

E030266 SES-STA-20110412-00444 IB2011001077
GUSA Licensee LLC

Approved by OMB
3060-0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION: Enter a description of this application to identify it on the main menu:
Special Temporary Authority for Clifton IOT antenna – Extension for STA

I. Applicant

Name:	GUSA Licensee LLC	Phone Number:	408-933-4525
DBA Name:		Fax Number:	408-933-4960
Street:	461 S. Milpitas Boulevard	E-Mail:	tony.navarra@globalstar.com
City:	Milpitas	State:	CA
Country:	USA	Zipcode:	95035
Attention:	Mr Anthony J Navarra		

60 days extension with conditions



File # SES-STA-20110412-00444
Call Sign E030366 Grant Date 04/18/2011
(or other identifier)
Term Dates
From 04/18/2011 To: 04/17/2011
Approved: *[Signature]*


Attachment to Grant
GUSA Licensee LLC

IBFS File Nos. SES-STA-20110412-00444 (E030266), SES-STA-20110412-00439 (E970199),
SES-STA-20110412-00445 (E050097)

The referenced requests for extension of special temporary authority ARE GRANTED. GUSA Licensee LLC is authorized to operate a fixed earth station in Clifton Texas (E030266) in the 1610-1618.725MHz (Earth-to-space) and 2483.5-2500 MHz (space-to-Earth) frequency bands for test communications with HIBLEO-X satellites for an additional period ending June 17, 2011; to operate other fixed earth stations in Clifton, Texas (Call Signs E970199,) in the 5091-5250 MHz (Earth-to-space) and 6875-7055 MHz (space-to-Earth) frequency bands for testing and telecommand, telemetry, and control communications with HIBLEO-X satellites for an additional period of 60 days ending June 17, 2011, to operate a fixed earth station in Sebring, Florida (Call Sign E050097) in the 5091-5250 MHz (Earth-to-space) and 6875-7055 MHz (space-to-Earth) frequency bands for testing and telecommand, telemetry, and control communications with HIBLEO-X satellites for an additional period ending June 17, 2011. The request for authority to operate with power spectral density higher than 55.2 dBW/4kHz IS DEFERRED for further consideration. These temporary authorizations are subject to the following further conditions.

1. All operations pursuant to this authorization shall be on an unprotected and non-harmful interference basis. Operations shall not cause harmful interference to, and GUSA Licensee LLC shall not claim protection from interference caused by, any other lawfully operating station. In the event that harmful interference results, operations shall cease immediately upon notification of such interference, and GUSA Licensee LLC shall immediately inform the Commission in writing of such event.
2. No authority for commercial operation is granted herein.

60 days "EXTENSION WITH CONDITIONS"

 GRANTED International Bureau	File # <u>SES-STA-20110412-00444</u>
	Call Sign <u>E030266</u> Grant Date <u>04/18/2011</u> (or other identifier)
	Term Dates From <u>04/18/2011</u> To: <u>06/17/2011</u>
	Approved: <u>Paul E. [Signature]</u>

April 12, 2011

Samir C. Jain

Ms. Mindel De La Torre
Chief, International Bureau
Federal Communications Commission
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Washington, DC 20554

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Re: **Request for Extension of Special Temporary Authority**

GUSA Licensee LLC

File Nos. SAT-AMD-20091221-00147; SES-MFS-20091221-01615;
SES-MFS-20091221-01616; SES-MFS-20091221-01617;
SES-MFS-20091221-01618; SES-AFS-20091221-01607;
SES-MFS-20091221-01608; SES-MFS-20091221-01609;
SES-MFS-20091221-01610; SES-MFS-20091221-01611;
SES-MFS-20091221-01601

ITU Designation: HIBLEO-X

Dear Ms. De La Torre:

GUSA Licensee LLC (“Globalstar”) hereby requests a 60-day extension of previously granted Special Temporary Authority¹ (“STA”) for ten of its Commission-licensed antennas to communicate with its launched second-generation satellites for purposes of telemetry and control pending grant of the necessary authorizations and registration of its satellites by the government of France, as required by the Commission’s recent *Order*.² Globalstar requests expedited treatment of this extension request because its existing STA for these earth stations expires between April 17 and April 23, 2011, and Globalstar requires the continued ability to communicate with its satellites from these antennas.³

¹ As permitted under 47 C.F.R. § 25.120. The previously granted STA requests were: SES-STA-20110225-00214 (SBRG-1); SES-STA-20110225-00215 (SBRG-2); SES-STA-20110225-00216 (SBRG-3); SES-STA-20110225-00217 (SBRG-4); SES-STA-20110225-00207 (CLFN-1); SES-STA-20110225-00208 (CLFN-2); SES-STA-20110225-00209 (CLFN-3); SES-STA-20110225-00210 (CLFN-4); SES-STA-20110225-00213 (CLFN-5); SES-STA-20110225-00211 (CLFN-IOT). Technical exhibits for these antennas are attached to the instant request.

