary precedents that Globalstar cites in its Petition are, upon inspection, not contrary at all. Globalstar relies primarily on two Big LEO orders from 1994 and 1996, in which the Commission declined to impose “a global band . . . plan”<sup>52</sup> and left “decisions relating to the implementation of Big LEO service within a country’s territory [to] that country’s jurisdiction and control.”<sup>53</sup> Globalstar suggests that, in these statements, the FCC took the position that it had no authority over either space or earth stations outside the United States. Under Globalstar’s reading, however, the FCC would have ceded *all* authority over *any* space stations, because space stations are never within the territory of the United States (or any other sovereign territory). The Commission cannot have intended such an absurd result.

The better reading, as articulated by the International Bureau, is that these statements pertain only to “landing rights, or earth station authorizations,” which reasonably lie within the jurisdiction of the territory in which the earth station is located.<sup>54</sup> In retaining worldwide authority over FCC-licensed space stations, but ceding any authority over foreign earth stations,

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<sup>51</sup> *Id.*

<sup>52</sup> See *Amendment of the Commission’s Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands*, Report and Order, 9 FCC Rcd 5936, 6019 (¶ 213) (1994) (“*Big LEO Report and Order*”); see also *Amendment of the Commission’s Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands*, Memorandum Opinion and Order, 11 FCC Rcd 12861, 12879 (¶ 53) (1996) (declining to give the domestic plan “extraterritorial application”).

<sup>53</sup> *Big LEO Report and Order*, 9 FCC Rcd 5936, 6018 (¶ 211).

<sup>54</sup> *Request for Special Temporary Authority of Iridium Constellation LLC*, Order, 18 FCC Rcd 25814, 25820 (¶ 14) (IB 2003).

the Commission plainly avoids imposing a “global band plan” or dictating the terms of Big LEO “service” in a foreign country. As the IB explained, “[o]ther countries continue to retain the discretion as to whether to allow services within their borders in accordance with the [space station] frequencies [that the Commission has authorized].”<sup>55</sup>

In its vain search for precedent supporting its theory, Globalstar attempts to turn the above-described IB decision to its favor. It asserts that the decision can, “by no stretch of the imagination,” “provide a precedent for [the Commission] forbidding Globalstar to operate in other countries on [certain] spectrum.”<sup>56</sup> In the decision, however, the IB soundly rejects

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Globalstar’s argument that the FCC lacks authority over the transmissions from FCC-licensed space stations to earth stations in foreign territories.<sup>57</sup> Indeed, the IB referred to a previous order in which it rejected “Globalstar’s assertion that the Commission does not have authority to dictate the terms and conditions of Iridium’s authorization to provide service in the Middle East.”<sup>58</sup> Thus, no “stretch” is required to understand why the decision stands for the principle that the Commission may authorize Globalstar’s FCC-licensed space stations to use certain spectrum, and forbid them from using other spectrum, when transmitting, whether that transmission is intended to be received by earth stations in the United States or by earth stations in other countries.

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<sup>55</sup> *Id.*

<sup>56</sup> Petition 10.

<sup>57</sup> *Request for Temporary Authority of Iridium Constellation LLC*, 18 FCC Rcd at 25819 (¶ 13) (finding that Globalstar is “incorrect” in its assertion that the Commission lacks authority to grant Iridium the right to transmit over additional spectrum from its FCC-licensed space stations to earth stations located in the Middle East).

<sup>58</sup> *October 2003 IB Order*, 18 FCC Rcd at 20027 (¶ 11).

In addition to allegedly contrary Commission precedent, Globalstar also contends that its original space station license<sup>59</sup> proves that the FCC once recognized that it did not have authority over the transmissions of U.S.-licensed space stations to foreign countries. Globalstar makes much of the fact that it was authorized to construct space stations capable of operating over a much broader range of frequencies than it was authorized to use.<sup>60</sup> The reasoning behind the broad construction authorization is clearly documented, however, and it has nothing to do with the Commission conceding that its authority over the spectrum usage of U.S.-licensed space stations is somehow limited. Rather, the Commission permitted the *construction* of a satellite system with the ability to use a wide range of frequencies in order to preserve the agency's flexibility in future spectrum assignments.<sup>61</sup> Globalstar attempts to conflate this broad construction authorization with the more limited operational authorization that it and other Big LEO operators must also obtain before transmitting, but this turns the satellite licensing regime on its head. If Globalstar were correct that the FCC was obligated to allow its space stations to operate on each and every frequency that they were capable of operating on, this would transform the FCC's construction authorization process from a source of flexibility into a regulatory straitjacket that prohibited the FCC from reassigning any spectrum once a satellite system had been constructed.<sup>62</sup>

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<sup>59</sup> *In re Application of Loral/Qualcomm Partnership, L.P.*, Order and Authorization, 10 FCC Rcd 3926 (IB 1995).

<sup>60</sup> Petition 8-9.

