

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of
Request for Special Temporary Authority
Iridium Constellation, LLC
For a Mobile Satellite System in the 1.6 GHz
Frequency Band
File No.
SAT-STA-20031010-00313

ORDER

Adopted: December 11, 2003

Released: December 11, 2003

By the Chief, Satellite Division, International Bureau:

I. INTRODUCTION

1. In this Order, we grant Iridium Constellation, LLC (Iridium) special temporary authority (STA) to operate satellites in the "Big LEO" mobile-satellite service (MSS) system in the 1620.10-1621.35 MHz frequency band (Globalstar Channel 9) until May 12, 2004 or until levels of usage and U.S. Government requirements no longer justify the need for additional spectrum, whichever occurs first. We also grant a STA for Iridium's U.S. earth station license. Globalstar LP and Globalstar USA, LLC (Globalstar) oppose Iridium's request for STA. We find, however, that these actions will further important public interest requirements by supporting stated communications needs of U.S. Forces in Iraq and the Middle East region.

II. BACKGROUND

2. Iridium holds a license for a Big LEO MSS system that is authorized to operate both uplink and downlink transmissions in the 1621.35-1626.5 MHz frequency band. It also holds a license for the U.S. operations of mobile user terminals that operate in the same band. Iridium contracts with the U.S. Department of Defense (DOD) to provide communications services. Globalstar, another MSS system, is licensed to operate uplinks in the 1610-1621.35 MHz band. Commencing in April 2003, the International Bureau, Satellite Division, granted Iridium a series of STA's and modifications to Iridium's license, to allow Iridium to use additional spectrum outside of its initial authorization. These decisions

1 Motorola Satellite Communications, Inc., 10 FCC Rcd 2268 (1995), corrected 10 FCC Rcd 3925 (1995), affirmed in part and modified, 11 FCC Rcd 18502 (1996). "Big LEO" refers to low-Earth orbit (LEO) mobile satellite services above 1 GHz.

2 U.S. Leo Services, Inc., 11 FCC Rcd 20474 (Int. Bur. 1996).

3 See File Nos. SAT-STA-20030414 (grant dated April 11, 2003 and April 14, 2003); SAT-STA-20030425-00074 (granted on April 25, 2003); and SAT-STA-20030502-00077 (granted on May 13, 2003). See also Letter from (continued...)

were made, in large measure, to allow Iridium to support the stated communications needs of U.S. and Coalition Forces in Iraq and the Middle East region. Further, there was no evidence that Iridium operations in the 1620.10-1621.35 MHz frequency band would degrade Globalstar's MSS operations. In April and May 2003, Iridium was authorized to expand its operations into the 1618.85-1621.35 MHz frequency band (Globalstar Channels 8 and 9) to provide communications services to U.S. Government and Coalition Forces.<sup>4</sup> In June 2003, Iridium filed an extension of its STA stating that although the demand for service in the Middle East region continued at extraordinarily high levels, demand had subsided somewhat and as a result indicated that it would cease operations in the 1618.85-1621.10 MHz frequency band (Channel 8). This request was granted, authorizing Iridium to use 1620.10-1621.35 MHz (Channel 9) only.<sup>5</sup> In October 2003, the Satellite Division authorized Iridium to use the 1620.10-1621.35 MHz band for a four month period to November 14, 2003, or until the levels of usage and U.S. Government requirements no longer justified the need for additional spectrum, whichever occurred first.<sup>6</sup> The Satellite Division also directed Iridium to file monthly status reports demonstrating its continued need for the use of the 1620.10-1621.35 MHz frequency band.<sup>7</sup> Globalstar objected, asserting that Iridium failed to justify its need for the additional spectrum, and questioning the Commission's authority to modify Iridium's license.

3. On October 10, 2003, Iridium requested a further extension for a period of 180 days commencing November 15, 2003 to May 12, 2004 to provide MSS service in the 1620.10-1621.35 MHz band.<sup>8</sup> In its request, Iridium states that it continues to experience a high demand for communications services by Coalition Forces in the Middle East Region. According to Iridium, traffic levels at peak times exceed the system capacity as originally authorized.<sup>9</sup> Iridium states that use of its system remains higher than levels experienced prior to its first STA in April 2003, but acknowledges the levels are somewhat lower than the highest levels experienced to date.<sup>10</sup> Iridium also states, however, that it has received no indication from U.S. Government and Coalition Forces that the use of Iridium's service in the Middle East region will decrease substantially within the next six months.<sup>11</sup> In its STA request, Iridium notes that it will apprise the International Bureau if the levels of usage no longer necessitate access to Channel 9. Finally, Iridium asserts that there has been no interference between its system and Globalstar's system.

