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Via Electronic Filing

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

Re: Request for Modification of Blanket License for Mobile Earth Stations
GUSA Licensee LLC
Call Sign E970381

Dear Ms. De La Torre:

Pursuant to Section 25.117 of the Federal Communications Commission's ("FCC's" or "Commission's") rules, GUSA Licensee LLC ("Globalstar") hereby requests modification of its blanket license for mobile earth stations ("MESs") operating in the Big LEO mobile satellite service ("MSS") band.¹ As described in the Technical Operations Exhibit for the instant application, Globalstar proposes numerous changes to its current MES blanket license, which authorizes MES operations in the United States, all U.S. territories and possessions, and all U.S. territorial waters. Specifically, Globalstar seeks an increase in the quantity of several different terminal types, including its SPOT Satellite Messenger and Tracker ("PTracker") devices and its Telemetry simplex units. Globalstar also proposes changes to certain technical and operational

¹ Globalstar currently has a pending application to modify its MES blanket license to permit communications with Globalstar's ("Globalstar's") second-generation MSS satellites (both those already launched and those to be launched), which are licensed through France. See Application for Modification of Mobile Satellite Service Earth Station Licenses and Mobile Earth Terminal Licenses to Authorize Communications with Second-Generation System and to Incorporate Previously-Granted Ancillary Terrestrial Component Authority, Globalstar Licensee LLC, GUSA Licensee LLC, and GCL Licensee LLC, IBFS File No. SES-MFS-20091221-01602 (Dec. 21, 2009); Application for Modification of Nongeostationary Mobile Satellite Service System License (S2115) to Launch a Second-Generation System, IBFS File Nos. SAT-MOD-20080904-00165, SAT-AMD-20091221-00147 (Dec. 21, 2009) ("Second-Generation Application"). The instant application for modification should be processed separately from Globalstar's Second-Generation Application, and should have no effect on the Commission's treatment of that application. Once the Commission approves that pending application, grant of the instant request will enable the additional and modified terminals proposed herein to communicate with Globalstar's French-licensed second-generation satellites.

parameters for the PTracker and Telemetry units. In addition, Globalstar seeks to revise the “Manufacturer” designation for these two terminal types, including changing the designation for Telemetry devices to “Various.” Finally, Globalstar requests that the FCC take the clerical action of conforming the frequencies of operation listed in Globalstar’s MES blanket license with the frequencies specified in the Commission’s October 15, 2008 license modification order (1610-1618.725 MHz).²

Grant of the proposed blanket license modification will help facilitate the ongoing growth of Globalstar’s MSS business, which provides extraordinary benefits to consumers and public safety customers in the United States and elsewhere.³ In recent years, Globalstar has focused on the development of affordable, consumer-oriented devices and services. Most notably, the innovative PTracker device plays a critical role in the provision of emergency and safety-of-life services to individual consumers beyond terrestrial wireless reach.⁴ Globalstar expects the growth of its satellite business to accelerate over the next several years as its second-generation Big LEO MSS constellation becomes operational and supports an array of new service offerings. With an MES blanket license that provides for greater numbers of devices and more flexible technical parameters, Globalstar and its technology vendors will have greater ability to roll out new, innovative products to Globalstar’s expanding customer base.

In particular, Globalstar’s proposed change to the “Manufacturer” designation for Telemetry devices is necessitated by dramatic changes in the MSS equipment marketplace since Globalstar was granted this license in 1999. Until recent years, there were only a limited number of MES models available to operate over Globalstar’s Big LEO network. In contrast, Globalstar is now working with an ever-changing assortment of telemetry vendors on a variety of innovative designs and applications. In this dynamic environment, the Commission should not require an MES blanket license to identify a specific, static group of manufacturers or terminal models. This approach would require Globalstar to modify its blanket authorization every time it added a new manufacturer or new Telemetry device model, resulting in an excessive administrative burden both for Globalstar and the Commission. Rather, Globalstar proposes to designate the manufacturers of its Telemetry devices as “Various,” and provide technical parameters that will encompass all Telemetry units to be operated under its authorization. The individual manufacturers of these Telemetry devices will be identified in the equipment

² *Globalstar Licensee LLC, GUSA Licensee LLC and Iridium Constellation LLC, Iridium Satellite LLC, Iridium Carrier Services LLC; Modification of Authority to Operate a Mobile Satellite System in the 1.6 GHz Frequency Band*, Order of Modifications, 23 FCC Rcd 15207 (2008).