<sup>61</sup> *See Big LEO Report and Order*, 9 FCC Rcd at 5958-59 (¶ 52); *see also Modification Order* ¶ 5.

<sup>62</sup> It would also have consequences adverse to Globalstar's interests—Iridium was also authorized to construct a satellite system capable of operating on frequencies beyond those that it is currently authorized to use. These frequencies are currently assigned to Globalstar.

Finally, Globalstar additionally suggests that, even if the FCC did not change course on its worldwide authority over U.S.-licensed space stations, it has done so with respect to the underlying policy goals of Big LEO service. Globalstar contends that the Commission's restriction of Globalstar's spectrum worldwide is contrary to the principle that Big LEO MSS service be promoted globally.<sup>63</sup> But just as the FCC did not change course with respect to its authority over U.S.-licensed space stations, it has not done so with respect to the goals of Big LEO service. In fact, the action taken by the FCC in the *Modification Order* was aimed precisely at fostering and promoting MSS service. As the Commission explained, if it did not give the license modification a global effect, untenable chaos would result,<sup>64</sup> which would only hamper and disrupt the provision and expansion of MSS worldwide.

**B. Globalstar's Challenge to the "Interference Prevention" Rationale in the Modification Order Is Unfounded.**

In the *Modification Order*, the FCC explained that giving a global effect to the license modification would further the public interest because it would fulfill the Commission's responsibility to prevent and eliminate harmful interference between U.S.-licensed space stations.<sup>65</sup> Globalstar contends that, in light of the requirement imposed in the *Reconsideration Order* that the two Big LEO MSS systems share 0.95 MHz of spectrum, the FCC need not bar Globalstar from possibly sharing Iridium's spectrum in other countries.<sup>66</sup> Globalstar criticizes

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<sup>63</sup> Petition 3-5.

<sup>64</sup> *Modification Order* ¶ 35.

<sup>65</sup> *Id.* ¶¶ 32-36.

<sup>66</sup> Petition 11-13.

the *Modification Order* for “fail[ing] to explain why coordination is possible for th[e] 0.95 MHz . . . but is not possible to accommodate differences in national Big LEO band plans.”<sup>67</sup>

However, the FCC has never concluded that spectrum sharing between the two Big LEO MSS providers is flatly impossible. Rather, based in part on evidence submitted by Globalstar, the Commission concluded in the *Reconsideration Order* that spectrum sharing becomes more difficult when the two systems are fully loaded and running at full capacity.<sup>68</sup> Thus, the Commission segregated the two systems to the extent practicable and consistent with the efficient use of spectrum by providing exclusive access to spectrum.

To accommodate Globalstar<sup>69</sup> and to prevent “scarce, valuable MSS spectrum [from going] unused,”<sup>70</sup> however, the Commission found it necessary to require the two systems to share a small segment of spectrum. Understanding that Iridium and Globalstar can share spectrum “while both systems are relatively lightly loaded,”<sup>71</sup> the agency made the decision in its expert judgment to require sharing of 0.95 MHz of spectrum. This decision does nothing to call into question the general position, strongly urged by Globalstar, that sharing is not technically feasible in the long run in a broader section of the spectrum. Of course, this decision, like all

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<sup>67</sup> *Id.* at 13. Globalstar also asserts that, because Iridium and Globalstar are not in fact harmfully interfering with each others’ systems today, the Commission had no reason to take action that would bar Globalstar from possibly sharing Iridium’s spectrum in foreign countries. Petition 13-14. This reasoning flatly ignores the FCC’s duty under international law, as the sole administration with authority over U.S.-licensed space stations, to *prevent* harmful interference from occurring.

<sup>68</sup> *Reconsideration Order*, 22 FCC Rcd at 19740 (¶ 15); *see also Modification Order* ¶ 33 (“[A] CDMA and a TDMA system cannot provide co-frequency, co-coverage service, particularly at maximum system loading.”).

<sup>69</sup> *Reconsideration Order*, 22 FCC Rcd at 19741 (¶ 18).

<sup>70</sup> *Id.* at 19742 (¶ 19).

<sup>71</sup> *Id.*

agency decisions regarding the management of spectrum interference, is entitled to substantial judicial deference.<sup>72</sup>

In any case, the Commission could allay Globalstar's concerns about any interference issues presented by the 0.95 MHz of shared spectrum simply by reassigning the spectrum to each system's exclusive use. The Commission had originally intended to assign a full 3.1 MHz of additional spectrum to Iridium's exclusive use, but due to Globalstar's "technical concerns," required that 0.475 MHz of that spectrum be shared together with 0.475 MHz of spectrum taken from Globalstar's exclusive use.<sup>73</sup> If Globalstar believes that a limited amount of spectrum sharing, designed to protect Globalstar's system, is unnecessary, unworkable, or somehow undermines the *Reconsideration Order* or the *Modification Order*, the Commission should simply return 0.475 MHz of spectrum to each system's exclusive use.

