



GLOBALSTAR, INC.  
461 SO. MILPITAS BLVD.  
MILPITAS, CA 95035

Tel: (408) 933-4000  
Fax: (408) 933-4100  
www.globalstar.com

May 21, 2010

Ms. Mindel De La Torre  
Chief, International Bureau  
Federal Communications Commission  
445 Twelfth Street, S.W.  
Washington, D.C. 20554

Re: Globalstar Licensee LLC Request for Interim Operating Authority –  
Call Sign S2115 – FCC File No. SAT-STA-20070713-00098

Dear Ms. De La Torre:

Pursuant to Section 25.120 of the Commission's rules, 47 C.F.R. § 25.120, Globalstar Licensee LLC, on behalf of itself and its parent, Globalstar, Inc. ("Globalstar"), hereby requests, for the sixth time, an extension of the interim operating authority it has sought<sup>1/</sup> for 180 additional days, or until the grant of its pending application to modify its satellite constellation,<sup>2/</sup> whichever is sooner, to continue to provide service using its 1.6/2.4 GHz Mobile Satellite Service ("MSS") system, call sign S2115, in accordance with the technical parameters specified

---

<sup>1/</sup> See Globalstar Licensee LLC Request for Interim Operating Authority – Call Sign S2115 – FCC File No. SAT-STA-20070713-00098 (filed July 13, 2007); Globalstar Licensee LLC Request for Interim Operating Authority – Call Sign S2115 – FCC File No. SAT-STA-20080104-00003 (filed Jan. 4, 2008); Globalstar Licensee LLC Request for Interim Operating Authority – Call Sign S2115 – FCC File No. SAT-STA-20080707-00142 (filed July 7, 2008); Globalstar Licensee LLC Request for Interim Operating Authority – Call Sign S2115 – FCC File No. SAT-STA-20081205-00221 (filed Dec. 5, 2008); Globalstar Licensee LLC Request for Interim Operating Authority – Call Sign S2115 – FCC File No. SAT-STA-20090527-00058 (filed May 27, 2009); Globalstar Licensee LLC Request for Interim Operating Authority – Call Sign S2115 – FCC File No. SAT-STA-20091130-00131 (filed Nov. 30, 2009) (collectively, "STA Requests"). Each of the STA Requests remains pending.

<sup>2/</sup> See Globalstar Licensee LLC and GUSA Licensee LLC – Application for Modification of Nongeostationary Mobile Satellite Service System License (S2115) To Launch a Second-Generation System, SAT-MOD-20080904-00165 (filed Sept. 4, 2008) ("*Second-Generation Application*"). On December 21, 2009, Globalstar amended the *Second-Generation Application* and filed multiple additional applications seeking to modify its U.S. earth station licenses in anticipation of its upcoming satellite launches. See FCC File No. SAT-AMD-20091221-00147 *et al.* (filed Dec. 21, 2009).

below. As Globalstar discussed in the STA Requests and in the Second-Generation Application, this interim authority is necessary so that Globalstar can ensure continuity of service to its customers as it makes further adjustments to its constellation to manage S-band forward link signal weakness pending the replenishment of its constellation beginning later this year. The L-band return link continues to perform optimally.

#### Request for Extension of Interim Authority

As indicated in the STA Requests and Second-Generation Application, Globalstar's NGSO constellation will require continual fine tuning until at least 24 of the 48 replacement satellites, now under construction, are operational in 2011. As Globalstar stated in the STA Requests, its sole motivation for requesting this interim authority is to maintain an acceptable, reliable quality of voice and duplex data service for subscribers to the maximum extent possible during this challenging transition period. None of the orbital adjustments that have been completed or that are under consideration will result in any increased radio-frequency interference to any other satellite or terrestrial system.