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William F. Adler, Vice President, Legal and Regulatory Affairs, Globalstar, LP, to Thomas S. Tycz, Chief, Satellite Division, FCC (May 1, 2003).

<sup>4</sup> *Id.*

<sup>5</sup> Iridium Constellation LLC and Iridium US LP, Request for Special Temporary Authorization, *Order*, DA 03-1949 (June 16, 2003).

<sup>6</sup> Modification of Licenses held by Iridium Constellation, LLC and Iridium US LP, *Order*, DA 03-2906 (rel. October 7, 2003) (*October Modification Order*). On November 14, 2003, the Satellite Division, Policy Branch, granted Iridium an additional 30 days, to December 15, 2003, to operate on Channel 9 pending the Division's decision on its pending STA request, File No. SAT-STA-20031113-00327.

<sup>7</sup> *October Modification Order*, ¶ 9.

<sup>8</sup> Request for Special Temporary Authority for Iridium Constellation to Provide MSS Service in the 1620.10-1621.35 MHz frequency band (Channel 9) from November 15, 2003 to May 12, 2004, Filed October 10, 2003 (*Iridium STA*).

<sup>9</sup> *Iridium STA*, p. 3.

<sup>10</sup> *Id.*

<sup>11</sup> *Id.*

4. The Defense Information Systems Agency (DISA) filed a letter in support of Iridium's recent STA request.<sup>12</sup> DISA states that the temporary allocation of channels to Iridium continues to have a positive effect on the services Iridium provides to DOD in the Southwest Asia region (SWA). Prior to Iridium's use of the additional spectrum in April 2003, DISA represents that the "call drop" rate due to satellite acquisition failure was unacceptable, and that DOD's SWA users were experiencing "no-call" conditions and overloaded systems as they conducted operations in Iraq.<sup>13</sup> Since being authorized to use additional spectrum, DISA states that Iridium's call success rates have "remained steady at approximately 96%."<sup>14</sup> DISA notes that U.S. military forces continue to have a significant presence in Iraq and the surrounding region for the support of peace enforcement operations.<sup>15</sup> DISA states that use of the Iridium system in September and October is at a level not sustainable prior to the allocation of the additional 1.25 MHz of spectrum, and that there was an increase in usage in early November. Thus, DISA projects that the DOD will require the additional 1.25 MHz through the first half of 2004. As a result of acts of sabotage and terrorism, commercial non-satellite communications in the SWA region have not stabilized sufficiently for DOD use.<sup>16</sup> According to DISA, the continued threat to U.S. Forces has hindered DOD's ability to install and activate regional communication alternatives to using the Iridium system.<sup>17</sup> DISA also indicates that it will continue to monitor its use of Iridium's system, as well as the use by other key government entities, and will advise the National Telecommunications and Information Administration when levels of usage allow Iridium to relinquish the spectrum without degrading service to U.S. Forces. Finally, DISA notes that its statement in support of Iridium's STA is made with the understanding that the temporary allocation will not have a negative impact on Globalstar's system.<sup>18</sup>

5. Globalstar opposed Iridium's STA request.<sup>19</sup> As with its previous oppositions, Globalstar's protest is premised on two assertions. First, Globalstar claims that Iridium has failed to present sufficient facts demonstrating its alleged capacity constraints and need for additional spectrum. Second, Globalstar claims that the Communications Act does not authorize the Commission to grant Iridium's STA request. Globalstar states that Iridium's call congestion is due to flaws and inefficiencies in the Iridium system design and operation.<sup>20</sup> According to Globalstar's calculations, Iridium's spectrum allocation allows it to serve over 500,000 subscribers in the continental U.S., which is more than enough spectrum needed to serve the 20,000 mobile phones used by the DOD in the Middle East region.<sup>21</sup> Rather than award Iridium additional spectrum, Globalstar states that Iridium should be required to improve its use of spectrum. Further, Globalstar asserts that the additional allocation of spectrum has not improved Iridium's actual system performance. Globalstar claims Iridium's data shows no increase in call capacity on the satellites as a result of increased spectrum.<sup>22</sup> Globalstar also states that, contrary to the DISA

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<sup>12</sup> Letter to Fredrick R. Wentland, Associate Administrator, Office of Spectrum Management, National Telecommunications and Information Administration, from Carl Wayne Smith, General Counsel, Defense Information Systems Agency (November 12, 2003) (*DISA Letter*).

<sup>13</sup> *DISA Letter*, p. 2.

<sup>14</sup> *DISA Letter*, p. 2.

<sup>15</sup> *DISA Letter*, p. 2.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> *Id.* pp.2-3.