**C. Globalstar Has Not Demonstrated Any New Basis For A Hearing Under Section 316.**

Globalstar's sole stated complaint about the FCC's refusal to grant a hearing under Section 316 is that the Commission allegedly did not "evaluate the nature or the extent of the harm to Globalstar, its customers, or its independent gateway operators that will be caused by the challenged restrictions on Globalstar's global operations."<sup>74</sup> As Globalstar acknowledges,

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<sup>72</sup> See *Mobile Relay Assocs. v. FCC*, 457 F.3d 1, 8 (D.C. Cir. 2006) ("We have previously declared that if the Commission is 'fostering innovative methods of exploiting the spectrum,' it 'functions as a policymaker' and is 'accorded the greatest deference by a reviewing court.' We uphold the Commission if it makes a 'technical judgment' that is supported 'with even a modicum of reasoned analysis,' 'absent highly persuasive evidence to the contrary.'" (citations omitted)); *Northpoint Tech., Ltd. v. FCC*, 414 F.3d 61, 69 (D.C. Cir. 2005) ("defer[ring] to the Commission's interpretation of 'harmful interference'"); *AT&T Wireless Servs., Inc. v. FCC*, 270 F.3d 959, 964 (D.C. Cir. 2001) ("The Commission's interpretations of its rules regarding the rights of cellular licensees, including the right to channel block exclusivity and freedom from interference or signal capture within a given CGSA, are entitled to substantial deference.").

<sup>73</sup> *Reconsideration Order*, 22 FCC Rcd at 19740 (¶ 18).

<sup>74</sup> Petition 16.

however, the Commission did make such an evaluation.<sup>75</sup> Indeed, to do so, the FCC assumed Globalstar's factual assertions to be true, as required under the law, and weighed the "worst-case factual scenario" when considering the public interest.<sup>76</sup> It appears, therefore, that Globalstar's true complaint is simply that it disagrees with the Commission's balancing or that it now regrets the insufficiency of the factual assertions it placed before the Commission. Neither of these reasons is sufficient to prevail on reconsideration, which is "appropriate only where the petitioner either shows a material error or omission in the original order or raises additional facts not known or existing until after the petitioner's last opportunity to present such matters."<sup>77</sup>

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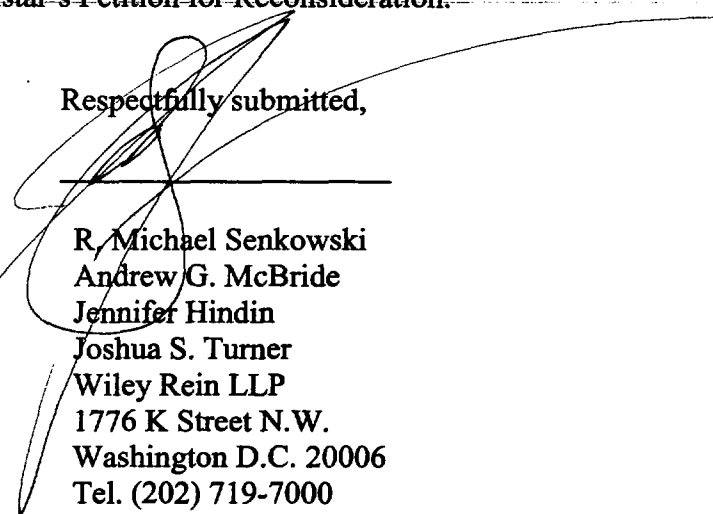
**V. CONCLUSION**

For the foregoing reasons, Iridium respectfully requests that the Commission expeditiously enter an order denying Globalstar's Petition for Reconsideration.

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Respectfully submitted,

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November 24, 2008

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<sup>75</sup> Petition 15.

<sup>76</sup> *Modification Order* ¶ 28.

<sup>77</sup> *Gen. Motors Corp.*, 23 FCC Rcd at 3132 (¶ 4).

**CERTIFICATE OF SERVICE**

I hereby certify that on November 24, 2008, I caused a true and correct copy of the foregoing to be served by first-class mail, unless noted otherwise, on the following:

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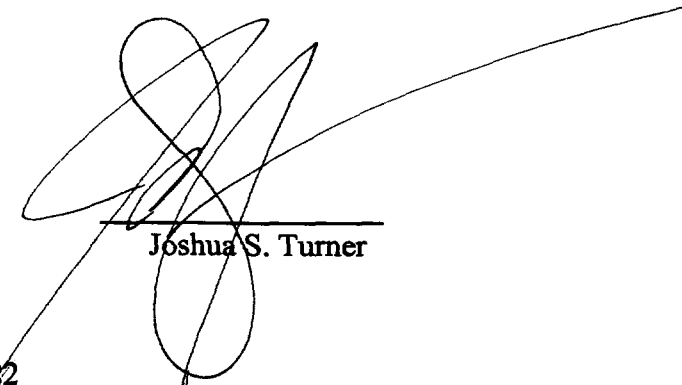
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# Exhibit A