Globalstar's 2003 application to modify its constellation,<sup>3/</sup> to which its current authorization is referenced, specifies 40 operational satellites in 8 planes of 5 each, 9 additional satellites within the operational orbit as in-plane spares, and 1 satellite in the 920 km parking orbit (since raised to the operational orbit), for a total of 50. Globalstar reported in its October 2009 Annual Report that 13 satellites had been retired, leaving 47 operational (some L- and S-band and some L-band only) and two in-plane spares (L-band only). Since the Annual Report was filed and as of May 1, 2010, three additional satellites have been decommissioned, leaving 44 operational satellites. In addition, as Globalstar previously has reported, as the spacecraft approached or surpassed the end of their design life all experienced reduced call capacity due to S-Band anomalies. Because of the number of anomalies, Globalstar decided that it would be prudent to transition to a more flexible constellation alignment.

Consistent with its STA Requests, Globalstar has transitioned from its authorized<sup>4/</sup> 40 operating satellite constellation to a 48-satellite constellation as it has placed the eight spare satellites that it launched successfully on May 29, 2007, and October 22, 2007, into service,<sup>5/</sup> while adjusting the in-plane positions of the older satellites with fully or partially functioning S-

---

<sup>3/</sup> See S2115, File No. SAT-MOD-20030606-00098. See Public Notice, DA No. 05-316 (Feb. 4, 2005).

<sup>4/</sup> See S2115, File No. SAT-MOD-20030606-00098. See Public Notice, DA No. 05-316 (Feb. 4, 2005).

<sup>5/</sup> The spares drift into their orbital planes, which can take anywhere from a couple of weeks to seven or eight months. The last of the eight spare satellites was placed into operation on June 26, 2008.

band subsystems.<sup>6/</sup> Thus, the constellation composition will remain fluid and will be complex to manage as older satellites proceed to reach end of life.

As discussed in the STA Requests, the launch of eight spares has helped to improve the quality of Globalstar's voice and data services, but also has had the effect of bringing the total number of operating satellites above 40 because some of the satellites that are no longer useful for S-band service remain useful for L-band simplex service.

Accordingly, consistent with its original STA Requests, Globalstar hereby requests interim authority to continue to:

(a) modify its constellation configuration from a 40-satellite "Walker" configuration to a flexible hybrid 48-satellite configuration consisting of a 16-satellite Walker and a 32-satellite Walker with up to 7 satellites in each of 8 planes (not exceeding a total of 48 operating), plus up to 2 in-orbit spares;<sup>7/</sup>

(b) adjust the relative phasing between satellites in adjacent planes from a fixed 18° to 33.75° for the 32-satellite Walker and 112.5° for the 16-satellite Walker;<sup>8/</sup> and

(c) move the satellites, including the eight spares, out of the operational orbit in accordance with the existing approved orbital debris mitigation plan as and when the satellites are no longer able to provide useful service in any band.

The following table, adapted from Exhibit A, Application of L/Q Licensee, Inc., File No. SAT-MOD-20030606-00098, depicts the requested temporary changes:

---

<sup>6/</sup> Globalstar considers a satellite operating above 2 volts to be fully functioning, and a satellite operating at 1 to 2 volts to be partially functioning. A satellite at less than 1 volt does not emit sufficient power to provide an acceptable connection to the user terminal.

<sup>7/</sup> The Globalstar satellites will continue to operate in eight planes only. The 32 Walker and the 16 Walker constellations will share the same eight planes, which are separated by 45 degrees. The 32 Walker constellation will provide both Duplex and Simplex services. The 16 Walker constellation will provide primarily Simplex services, although some of the satellites – specifically those that continue to have functional S-band amplifiers – will provide Duplex services as well.

<sup>8/</sup> The 32 Walker constellation will be a 32/8/3 Walker, which means that the satellites within a plane will be phased by 90 degrees from one another, and from one plane to an adjacent plane satellites will be phased by 33.75 degrees from one another. The 16 Walker constellation will be a 16/8/5 Walker, which means that the satellites within a plane will be phased by 180 degrees from one another, and from one plane to an adjacent plane satellites will be phased by 112.5 degrees from one another.