³ Globalstar currently provides satellite service to approximately 250,000 consumers and other customers in the United States and its territories. Around the world, Globalstar uses its global Big LEO MSS constellation to provide affordable, high-quality mobile satellite voice and data services to over 400,000 customers in 120 countries.

⁴ To date, PTracker devices have been used to initiate more than 800 rescues in over 50 countries on land and at sea.

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certification filings for these units, rather than in Globalstar's blanket license. The equipment certification process will also ensure that these Telemetry devices comply with all applicable technical requirements in Globalstar's license and the Commission's rules.

Accordingly, for the reasons described herein, an expeditious grant of the proposed blanket license modification will further the public interest, convenience, and necessity. Please do not hesitate to contact me with any questions.

Respectfully submitted,

/s/ Regina M. Keeney
Regina M. Keeney

MOBILE EARTH STATION TECHNICAL & OPERATIONAL INFORMATION

GUSA Licensee LLC (Globalstar USA) holds a blanket license to operate 1,620,000 mobile earth stations (MESs) in the United States, all U.S. territories and possessions, and all U.S. territorial waters, for communications with the Globalstar™ Big LEO NGSO Mobile Satellite Service (MSS) system. This total includes 450,000 handheld units, 305,000 vehicular mobile units, 60,000 ancillary fixed units, 490,000 Telemetry simplex transmitters, 10,000 aviation units, 250,000 SPOT Satellite Messenger and Tracker devices (personal tracker or “PTracker” devices), 54,000 satellite data and voice modems (SDVMs), and 1000 MCM-4 transmitters. This Technical Operations Exhibit is attached to an FCC Earth Station License Modification Application, which, among other things, seeks to add 650,000 Mobile Earth Stations to the current MES blanket license, for a total of 2,270,000 MES units.

As indicated in the FCC Form 312 – Schedule B of this Modification Application, **Globalstar USA proposes the following modifications to the existing terminal types authorized under its current MES blanket license:**

- Quantity of MESs – 650,000 Additional MES Units
 - Increase the quantity of PTracker devices from 250,000 to 750,000.
 - Increase the quantity of GSP-1700 (Handheld2) devices from 150,000 to 250,000.
 - Increase the quantity of SDVMs from 50,000 to 100,000.
- Technical and Operational Parameters
 - Increase antenna gain for Telemetry devices from 4 dBi to 5 dBi. There is no change in the maximum EIRP or EIRP density.
 - Increase transmit power for PTracker devices from 22 dBm to 26 dBm. There is no change in the maximum EIRP or EIRP density.
 - Increase the altitude of Telemetry devices to 20,000 m for aviation applications.
 - Change the Emission designator of PTracker from 2M50G2D to 2M50G1D.
 - Change the Emission designator of Telemetry from 2M50G2D to 2M50G1D.
 - For all authorized terminal types, conform the frequencies of operation listed in Globalstar USA’s MES blanket license with the frequencies identified in the FCC’s October 15, 2008 license modification order (1610-1618.725 MHz).
- Manufacturer
 - Change the manufacturer for Telemetry devices and Telemetry antennas from AeroAstro to Various.
 - Change the manufacturer for PTracker devices from Axonn to Spot LLC.

Below, Globalstar USA provides additional technical information regarding these proposed modifications and the mobile terminal types to be operated under this revised blanket license.