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Working Group FM

5th Meeting of the FM PT44  
Copenhagen, 6-7 December 2007

FM44(07)35

Date issued: 29 November 2007

Source: Globalstar

**Subject: REQUIREMENT FOR A TDMA/CDMA BAND SEGMENTATION PLAN AND PROVISION  
FOR IMPLEMENTATION OF A COMPLEMENTARY GROUND COMPONENT  
IN THE NEW ECC DECISION FOR THE 1.6/2.4 GHZ BANDS**

Password protection required? (Y/N) \*

### Summary

This paper addresses two issues that are relevant in the context of the development of a new ECC Decision on MSS in the 1.6/2.4 GHz bands to replace the existing provisions in ERC Dec (97)03 for those bands. These issues are the band segmentation between TDMA and CDMA systems in the 1.6 GHz band and the implementation of a complementary ground component (CGC) associated with the MSS systems in the 2.4 GHz band.

### Proposal

It is proposed that the new ECC Decision being developed to designate the 1.6/2.4 GHz bands for MSS should include a band segmentation plan to facilitate TDMA and CDMA operations in Europe. This new ECC Decision should also include the provisions and conditions for the implementation of CGC in these bands in accord with the precedent that has been established in ECC Dec (06)09 for the 2 GHz bands.

### Background

Growing service demands and ongoing regulatory developments have necessitated a review and updating of the provisions and requirements specified in ERC Dec (97)03 for MSS operations in the 1.6/2.4 GHz bands. The following paragraphs provide some background on the situation and make proposals for meeting the prevailing requirements.

## INTRODUCTION

Over the past year or so Iridium has reiterated proposals for changes in the TDMA/CDMA band segmentation plan for the 1.6 GHz band from that currently contained in ERC Dec (97)03. The objective of these proposals was to extend the spectrum designations for TDMA systems in Europe to fully encompass the spectrum assignments that Iridium is authorised to use in the USA. However, these proposals have not been adopted for application within the CEPT, primarily because they included co-frequency/co-coverage spectrum sharing between the Iridium and Globalstar systems. According to authoritative studies conducted within the CEPT (see document SE 28(96)41 of July 1996 and ECC Report 95 of February 2007) such spectrum sharing is not a technically feasible operational configuration.

In a number of recent submissions to the ECC, WGFM and FM/PT 44, Globalstar has confirmed its interest in implementing a complementary ground component (CGC) associated with its current and future 1.6/2.4 GHz systems in Europe. This interest is in line with recent developments regarding the implementation of an Ancillary Terrestrial Component, the US term for CGC, within the USA. In this regard it would seem reasonable in the circumstances to adopt the same approach to CGC in the 1.6/2.4 GHz bands and other MSS bands in Europe, to that which has been implemented for the 2 GHz bands as detailed in ECC Dec (06) 09.

#### **SPECTRUM DESIGNATION AND BAND SEGMENTATION PLAN**

The FCC, in its recent decision in FCC 07-194 (Second Order on Reconsideration, Second Report and Order and Notice of Proposed Rule Making, adopted 7 November 2007 and released 9 November 2007), has recognised that spectrum sharing between the Iridium and Globalstar systems when the TDMA and CDMA systems are both heavily-loaded is not technically feasible and has modified its band segmentation plan, under which Globalstar and Iridium previously shared 3.1 MHz of the band, to reduce such spectrum sharing to 0.950 MHz only. In doing so, the FCC also adjusted the spectrum assignments for the TDMA and CDMA systems in the 1.6 GHz band, to provide Iridium with more exclusive spectrum and, concomitantly, to reduce Globalstar's exclusive spectrum. Globalstar has taken exception to this adjustment on the ground that it is not supported by studies or the evidentiary record before the FCC.

It is not, in any event, necessary for the CEPT/ECC to adopt the same spectrum band plan in Europe as the FCC has done for the USA. The respective service demands of the Iridium and Globalstar systems are quite different in Europe and the USA. First, Globalstar's subscribers in five of the six gateway earth stations in CEPT member countries currently uplink to the satellites using channels that the FCC decision renders unavailable to Globalstar in the USA. Second, there is no evidence that the present spectrum designation in the 1.6 GHz band for TDMA operations in Europe is insufficient to support the current Iridium service demands within CEPT countries and provide for reasonable future growth. In contrast, the present Globalstar spectrum assignment in Europe is already heavily loaded in supporting service through the six gateway earth stations located in CEPT countries and any reduction in the presently designated spectrum for CDMA operations would adversely impact current Globalstar services and future growth. The existing TDMA/CDMA band segmentation plan as currently contained within ERC Dec (97)03 is therefore still appropriate for CEPT purposes.

#### **SPECTRUM EXTENSION AND SHARING**

Because of the inability of the Iridium system to differentiate spectrum assignments on a regional basis, channel activations intended for US, Middle Eastern, Southeast Asian or African traffic are also present in Europe. As the current spectrum assignments for Iridium operations in the USA extend beyond the boundaries of the TDMA designated spectrum in Europe, some of Iridium's channel activations in some countries in Europe will fall outside of the spectrum that they are authorised to use within those jurisdictions.