	<b>Current Authorization</b>	<b>Interim Operation Requested</b>
Number of Satellites	40 Walker/3 in-orbit spares	16 Walker/32 Walker/2 in-orbit spares
Orbital Altitude	1414 km	1414 km
Number of Planes	8	8
Inclination	52°	52°
Argument of perigee	90°	90°
Eccentricity	~0.001	0.0008
Plane spacing at equator	45°	45°
Relative phasing between satellites in adjacent planes	18°	16 Walker-112.5° 32 Walker-33.75°
Orbit period	114 minutes	114 minutes

Contingent Request for Waiver

In light of the S-band degradation, Globalstar advised the Commission in its previous STA Requests and its *Second Generation Application* that its voice and duplex coverage would fall short of the level required in Section 25.143(b)(2)(iii)<sup>9/</sup> of the Commission’s rules until replacement satellites are in service. While there have been no recent catastrophic S-band amplifier failures, and the eight spares that are now in service have brought an improvement of S-band service coverage, there are times of the day when S-band coverage falls short of the level expected under the Commission’s rules. As stated in the previous STA Requests and reiterated above, L-band return link coverage for simplex services will remain fully compliant at all times.

Section 25.143(b)(2)(iii) requires that NGSO satellites “be capable of providing mobile satellite services on a continuous basis throughout the fifty states, Puerto Rico and the U.S. Virgin Islands, i.e., that at least one satellite will be visible above the horizon at an elevation angle of at least 5 deg. at all times....” Globalstar will meet this requirement for simplex data

---

<sup>9/</sup> The companion Section 25.143(b)(2)(ii) requires that NGSO satellites “be capable of providing mobile satellite services to all locations as far north as 70 deg. North latitude and as far south as 55 deg. South latitude for at least 75% of every 24-hour period, i.e., that at least one satellite will be visible above the horizon at an elevation angle of at least 5 deg. For at least 18 hours each day ....” Globalstar’s modified constellation will continue to meet this requirement for simplex services.

services, but will not meet this requirement with its duplex services until at least eighteen replacement satellites are in service. Although Globalstar believes that its provision of simplex data services meets the level of coverage required by Section 25.143(b)(2)(iii) for the constellation as a whole,<sup>10/</sup> if the Commission disagrees, Globalstar hereby requests a limited waiver of Section 25.143(b)(2)(iii) with regard to its voice and duplex data services to the extent described below. Section 25.143(b) does not define “mobile satellite services” for purposes of that section. “Mobile-Satellite Service” and “1.6/2.4 GHz Mobile-Satellite Service,” which are defined in Section 25.201, do not specify whether the services must be voice, data or both. They only reference “radiocommunication.” Section 25.201 does contain a distinct definition for “Non-Voice, Non-Geostationary Mobile-Satellite Service”; however, the definition in that section and the history of the Little LEO Rulemaking Proceeding<sup>11/</sup> in which it was adopted make clear that the Commission’s purpose was to exclude voice services from the Little LEO bands. In contrast, there is nothing in the rules adopted in the Above 1 GHz MSS (“Big LEO”) Proceeding that reveals an intent to exclude either duplex or simplex data services from the definitions or the particular array of services that may be offered to satisfy the coverage requirements in Section 25.143(b)(2).<sup>12/</sup> Recognizing that the Commission has never been asked

---

<sup>10/</sup> In its decision granting Globalstar conditional ancillary terrestrial component (“ATC Decision”) authority, the Commission stated that “the continuous availability of one-way L-band only MSS is insufficient for compliance with the coverage gating criteria for Globalstar’s proposed S-band ATC operations.” The ATC coverage “gating criteria” are contained in Section 25.149(b)(1)(iii) of the rules, not Section 25.143(b)(iii), and it is clear from the context of the Commission’s ATC Decision that its statement was intended to interpret only the gating criterion as they relate to Globalstar’s proposed WiMAX ATC service in its S-band. Globalstar Licensee LLC, *Order and Authorization*, FCC 08-254 (Oct. 31, 2008), at ¶ 16.

<sup>11/</sup> See Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993 -- Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, *First Report*, 10 FCC Rcd. 8844 at ¶ 43 (“Little LEOs have been allocated approximately three and one-half MHz of primary spectrum. They are expected to be more oriented towards non-voice communications for businesses and government entities.”).