Antenna Facilities

Under the proposed modified MES blanket license, the antenna for the SPOT Satellite Messenger and Tracker will be designed by SPOT LLC of Covington, LA (formerly known as Axonn). For Telemetry devices, the antenna will be designed by AeroAstro and other entities. In production, antennas may be fabricated by third party manufacturers. Changing the “Manufacturer” designation for the Telemetry antenna to “Various” will give Globalstar USA and its equipment vendors greater flexibility as they develop and deploy new Telemetry devices and services.

The MES radio type corresponding to this application for modification is indicated below:

Radio Type	Radio Designator	Services Offered	Frequency Bands (MHz)	Antenna Designation
Telemetry	Single mode	Globalstar™	Tx ¹ : 1610-1618.725	GS TX
PTracker	Single mode	Globalstar™	Tx ¹ : 1610-1618.725	GS TX

¹ Tx - transmit band

The PTracker radio is equipped with one Globalstar™ transmit antenna. The antenna has hemispherical coverage with a quasi omni-directional gain pattern, and is integrated in a single housing with the radio unit. The Telemetry radio is equipped with one Globalstar™ transmit antenna. The antenna has hemispherical coverage with a quasi omni-directional gain pattern, and is integrated either in a single housing with the radio unit or external to the unit based on the end consumer application.

Key characteristics of the PTracker and Telemetry devices under the proposed blanket license modification are summarized in the table below:

Globalstar™ Antenna (GS TX)

Parameter	Globalstar™ Satellite Personal Tracker Antenna GS Transmit	Globalstar™ Telemetry Antenna GS Transmit
Frequency	1610 to 1618.725 MHz	1610 to 1618.725 MHz
Polarization	Left Hand Circular	Left Hand Circular
Peak Gain	<5.0 dBic	<5.0 dBic
Elevation Plane Coverage	10 to 90 degrees	10 to 90 degrees
Azimuth Plane Coverage	360 degrees	360 degrees
Gain below 10 degrees elevation	<0 dBic	<0 dBic
Size	1.75” square, 0.3” thick	2.0” diameter, 2.0” length

Antenna Heights

The extremely small size of the mobile terminal types to be operated under Globalstar’s proposed blanket license modification makes FAA notification unnecessary. See Section 17.14(b) of the Rules.

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The PTracker is intended to be used as a handheld portable radio at roughly waist level (approximately three to four feet above ground level (“AGL”)), but will still operate if held higher or set down on a surface.

The antenna height for the Telemetry unit will vary depending on the installation site. This unit can be mounted on the ground or any surface to allow the collection and transmission of ground-based telemetry data. Typically, the antenna will be mounted 6 meters AGL or less. In addition, Telemetry units may be used in aeronautical applications where the antenna will be mounted on an airplane’s fuselage. In that case, the antenna height for the Telemetry units will vary depending on the altitude of the aircraft, but may be as high as 20,000 meters AGL.

Operational Parameters for PTracker and Telemetry Devices

- a) Frequency of operation: Transmit band of 1610 to 1618.725 MHz.
- b) Antenna Polarization: Left hand circular
- c) Emission Designator:
 - PTracker: 2M50G1D
 - Telemetry: 2M50G1D
- d) Maximum EIRP: The maximum EIRP is dictated by the maximum available transmitter power of the radio and its peak antenna gain. The EIRP density is the EIRP divided by the channel bandwidth of 2.50 MHz and further corrected for the required 4 kHz bandwidth. Please note that while Globalstar USA proposes an increase in maximum transmit power for the PTracker device and an increase in maximum antenna gain for the Telemetry device, it does not seek any increase in the maximum EIRP permitted under Globalstar USA’s current blanket license authorization. Globalstar USA recognizes that if greater transmit power or antenna gain were to result in an increased maximum EIRP, there would be greater potential for interference between Globalstar USA’s licensed devices. In fact, to minimize interference between various Globalstar™ devices, typical peak EIRP for the PTracker and Telemetry devices is maintained well below that allowed for Globalstar handheld devices.