To overcome this technical problem, which is specific to the Iridium system design, and to bring Iridium operations in Europe within the boundaries of the authorised spectrum, it would be necessary to extend the spectrum designated for TDMA operations to some level below 1621.35 MHz. There is no information or evidence before this Project Team to show exactly what that frequency point might be. If the FCC's decision were to be adopted for Iridium operations in Europe, Iridium's spectrum assignment would increase by 3.575 MHz (a 69% increase), compared to the current provisions specified in ERC Dec (97)03.

If the Iridium and Globalstar systems share 3.1 MHz of spectrum (1618.25-1621.35 MHz), which was the US rule prior to the FCC's recent decision, on a co-frequency/co-coverage basis, a potential source of harmful interference into the Globalstar system is generated by the Iridium downlink transmissions in the 1.6 GHz band (see ECC Report 95). As these Iridium transmissions are carried on secondary allocations, they are required to operate on a non-interference basis with the co-frequency Globalstar transmissions on primary allocations and cannot claim protection from the Globalstar primary transmissions. Therefore, if these ITU conditions are adhered to, Globalstar should be able to operate on its assigned primary allocations without interference from the Iridium secondary transmissions on a co-frequency shared spectrum basis.

A second source of interference between the Iridium and Globalstar systems when operating on a partially shared spectrum basis in the 1.6 GHz band, are the respective mobile terminal uplink transmissions. Already there are constraints on Globalstar's mobile terminal operations related to protection of the radio astronomy

service (RAS) in the 1.6 GHz band and the radionavigation satellite service immediately below the band. In this situation, with some coordination between the operators in the deployment of mobile terminals, mutual interference between the two systems could be minimised. Moreover, Iridium has announced plans to launch a second-generation satellite system beginning in 2014. This system can presumably be designed to control transmissions and channel assignments on a national or regional basis, as the Globalstar system does.

#### **THE RADIO ASTRONOMY SERVICE**

Another consequence of co-frequency spectrum sharing between Iridium and Globalstar that could affect this situation is any possible adverse impact on the radio astronomy service (RAS). The results presented in ECC Report 112 show that on the basis of the presently specified ITU thresholds, any interference caused by the Iridium system to the RAS is within the allowable limits, as measured in a single observation channel. However, the RAS community claims that interference does not occur within only a single channel but across several channels at the same time and therefore the aggregate loss of data from all the affected channels would be much higher than indicated in ECC Report 112. The FCC's recent decision would allow Iridium to operate a further 0.475 MHz below its current limit of 1618.25 MHz, and thus closer to the RAS spectrum, potentially posing an additional concern for the RAS.

The RAS situation could be further aggravated from the effects of co-frequency spectrum sharing between the Iridium and Globalstar systems. The mutual interference generated between the two systems would initiate actions to overcome the interference, for example by increasing the transmit power levels, which in turn will create the potential for increased levels of Iridium intermodulation products falling within the RAS band. In such a situation, any increased interference to the RAS could not be attributed to Globalstar operations.

#### **COMPLEMENTARY GROUND COMPONENT (CGC)**

~~In supporting the development of a new ECC Decision for the designation of MSS in the 1.6/2.4 GHz bands, the WGFM noted in particular that in most cases, as has already been acknowledged for the 2 GHz bands, authorization of CGC would be handled at national level. However WGFM also noted that the CGC situation could be further reviewed and taken into account during the development of the new ECC Decision to designate these bands for MSS. The FCC authorised its version of CGC – Ancillary Terrestrial Component (ATC) – in February 2003 and considerations on extending the spectrum available for ATC are ongoing.~~

Globalstar is currently able to implement CGC within its authorized spectrum and has authority from the FCC to do so. Iridium is expected to launch a CGC-capable system beginning in 2014. As it is necessary to update the provisions relating to the 1.6/2.4 GHz bands and to replace the present ERC Decision with a new ECC Decision, the opportunity exists to include the provisions for, and conditions relating to, the implementation of CGC, in the new ECC Decision. There is a relevant precedent for this approach with the recent adoption of ECC Dec (06)09 for the 2 GHz bands.

#### **PROPOSAL FOR SPECTRUM DESIGNATION**

It is proposed that the same band segmentation plan and spectrum designations as currently contained in ERC Dec (97)03 for the 1.6 GHz band, should be included in the new ECC Decision that replaces ERC Dec (97)03 for the 1.6/2.4 GHz bands. To adopt an alternative approach that takes account of the latest FCC band segmentation plan for TDMA operations requires a significant level of co-frequency spectrum sharing between the Iridium and Globalstar systems, which is not required to meet the respective service demands of the two systems in Europe. Other solutions will need to be found for accommodating the constraints of the Iridium system in regard to its inability to differentiate channel assignments on a regional or country basis.