<sup>19</sup> Petition to Deny of Globalstar, L.P. and Globalstar USA, L.L.C., Filed November 17, 2003 (*Globalstar Petition*).

<sup>20</sup> *Globalstar Petition*, p. 4.

<sup>21</sup> *Globalstar Petition*, p. 4.

<sup>22</sup> *Id.*, p. 5.

letter, there is no correlation between the call acquisition failure rates to the bandwidth available to Iridium. Contrary to Iridium's assertion, Globalstar maintains that there are alternative explanations as to why Iridium may experience capacity constraints unrelated to increased call traffic, including problems with design and spectrum usage that have not been adjusted to support Iridium's needs.<sup>23</sup> Globalstar further explains that there are other interferers in the Middle East region that have affected its own system.<sup>24</sup>

6. Globalstar also questions information contained in Iridium's status reports. Globalstar states that Iridium has failed to adequately explain or support the data contained in the reports. According to Globalstar, the bar graphs submitted with Iridium's November report demonstrating system loading and capacity are inconsistent based on the amount of spectrum accessible to Iridium. Globalstar also claims that the September and November monthly reports are inconsistent with each other. These inconsistencies, according to Globalstar, make it impossible for the Commission to rely on Iridium's data to conclude that Iridium needs additional spectrum to support service to the Middle East region.<sup>25</sup>

7. Second, Globalstar contends that the Communications Act does not authorize the Commission to grant Iridium's STA request. Specifically, Globalstar claims that the Commission can not dictate the terms and conditions of Iridium operations in non-U.S. territories, such as the Middle East, because MSS systems must obtain specific "landing rights" from each country for which they wish to provide service.<sup>26</sup> While Globalstar states that it agrees that the Commission has the authority to authorize space stations to operate internationally on certain frequencies, the Communications Act does not confer on the Commission the authority to dictate how various foreign countries implement the Big LEO frequency plan. In support of this argument, Globalstar refers to the Big LEO Report and Order which states that the "decisions relating to the implementation of Big LEO service within a country's territory will remain within that country's jurisdiction and control."<sup>27</sup> Thus, Globalstar concludes that while the Commission may authorize the operation of a satellite to provide international service in a certain frequency band, it cannot dictate whether service will be provided in a particular country or on what frequencies the system will be authorized to operate within a particular country's borders.

8. Iridium filed an opposition to Globalstar's petition.<sup>28</sup> Iridium notes that DISA has again indicated its support for Iridium's continued access to Channel 9. As a result, Iridium states that a grant of additional time to use Channel 9 will further the U.S. national interest and the public interest by ensuring that Coalition Forces continue to have access to critical communication services.<sup>29</sup> Iridium also contests Globalstar's assertions that Iridium has failed to provide data justifying its need for the additional spectrum. Rather, Iridium states that it has provided the Commission with data showing that use of the additional spectrum has alleviated the demands on its system and nearly eliminated acquisition failures.<sup>30</sup> Globalstar, Iridium states, has overlooked or ignored the fact that Iridium's spreading the number of calls over an increased amount of spectrum has the effect of making the traffic density appear lower than it

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<sup>23</sup> *Id.*, p. 7.

<sup>24</sup> *Globalstar Petition*, p. 8.

<sup>25</sup> *Globalstar Petition*, pp.10-11.

<sup>26</sup> *Globalstar Petition*, p.13.

<sup>27</sup> *GlobalStar Petition* at p.15, citing Amendment to 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, 6018 (1994) (*Big LEO Report and Order*).

<sup>28</sup> Iridium Constellation LLC, Opposition to Petition to Deny, filed December 2, 2003 (*Iridium Opposition*).

<sup>29</sup> *Iridium Opposition*, p. 4.

<sup>30</sup> *Iridium Opposition*, p. 5.

really is.<sup>31</sup> Iridium also responds that, contrary to Globalstar's assertions, it has been an efficient and judicious user of the spectrum as evidenced by its voluntarily discontinuing the use of one of the two 1.25 MHz channels then authorized in its STA when, in early June, traffic density decreased.<sup>32</sup> The use of one channel, however, remains necessary to meet the level of demand that has remained constant since that time.<sup>33</sup>

9. Iridium also responds that the Commission's authority to regulate Iridium's operations is well established. Contrary to Globalstar's claim, the Commission is not, Iridium states, "dictating" to other countries what types of services will be provided to those countries or on what frequencies the Iridium system will be authorized to operate on within other countries borders.<sup>34</sup>