<sup>12/</sup> See, e.g., 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 (1994) at ¶ 3 (“[T]he Big LEO service can offer an almost limitless number of services, including ubiquitous voice and data mobile services, position location services, search and rescue communications, disaster management communications, environmental monitoring, paging services, facsimile transmission services, cargo tracking, and industrial monitoring and control.”); Applications of Constellation Communications, Inc., Loral/Qualcomm Partnership, L.P., Mobile Communications Holdings, Inc., Motorola Satellite Communications, Inc., and TRW Inc., for Authority To Construct, Launch, and Operate, Low Earth Orbit Satellite Systems To Provide Mobile Satellite Services in the 1610-1626.5 MHz/2483.5-2500 MHz Bands, *Memorandum Opinion and Order*, 11 FCC Rcd 18502 (1996) at ¶ 1 (“[Big LEO systems] are capable of providing a wide range of voice and data services to hand-held terminals on a global basis.”); Amendment of Part 25 of the

to interpret the Section 25.143(b) requirements for 1.6/2.4 GHz MSS systems,<sup>13/</sup> Globalstar respectfully requests that, if the Commission disagrees with Globalstar's interpretation, the Commission grant it a temporary waiver of the requirement to the extent described above.

#### Public Interest Justification

Globalstar submits that there are extraordinary circumstances that justify a continuation of the requested interim operating authority while it continues to manage and adjust its satellite constellation, and that the expeditious grant of this application would serve the public interest. Globalstar currently has over 394,000 activated satellite devices in service in more than 120 countries. The United States and Canada comprise Globalstar's largest markets. Globalstar derives about 60 percent of its service revenue from its U.S. market and 79 percent of its total revenue from its North American market. Globalstar includes among its customers subscribers in remote areas for whom Globalstar is the only service provider available. In addition, because, in many cases, Globalstar's services are less expensive than those of most of its competitors, Globalstar service is the most affordable option for customers seeking to include a satellite component in their communications capability.<sup>14/</sup> Any interruption in Globalstar's provision of service pending the approval of its Second-Generation Application now that the spares are in service and the constellation has been stabilized would cause extreme hardship to these customers.

Globalstar has implemented, and continues to implement, technical adjustments to ensure that the S-band subsystem anomalies have as little impact as possible on its provision of reliable service to its customers. In addition to expediting the launch of replacement satellites and adjusting its gateway earth stations, Globalstar also has an ongoing campaign to educate its dealers and customers concerning the potential for delays in obtaining a signal at certain times in certain locations. Globalstar also has developed a Call Time Tool for its subscribers. This is a Web-based software that customers can access to inform themselves of optimum calling periods. While these measures are proving effective in minimizing the impact of the degradation of certain satellite S-band subsystems, the most effective means by which Globalstar can preserve its quality of service pending the launch of its second-generation constellation is by continuing to make real-time adjustments to the satellites within its constellation from its control centers in California.

---

Commission's Rules To Establish Rules and Policies Pertaining To the Second Processing Round of the Non-Voice, Non-Geostationary Mobile Satellite Service, *Notice of Proposed Rule Making*, 11 FCC Rcd 19841 at ¶ 27 ("Big LEO systems, for example, can also provide two-way, worldwide, mobile data services.").

<sup>13/</sup> See note 10, supra.

<sup>14/</sup> Globalstar USA now offers unlimited air time for \$34.95 per month through June 30, 2010. See <http://www.globalstarusa.com/en/>.

Section 316(a) of the Communications Act authorizes the Commission “to modify any station license for a limited time, or the duration of the license, if the Commission determines that such action will promote the public interest, convenience and necessity.”<sup>15/</sup> Moreover, consistent with this statutory directive, the Commission has designed its satellite licensing policies “to be flexible enough to allow satellite operators to respond to changing technological, market, and regulatory conditions.”<sup>16/</sup> In general, so long as a proposal will not cause interference to other licensed operations, the Commission generally authorizes it if it is otherwise in the public interest.<sup>17/</sup>

As discussed above and in the pending STA Requests, this interim authority to make ongoing adjustments to the Globalstar constellation is necessary to address continued satellite performance degradation that could not have been predicted when the system was designed and launched and that remains unpredictable. As soon as Globalstar became aware of the rate at which certain of its S-band subsystems were degrading, it acted quickly to ensure that it could continue to provide as reliable and robust a quality of service as possible to its customers. The public interest would not be served by denying this request for further interim authority to continue to make the adjustments necessary pending the approval of its Second-Generation Application and, ultimately, the launch of satellites for its replacement constellation that have been designed to resist S-band subsystem degradation. Again, the adjustments Globalstar has made and must continue to make to the in-plane positions of its satellites have not resulted, and will not result, in any increased radiofrequency interference to any other satellite or terrestrial system.