#### **PROPOSAL FOR CGC**

The situation in regard to the implementation of a complementary ground component (CGC) in the 1.6/2.4 GHz bands is very similar to that for the 2 GHz bands where authorizations will also be made on a national basis. Therefore it is proposed that the conditions for the implementation of CGC should also be included in this new ECC Decision designating the 1.6/2.4 GHz bands for MSS, following the same format as that adopted for the 2 GHz bands in ECC Dec (06)09. With such a reference to the implementation of CGC in the formal ECC Decision on MSS in the 1.6/2.4 GHz bands, there is the possibility that a measure of regulatory harmonization will be achieved.

**CONCLUSION**

The adoption of the above proposal to retain the present band segmentation plan for TDMA and CDMA operations in the 1.6 GHz band in Europe, will facilitate continuity of existing services without disruption. By including this band segmentation plan and the provisions for the implementation of the complementary ground component associated with MSS systems operating in the 1.6/2.4 GHz bands, in the new ECC Decision, the regulatory situation for these services in Europe will be clear and unambiguous.

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29 November 2007

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# Exhibit B

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**Working Group FM**

**5th Meeting of the FM PT44  
Copenhagen, 6-7 December 2007**

**FM44(07)34**

**Date issued: 29 November 2007**

**Source: Globalstar**

**Subject: OUTCOME OF CONSULTATIONS BETWEEN IRIDIUM AND GLOBALSTAR ON BAND  
SEGMENTATION IN THE 1.6 GHz BAND AS REQUESTED BY WGFM**

Password protection required? (Y/N) \*

**Summary**

At the WGFM meeting in Vienna, 24-28 September 2007, following discussion on the considerations related to spectrum sharing and band segmentation for MSS operations in the 1.6 GHz band, the two operators concerned, Iridium and Globalstar, were requested to consult and propose a possible compromise solution for presentation to PT/FM 44. As requested, such brief consultations were undertaken in November 2007, but no compromise solution was reached.

**Proposal**

It is proposed that FM 44 note the outcome of the consultations between Iridium and Globalstar and report appropriately to WGFM. In the meantime, the status quo on band segmentation in the 1.6 GHz band in Europe should prevail.

**Background**

Iridium has made several proposals for changes in the TDMA/CDMA band segmentation plan for the 1.6 GHz band from that currently contained in ERC Dec (97)03. The objective of these proposals has been to extend the spectrum designations for TDMA systems in Europe to fully encompass the spectrum assignments that Iridium is authorised to use in the USA. Such consideration is necessary, not to meet traffic demands within the CEPT countries, but because the Iridium system cannot differentiate spectrum assignments on a regional basis and therefore the same channels are illuminated globally when they are actually demanded in only one, relatively small geographic area. Because the current spectrum authorisation for Iridium in the USA extends beyond the boundaries of the TDMA designated spectrum in Europe, some of Iridium's channel assignments in some countries in Europe fall outside of the spectrum that they are authorised to use within those jurisdictions.

**INTRODUCTION**

After detailed discussion on the issues related to spectrum sharing and band segmentation between MSS systems using TDMA (Iridium) and MSS systems using CDMA (Globalstar) in the 1.6 GHz band, the WGFM meeting in Vienna, 24-28 September 2007, noted the following :

“Representatives of both operators agreed to explore further the possibility to identify a mutually acceptable solution and to report to the next meeting of FM PT44 in early December. In the event that a way forward

could be found, FM44 would convey this to the chairman of WG FM so that the development could be brought to the attention of the December ECC meeting. In the absence of such an agreement, WG FM would simply report the outcome of the present (WGFM) meeting (to the ECC)."

### FCC ACTION

During this same time-frame the FCC was reconsidering the spectrum assignments between Iridium and Globalstar for the 1.6 GHz band within the USA. The outcome of the FCC deliberations is given in "FCC 07-194: SECOND ORDER ON RECONSIDERATION, SECOND REPORT AND ORDER, AND NOTICE OF PROPOSED RULEMAKING" which was adopted on November 7, 2007 and released on November 9, 2007. A summary of the FCC decision, which presents a new band segmentation plan between TDMA and CDMA systems for application within US jurisdiction, is presented in Document FM44(97)Info 10. Essentially, the FCC decided that TDMA and CDMA systems should each have equal 7.775 MHz exclusive spectrum band assignments and should share 0.950 MHz in the centre of the band, a reduction from the 3.1 MHz now shared in the USA.

### GLOBALSTAR PROPOSAL

Following the conclusion of the FCC considerations, in late November 2007 Globalstar attempted to initiate consultations with Iridium. The current band segmentation plan for the 1.6 GHz band in Europe, as defined in ERC Dec (97)03, is different to the pre-existing FCC band segmentation plan. Similarly, any new band segmentation plan for the 1.6 GHz band in Europe does not have to be the same as the revised FCC band segmentation plan for the US. However, recognising the problem faced by Iridium in not being able to differentiate channel assignments between regions, and taking account of the new FCC spectrum assignments, Globalstar sought to develop a proposal that would mitigate the Iridium problem while still meeting Globalstar's own growing service requirements within the CEPT countries.