10. Globalstar filed a reply to Iridium's opposition.<sup>35</sup> Globalstar states that Iridium failed to rebut its analysis concerning Iridium's need for the additional spectrum.<sup>36</sup> Globalstar also states that Iridium did not adequately refute Globalstar's analysis that the Commission cannot authorize the frequencies Iridium may use for service to the Middle East region.<sup>37</sup>

### III. DISCUSSION

11. *Information Supporting Iridium's Request.* We find that Iridium has provided sufficient data demonstrating its continued need for the additional spectrum to handle the increase in system traffic it has been experiencing in the Middle East region as a result of U.S. military operations in that area. If as Globalstar asserts, there are other factors causing congestion to Iridium's system then these factors may support Iridium's need for additional spectrum to meet its traffic requirements. Radio link failures potentially attributable to interference from military radar and other "interferors" in the region cannot be avoided and does not diminish Iridium's need for additional spectrum to provide communications services to our military and Coalition Forces. Further, although Globalstar questions the efficiency of Iridium's system, we find that there are pressing national and public interest concerns warranting a grant of temporary authority to Iridium to operate in the 1610.21-1621.35 MHz frequency band to provide communications services to U.S. and Coalition Forces in the Middle East region.

12. Nonetheless, we find that Globalstar has not presented sufficient information demonstrating Iridium's failure to support its request for temporary authority. Globalstar states that the graph in the November 2003 report titled "Middle East Erlangs/MHz" shows a 22 percent drop in traffic load from July through September. As a result, Globalstar claims that the second graph, titled "% Regional Capacity" should also reflect a 22 percent drop in capacity between the April, and July through September values.<sup>38</sup> Our review shows that Globalstar's analysis does not take into consideration the fact that in April, Iridium was operating on 7.65 MHz of spectrum (5.15 MHz as originally authorized and 2.5 MHz pursuant to the STA). Further, in July, Iridium was operating on only 6.4 MHz of spectrum (5.15 MHz as originally authorized and 1.25 MHz pursuant to the STA). This difference accounts for the

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<sup>31</sup> *Iridium Opposition*, p. 6.

<sup>32</sup> *Iridium Opposition*, p. 6.

<sup>33</sup> *Iridium Opposition*, p. 7.

<sup>34</sup> *Iridium Opposition*, p.9.

<sup>35</sup> Reply of Globalstar L.P. and Globalstar USA LLC, filed December 9, 2003 (*Globalstar Reply*).

<sup>36</sup> *Globalstar Reply*, p. 2.

<sup>37</sup> *Globalstar Reply*, p. 4.

<sup>38</sup> *Globalstar Petition*, Technical Appendix, p. 1.

capacity depicted in Iridium's graph of Regional Capacity. Globalstar also questions the accuracy of Iridium's September status report. In its analysis of the report, Globalstar uses an unsupported assumption with respect to the percentage of calls that are allowed to be blocked. Consequently, we cannot rely on Globalstar's assumption to determine whether its analysis of Iridium's information is accurate. Rather, we find that data submitted by Iridium shows that acquisition failures have declined significantly with the use of the additional spectrum, enabling Iridium to provide vital communications services with significant success rates under heavy use.

13. *Commission's Authority to Grant Iridium STA.* We also find that Globalstar is incorrect in asserting that the Commission lacks authority to grant Iridium this temporary authorization. We responded to this argument in the October Modification Order, in which we distinguished between the earth station and space station segments of a satellite authorization and stated that the Administration having jurisdiction with respect to the earth stations is typically the one in which earth stations are physically located.<sup>39</sup> We also noted that various sections of the Communications Act and International Telecommunication Union treaty obligations authorize the Commission to grant temporary authority or to modify Iridium's space station authorization.<sup>40</sup> Globalstar, however, asserts that the Communications Act does not authorize the Commission to mandate what frequencies Iridium uses for service to the Middle East. As Iridium explained in its initial STA request, "[b]ecause the Iridium system is not currently able to assign frequencies based on geographic location, Iridium seeks to use the additional 1.25 MHz of spectrum globally, not only in the Middle East region."<sup>41</sup> Consequently, as with Iridium's prior temporary authorizations, we grant Iridium's request to operate in the 1620.10-1621.35 MHz frequency band on a global basis, not just in the Middle East region, and to operate on a non-harmful interference basis with respect to any other allocated radio service in that band outside of the Middle East region.<sup>42</sup> Because Globalstar is the only other system licensed by the Commission to operate in that band, we require Iridium to operate with Globalstar on a co-equal status with Globalstar in the Middle East region. We impose this condition after serious consideration of the national interests at stake and the critical communications support Iridium provides to U.S. and Coalition Forces. We also consider that Globalstar has not demonstrated harmful interference to its system or any significant disruption to its service as a result of Iridium's operations. We expect both parties to cooperate to resolve any interference problems that may arise in the Middle East region. Globalstar has again failed to offer a compelling reason as to why the temporary grant of additional spectrum to Iridium, in order to provide vital communication services to U.S. and Coalition Forces, does not serve the public interest.