Finally, to the extent that the Bureau concludes that a waiver of any of the Commission’s rules is necessary in connection with this request for further interim operating authority, Globalstar submits that the facts and circumstances presented here meet the Commission’s waiver standards. The Commission may waive its rules for good cause shown.<sup>18/</sup> In particular, the Commission has found that a waiver of its rules is appropriate where “special circumstances warrant a deviation from the general rule and such deviation would better serve the public interest than would strict adherence to the general rule” and where the relief requested “would not undermine the policy objective of the rule in question and would otherwise serve the public

---

<sup>15/</sup> See, e.g., *Modification of Licenses Held By Iridium Constellation, LLC and Iridium, US LP for a Mobile Satellite System in the 1.6 GHz Frequency Band*, *Order*, 18 FCC Rcd 20023 (Int’l Bur. 2003) at ¶ 8 (citing 47 U.S.C. § 316(a)).

<sup>16/</sup> See *Intelsat North America, Application for Authority To Modify Earth Station Authorization To Provide Launch and Early Orbit Phase (“LEOP”) Operations for Newly Launched Satellites*, *Order and Authorization*, 21 FCC Rcd 14672 (Int’l Bur. 2006) at ¶ 6.

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

<sup>18/</sup> See 47 C.F.R. § 1.3.

Ms. Mindel De La Torre

May 21, 2010

Page 8 of 9

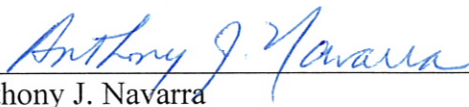
interest.”<sup>19/</sup> As shown here, the unanticipated rate at which the S-band subsystems in certain of its satellites have now degraded has left Globalstar with no near-term option other than to launch spare satellites, accelerate the construction and launch of its second generation satellites, and adjust the in-plane positions of older satellites. Because these circumstances could not have been foreseen or prevented, and cannot adequately be addressed through any other means without jeopardizing Globalstar’s ability to continue to serve its customers, Globalstar believes that a limited waiver of the rules pending Globalstar’s launch of its replacement satellites, currently scheduled to commence in late September or early October 2010, would serve the public interest by ensuring that Globalstar can continue to provide as robust and reliable a level of service to its customers as possible.

Globalstar recognizes that it has an obligation, as a Commission licensee, to operate solely within the confines of its authorization and to keep the Commission fully informed of any technical changes in its operations that may be necessary to address performance-related developments. Accordingly, Globalstar will continue to update the Bureau as appropriate of any further interim changes to its constellation between now and the approval of its Second-Generation Application.

Should there be any questions concerning this request, please contact William Adler or Globalstar’s counsel, Josh Roland of WilmerHale.

Respectfully submitted,  
GLOBALSTAR LICENSEE LLC  
GLOBALSTAR, INC.

By:

  
\_\_\_\_\_  
Anthony J. Navarra

President, Globalstar Licensee LLC &  
President-Global Operations  
Globalstar, Inc.  
461 S. Milpitas Blvd., Suite 2  
Milpitas, CA 95035  
(408) 933-4000

---

<sup>19/</sup> Order and Authorization, *Panamsat Licensee Corp.*, 17 FCC Rcd. 10483, 10492 ¶ 22 (2002) (“*Panamsat Licensee Corp.*”); *Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969).



Ms. Mindel De La Torre  
May 21, 2010  
Page 9 of 9

OF COUNSEL:

William F. Adler  
Of Counsel  
Globalstar, Inc.  
(408) 933-4401  
william.adler@globalstar.com

Josh Roland  
WilmerHale  
1875 Pennsylvania Avenue, N.W.  
Washington, DC 20006  
(202) 663-6266  
josh.roland@wilmerhale.com

cc: Cassandra Thomas  
Karl Kensinger  
Columbia Operations Center