While Globalstar continues to maintain its objection to the FCC's new division of the 1.6 GHz band, Globalstar was prepared to accept additional shared spectrum based on extension of the spectrum designated for TDMA operations in Europe from 1621.35 MHz down to 1617.775 MHz as long as Globalstar did not lose all access to the 1617.775-1621.35 MHz segment. This would increase the spectrum available for Iridium operations in Europe by 3.575 MHz, that is a 69% increase, on a shared basis with Globalstar, compared to the current provisions specified in ERC Dec (97)03. Already Iridium has de facto been operating in the 1618.25 -1621.35 MHz spectrum (3.1 MHz) on a shared basis with Globalstar for some 4-5 years now and claims no adverse effects on its operations. This further proposed spectrum extension for TDMA operations in Europe is in line with, but not identical to, the recent FCC Decision of 7 November 2007 for Iridium operations in the USA. In addition it would formalise existing and future Iridium operations in Europe in accord with the revised designation of spectrum for TDMA operations in the CEPT, as would be specified in the new ECC Decision.

Globalstar operations in Europe and adjacent regions would continue within the existing CDMA designated spectrum as is currently identified in ERC Dec (97)03. This is critically important because five of Globalstar's six gateway earth stations in CEPT member countries currently assign subscribers to CDMA channels 8 and 9 (1618.725-1621.185 MHz). These two channels will not be usable in the US if the FCC's decision is not modified. While the formal implementation of co-frequency spectrum sharing with Iridium may impact on Globalstar operations, every effort would be made to manage operations to ensure that this situation did not adversely impact upon, or hamper growth of, the Globalstar services provided through the 6 gateway earth stations located in CEPT countries (see Annex attached).

### THE IRIDIUM RESPONSE

Shortly after publication of the FCC decision, Matt Desch, chairman and CEO of Iridium is reported to have stated (reference - See Satellite 2008 "Downlink" 26 November 2007):

*"The FCC decision is clearly in the public interest. As the fastest growing MSS provider, the additional spectrum will allow Iridium to continue to offer high-quality service to first responders, emergency workers, national defense and homeland security forces, and other enterprise verticals around the world. The FCC order provides direction globally, so Iridium will begin using the new spectrum immediately around the world."* (highlighting added for emphasis)



The final sentence in this statement suggests that Iridium is of the view that the FCC spectrum assignments are applicable on a global basis and do not require further consideration or endorsement by national regulatory authorities in Europe or elsewhere. Consequently Iridium intends to implement operations using these extended assignments "immediately around the world", presumably including Europe.

Consequently, therefore, the Iridium response to the Globalstar proposal was outright rejection. Iridium takes the position that the new FCC band segmentation plan should be adopted for Europe and that the FCC would be the sole arbiter of any interference-related disputes. Such an approach would seem inconsistent with the sovereign rights of other regulatory administrations and the CEPT.

#### **POSSIBLE FUTURE ACTION**

The Globalstar proposal was based essentially on the same configuration that Iridium has been de facto operating in Europe without adverse incident over the past 4-5 years except that 3.575 MHz, rather than 3.1 MHz, would be shared. (Iridium began using the spectrum below 1621.35 MHz when the Gulf War started.) The proposal would provide Iridium with the same extended spectrum assignment in Europe that the FCC intends to implement in the US. Iridium's disinclination to endorse the Globalstar proposal would not therefore seem to be related to operational factors in either Europe or the US. In these circumstances Globalstar has to consider what other options are available to resolve this impasse.

In Globalstar's view, the revision in the spectrum assignments in the US is not supported by the engineering analyses or the other evidence in the record before the FCC. Globalstar's options are therefore to request the FCC to reconsider its decision or to appeal the decision in the U.S. Court of Appeals. Globalstar is currently evaluating those options and will decide which one to pursue in due course. Any notice of appeal to the US Court of Appeals will be filed no later than 60 days after the FCC's decision appears in the US Federal Register, expected before the end of December.

#### **CONCLUSION AND INTERIM SOLUTION**

In the circumstances where no agreement can be reached in a timely manner on a new band segmentation plan for TDMA and CDMA operations in the 1.6 GHz band in Europe, and there is no evidence that the existing designations do not provide sufficient capacity to meet both operators' service requirements within the CEPT, it would be premature to make any arbitrary changes in the band segmentation plan at this time. In addition, with a possible pending legal challenge to the new FCC band segmentation plan, it would be inappropriate to adopt such a band segmentation plan in a formal ECC Decision.

A new ECC Decision that designates the 1.6/2.4 GHz bands for MSS could carry forward the current band segmentation plan in an annex that can be referred to in the "decides" section of the Decision. If subsequently a revised band segmentation plan is agreed, the annex can be amended accordingly without the need to abrogate and replace the whole Decision. This approach would enable ERC Dec (97)03 to be abrogated. Alternatively, ERC Dec (97)03 could be maintained for the time being with reference to the existing band segmentation plan being made in the "decides" section of the new ECC Decision. However, this approach may require abrogation of the new ECC Decision if subsequently a revised band segmentation plan is agreed.