14. Globalstar's references to the Commission's Big LEO Report and Order, in which the Commission stated that "decisions relating to the implementation of Big LEO service within a country's territory will remain within that country's jurisdiction and control" does not alter our conclusion that we have authority to grant Iridium this temporary authorization.<sup>43</sup> The issue Globalstar raises pertains to

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<sup>39</sup> *October Modification Order*, ¶ 11, citing 47 U.S.C. §§ 151, 152, 301, and 303(r). The Communications Act gives the Commission the authority to regulate "communication by wire and radio so as to make available [a] ... Nationwide, and world-wide wire and radio communication service with adequate facilities ... for the purpose of the national defense [and] promoting safety of life and property..." *Id.* See also, *Cable & Wireless, P.L.C. v. FCC*, 166 F.3d 1224, 1230 (D.C. Cir. 1999) (in addressing challenge to an FCC order mandating maximum settlement rates that U.S. telecommunications carriers may pay to their foreign counterparts, the Court noted that "the Commission does not exceed its authority simply because a regulatory action has extraterritorial consequences").

<sup>40</sup> *October Modification Order*, ¶ 12.

<sup>41</sup> Iridium Constellation LLC, Request for Special Temporary Authority to Provide Mobile Satellite Service in the 1618.85-1620.10 MHz Frequency Band, filed April 25, 2003.

<sup>42</sup> See *October Modification Order*, ¶ 16.

<sup>43</sup> *Globalstar Petition*, p. 15.

landing rights, or earth station authorizations, which we previously acknowledged typically lies within the jurisdiction of the territory in which the earth stations are located.<sup>44</sup> Globalstar also refers to the Commission's statement in the Big LEO order that it will not "mandate a band sharing scheme to be followed beyond U.S. borders."<sup>45</sup> In this instance however, we are merely specifying frequencies pursuant to which Iridium may offer services on a temporary basis. In granting Iridium's request, we are not specifying a "global band plan." Other countries continue to retain the discretion as to whether to allow services within their borders in accordance with the frequencies we are authorizing Iridium to use on a temporary basis.

#### IV. CONCLUSION AND ORDERING CLAUSES

15. Based on the foregoing, we find that Iridium has presented extraordinary circumstances warranting a grant of temporary authorization for operations in the 1620.10-1621.35 MHz band. We find that this authorization will serve the public interest by allowing Iridium to provide essential communications services to support vital U.S. Government operations in the Middle East region. This action is taken without prejudice to the Commission's action in the ongoing rulemaking proceeding in IB Docket No. 02-364, Review of Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz. Bands.

16. Accordingly, IT IS ORDERED, that the request for special temporary authorization filed by Iridium Constellation, LLC, File No. SAT-STA-20031010-00313 is GRANTED. Iridium is authorized to operate in the 1620.10-1621.35 MHz frequency band up to May 12, 2004 or until the use of the additional frequencies is not required, whichever occurs first.

17. IT IS FURTHER ORDERED, that the Iridium satellite system shall operate on a co-equal status with the Globalstar satellite system in the 1620.10-1621.35 MHz band within the Middle East region.

18. IT IS FURTHER ORDERED, that in areas outside of the Middle East region the Iridium satellite system must operate in the 1620.10-1621.35 MHz frequency band on a non-harmful interference basis with respect to any other allocated radio service in that band.

19. IT IS FURTHER ORDERED, that Iridium must file a report with the Commission on the first day of each month, commencing January 1, 2004, demonstrating its continued need and use of the 1620.10-1621.35 MHz frequency band. This report must include information regarding system loading and system capacity over the Middle East region, from April 1, 2003 to the date of the report.

20. IT IS FURTHER ORDERED, that Iridium shall maintain the capability of suspending operations in the 1620.10-1621.35 MHz band, upon notice from the Commission, within no more than 24 hours.

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<sup>44</sup> *October Modification Order*, ¶11.

<sup>45</sup> *Globalstar Petition* at 15-16 citing *Big Leo Order*, 9 FCC Rcd at 6019.

21. This action is taken pursuant to 47 C.F.R. § 0.261; 47 U.S.C. §§ 309(f), 316(a) and 47 U.S.C. § 4(i).

FEDERAL COMMUNICATIONS COMMISSION

Thomas S. Tycz  
Chief  
Satellite Division  
International Bureau