² See *Order, Globalstar Licensee LLC, Application for Modification of Non-geostationary Mobile Satellite Service Space Station License, GUSA Licensee LLC, Applications For Modification Of Mobile Satellite, Service Earth Station Licenses*, 26 FCC Rcd 3948, 3962 ¶ 35 (IB, rel. Mar. 18, 2011) (“*Order*”).

³ Details about individual STA terms are contained in the attached technical exhibits.

Ms. Mindel De La Torre
April 12, 2011
Page 2

As described in the *Order*, Globalstar has embarked on a transition to its second-generation satellite constellation.⁴ This transition involves the launch of 24 new satellites, with the first batch of six satellites launched on October 19, 2010, and preparations for subsequent launches well under way.⁵

The Commission conditioned the grant of Globalstar's application, which includes the authority for its antennas to communicate with the second-generation satellites, upon Globalstar's receipt of certain French authorizations and international registration of Globalstar's satellites by the government of France.⁶ Globalstar is in the midst of the authorization process in France, which it hopes to complete as expeditiously as possible. However, that process will not be complete by the time Globalstar's current STA expires. In the meantime, Globalstar must be able to continue effective control and monitoring of its launched satellites and, accordingly, requests authority to do so.

The public interest justifications for granting this authority remain substantially the same as those provided in the previous requests. In short, the public interest will be served by the grant of these STA requests because they will ensure effective control center communications with launched satellites, and these operations are necessary to ensure the provision of high quality service to U.S. customers.

Please do not hesitate to contact me with any questions.

⁴ *Id.* at 3590-591 ¶ 5.

⁵ *See generally* Globalstar, *Press Releases*, <http://www.globalstar.com/en/index.php?cid=7010>.

⁶ *See Order*, 26 FCC Rcd at 3962 ¶ 35 (“The authority to operate granted in connection with these earth station applications shall become effective upon grant by France of an authorization for space operations under the June 3, 2008 French law n° 2008-518 relating to space operations, and only for communications with space stations for which France grants authority and undertakes to register under the United Nations Registration Convention.”)

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Ms. Mindel De La Torre
April 12, 2011
Page 3

Respectfully submitted,

/s/ Samir Jain

Samir Jain
Counsel to GUSA Licensee LLC

Encl.

Special Temporary Authority Request

Exhibit 2: Summary of IOT Earth Station Technical Information

Date submitted: April 12, 2011
Applicant: GUSA Licensee LLC
File Nos.: SES-MFS-20091221-01601
Call Sign: E030266

Purpose of STA:

GUSA Licensee LLC ("GUSA") is seeking Special Temporary Authority to operate the IOT ("In-Orbit Test") antenna located at Clifton, TX to perform the transponder testing of the launched satellites to affirm the post-launch health to verify the performance characteristics of the individual Globalstar satellites.

In addition, GUSA is requesting authority to operate at a power higher than that specified in 47 C.F.R § 2.106, footnote 5.364 to support the transponder testing of the launched satellites. One of the primary tests to be performed for the health of the satellites is the determination and verification of spacecraft antenna patterns. Uplink, or spacecraft 1.6 GHz receive, antenna verification requires the use of an unmodulated carrier (CW) at an EIRP greater than that transmitted from a Globalstar handset transceiver. This increased EIRP is required in order to create sufficient dynamic range to provide the ability to measure peak-to-null antenna pattern variations of 30 dB. The performance of these In-Orbit-Tests will be crucial to the successful deployment of the replacement Globalstar spacecraft that are planned for the near future. The attached link budget in the Table 1 indicates the C/N expected with an EIRP of 19 dBW. As shown in the link budget, even with the level of 19 dBW, worst case C/N falls below the required dynamic range for the pattern measurements. This transmit level will be operated for short periods only during testing of the satellites at a fixed ground location at Clifton, TX.

Downlink, or spacecraft 2.4 GHz transmit, antenna verification requires the use of a high gain antenna which is accommodated by the receive function of the subject antenna.