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Annex to Doc FM44(07)xx

#### **BASIS FOR GLOBALSTAR PROPOSAL TO CO-FREQUENCY SHARE SPECTRUM WITH IRIDIUM IN THE 1.6 GHZ BAND WITHIN THE CEPT REGION**

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For the past 4-5 years, although not formally adopted within Europe as a whole, Iridium and Globalstar have been sharing 3.1 MHz of spectrum in the 1.6 GHz band on a co-frequency co-coverage basis without major adverse effect on either service. In particular, Iridium has consistently argued that such sharing is both feasible and manageable through bilateral coordination and claims that there has been no evidence of adverse impact on Iridium services from spectrum sharing. However, Globalstar has suffered some adverse effects

from spectrum sharing within the USA, a matter that has recently been addressed by the FCC, but there has been no evidence of such adverse impact on Globalstar services from spectrum sharing in Europe. However, the adverse effects would become manifest in the future if both TDMA and CDMA systems in Europe become more heavily loaded with voice and data traffic.

Globalstar fully supports the results and conclusions drawn from the extensive studies presented in ECC Report 95, which concludes that co-frequency co-coverage spectrum sharing between a TDMA system (Iridium) and a CDMA system (Globalstar) is not technically feasible. Such studies and the results and conclusions that emerge, rightly assume a worse case situation, that is, with both systems operating at or near saturation. Such an assumption is entirely appropriate, because if this was not the case, then there would be no justification for the administration to assign the spectrum in the first place. On this basis and assuming good engineering practice, it is clearly evident that such spectrum sharing is not "technically" feasible.

The worst case scenario has occurred for a limited period during the 2005 hurricanes in the US Southeastern Coastal area and during the first few weeks of the Gulf War in 2003. Co-frequency spectrum sharing in such circumstances results in intermittent unacceptable mutual interference as demonstrated by the theoretical studies in ECC Report 95 and as experienced in practice and reported by Globalstar at their Clinton gateway earth station. The US situation is a matter for the two operators and their home regulatory authority, the FCC, to address and determine how best to meet both operators' requirements for their US based services.

The situation in Europe is quite different from the USA. The traffic levels within the CEPT countries for both systems are considerably less than in the USA. It is a recognised fact that Iridium is a major supplier of services to the US government and military, while Globalstar has built up a larger traffic base within the CEPT, which is evidenced by the six Globalstar gateway earth stations located in CEPT countries. The current spectrum designations between TDMA and CDMA operations in Europe as specified within ERC Dec (97)03, provide sufficient capacity to meet each operators service requirements in the CEPT, more so for Iridium than for Globalstar. Apart from the significantly larger service demand for Globalstar services within the CEPT countries, Globalstar also shares 3.2 MHz of spectrum with the very sensitive RAS, which places significant constraints on the use of that spectrum. With Iridium de facto sharing 3.1 MHz of CDMA spectrum with Globalstar in Europe under the pre-existing FCC spectrum assignment plan, this means that Globalstar's non-shared spectrum in the 1.6 GHz band was reduced to 5.05 MHz while Iridium's dedicated spectrum in Europe has remained at 5.15 MHz.

In addition, CDMA systems in the 1.6 GHz band are obligated to avoid causing out-of-band interference into the adjacent radionavigation satellite service (RNSS) band from 1559-1610 MHz. This obligation falls more heavily on Globalstar than on Iridium because Globalstar's CDMA assignment is immediately adjacent to the RNSS allocation and, specifically, the spectrum used by the GLONASS system. Globalstar must incorporate better (and more expensive) filtering in its mobile earth terminals or, potentially, forgo the use of its lowest channels (as is the case in Russia). TDMA systems, such as Iridium, because they are farther removed from the RNSS allocation, are not so-burdened.

The original Globalstar intention was to formalise the co-frequency sharing of the 3.1 MHz of spectrum between Iridium and Globalstar within the CEPT, but the actual proposal went further to also include the additional 0.475 MHz of spectrum recently assigned to Iridium within the USA by the FCC. This would increase the shared spectrum allocation from 3.1 MHz to 3.575 MHz and even further reduce Globalstar's dedicated spectrum.

Recognising that the additional spectrum assignment for Iridium is required to mitigate the consequences of the Iridium system's inability to differentiate channel frequency assignments between regions and not to support increased traffic levels, means that the already well below saturation traffic levels will be spread across an even wider spectrum bandwidth, thus reducing the density of operation in the shared spectrum allocation significantly. In these circumstances the potential for mutual interference between the two systems is drastically reduced, a fact recognised in ECC Report 95, to the point where Globalstar was prepared to cooperate with Iridium to make the spectrum sharing work to both operators' advantage.

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