Globalstar’s proposed increase in allowed transmit power for the PTracker device is designed to compensate for the degradation of antenna performance in small packaging demanded by consumer applications. As neither the PTracker device nor the Telemetry unit utilizes power control, as a means of ensuring balanced system operation, Globalstar USA requires users to limit transmit power based on measured antenna performance in order to comply with the maximum EIRP authorized by the current blanket license. Compliance with the peak EIRP limit will be verified during the equipment authorization process for specific terminal types.

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e) Maximum EIRP Density

New Radio Type and Antenna Type	Max Tx Power Available (dBW)	Peak Antenna Gain (dBic or dBi)	Max EIRP (dBW)	(e) Max EIRP Density/Carrier (dBW/4 kHz)²
Telemetry	-4.0	5.0	0.0	-28.0
PTracker	-4.0	5.0	-3.0	-31.0

² Meets the -15 dBW/4 kHz MES limit specified in the FCC General Rules and Regulations governing Frequency Allocations and Radio Treaty Matters (47 C.F.R. Part 2), Section 2.106, footnote S5.364.

f) Description of Modulation: The Globalstar™ PTracker and Telemetry MES transmitters utilize direct sequence CDMA at a chip rate of 2.50 MHz on BPSK modulation. Baseband filtering is implemented to meet the out-of-band emissions requirements. Each transmission is done at a constant power level, i.e. this MES terminal does not use power control.

Additional Technical and Operational Information

• **Radioastronomy Protection**

The Globalstar™ Telemetry and PTracker MES terminals operate in the 1610 – 1618.725 MHz (earth-to-space) band. In this band, Mobile Satellite Services is co-primary with Radiodetermination Satellite Services.

Globalstar, Inc., intends to abide by the radioastronomy coordination guidelines set forth in the FCC Rules governing Satellite Communications (47 C.F.R. Part 25), Section 25.213(a). A coordination procedure is outlined in the “Technical Operational Coordination Agreement for the Joint Usage of the Band 1610.6 – 1613.8 MHz between the National Science Foundation and Globalstar for Airborne Mobile Earth Stations Operating in its Mobile Satellite Service (MSS) Network,” dated November 29, 2001. Under the agreed operational procedure, radioastronomy sites in the U.S. will inform the operator of the Globalstar™ gateway serving its area, through Globalstar USA, as to the planned schedule for radioastronomy measurements. During active measurement periods, the appropriate gateway will not assign particular channels between 1610.6 - 1613.8 MHz (Globalstar™ channels 1 - 3) to MESs in the radioastronomy exclusion zones.

For all the Telemetry and PTracker units, operations will be prohibited in the joint band in designated radioastronomy exclusion zones.

• **GPS and GLONASS Protection**

The Globalstar™ Telemetry and PTracker MES terminals will continue to protect radionavigation satellite services in the band 1559 - 1610 MHz, including GPS and GLONASS receivers, according

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to the FCC Rules governing Satellite Communications (47 C.F.R. Part 25), Sections 25.202 (f) and 25.216 as per the current MES blanket license.

Specifically, the Globalstar™ Telemetry and PTracker terminals will not exceed an out-of-band emissions EIRP density level (averaged over any 2 ms active transmission period) of at least:

- 70 dBW/MHz between 1559 - 1605 MHz; and
- 70 to -10 dBW/MHz, linearly interpolated between 1605 - 1610 MHz.

The EIRP of any discrete spurious emission (*i.e.*, bandwidth less than 700 Hz) will not exceed:

- 80 dBW between 1559 - 1605 MHz; and
- 80 to -20 dBW/MHz, linearly interpolated between 1605 - 1610 MHz.

The peak EIRP density of carrier-off state emissions (averaged over any 2 ms active transmission period) will not exceed:

- 80 dBW/MHz between 1559 - 1610 MHz.