STA term: 60 days (beginning April 18, 2011)
Site Location: Clifton, Texas
Latitude: 31 ° 48 ' 2.1 " N
Longitude: 97 ° 36 ' 46.0 " W
Transmit frequency: 1610 – 1618.725 MHz

Receive frequency: 2483.5-2500 MHz

Polarization: LHCP

Antenna Size: 1.2 m
 Gain: Tx: 23.4 dBi at 1.620 GHz
 Rx: 26.7 dBi at 2.490 GHz

Maximum antenna height: 5 meters above ground level

Necessary Bandwidth: Transmit bandwidth is 8.725 MHz
 Receive bandwidth is 16.5 MHz
 Maximum carrier bandwidth is 50 kHz

Carrier: See table below

<u>Frequency Band (MHz)</u>	<u>T/R Mode & Polarization</u>	<u>Emission Designator</u>	<u>Maximum EIRP (dBW)</u>	<u>Maximum EIRP Density (dBW/4kHz)</u>	<u>Modulation</u>
1610-1618.725	Tx – LHCP	N0N	19	19	Unmodulated CW for testing
2483.5-2500	Rx – RHCP	N0N			Unmodulated CW for testing

Satellite: HIBLEO-X GLOBALSTAR 2.0 (French-licensed Globalstar Big-LEO MSS system)
 Orbital Location: NGSO (1414 km altitude, 52 degree inclination)
 Elevation Angle (E/W): 5 degrees to 90 degrees
 Azimuth (E/W): 0 degrees to 360 degrees

Satellite: S2115 (U.S.-licensed Globalstar Big LEO MSS system)
 Orbital Location: NGSO (1414 km altitude, 52 degree inclination)
 Elevation Angle (E/W): 5 degrees to 90 degrees
 Azimuth (E/W): 0 degrees to 360 degrees

FAA notification is not required as the antenna structure does not exceed Part 17 notice criteria.

Table 1 Link Budget for the IOT Antenna

Return Link: 1.6 GHz up/7 GHz down		
	Outer	
Uplink Analysis		Units
Frequency	1.6	GHz
EIRP per user	19.0	dBW
Altitude	1414	km
User elevation angle	5	deg
Slant Range	3953	km
Path loss	-168.5	dB
Polarization & Tracking loss	-1	dB
S/C Rx Signal Strength	-150.5	dB
Satellite antenna gain	12.60	dBi
Line loss	-2.00	dB
User signal at transponder	-139.9	dBW
System noise temperature	396.64	K
Thermal noise density, No	-202.6	dBW/Hz
IOT measurement bandwidth	34.8	dB-Hz
Uplink C/(N)	27.9	dB
Nominal transponder gain	127.4	dB
Downlink Analysis		
Frequency	6.98	GHz
TX power per user	-8.4	dBW
Transmit line loss	-2.2	dB
Satellite antenna gain	4.00	dBi
EIRP per user	-6.5	dBW
GW elevation angle	5	deg
Range	3953	km
Free space loss (5 deg GW elev)	-181.3	dB
Polarization & tracking loss	-0.1	dB
Pointing loss	-1.0	dB
RX signal/user/satellite	-188.9	dBW
GW antenna gain (incl. line losses)	49.5	dBi
RX signal at antenna output/user/satellite	-139.4	dBW
System noise temperature	127.7	K
Thermal noise density, No	-207.5	dBW/Hz
Downlink C/(N)	33.4	dB
Overall (up&down) C/(N)	26.8	dB
Required Measurement Dynamic Range	30.0	dB
Worstcase Measurement C/N	-3.2	

2. Contact

Name:	Paul A. Monte	Phone Number:	408-933-4521
Company:	Globalstar	Fax Number:	408-933-4960
Street:	461 S. Milpitas Boulevard	E-Mail:	paul.monte@globalstar.com
City:	Milpitas	State:	CA
Country:	USA	Zipcode:	95035 -
Attention:	Mr. Paul A. Monte	Relationship:	Same

(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)

3. Reference File Number SESMFSS2009122101601 or Submission ID

4a. Is a fee submitted with this application?

If Yes, complete and attach FCC Form 159. IF No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).

Governmental Entity Noncommercial educational licensee

Other (please explain):

4b. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station

5. Type Request

Use Prior to Grant

Change Station Location

Other

6. Requested Use Prior Date

04/18/2011

7. City/Clifton

8. Latitude
(dd mm ss.s h) 31 48 2.1 N

9. State TX	10. Longitude (dd mm ss.s h) 97 36 46.0 W
11. Please supply any need attachments. Attachment 1: Exh. 1 – Cover Attachment 2: Exh. 2 – Tech Info Attachment 3:	
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.) GUSA Licensee LLC is applying for extension of special temporary authority to operate an earth station antenna in Clifton, TX, for constellation maintenance and station#8722; keeping. The satellite manufacturer needs to continue the testing of service link transponder of the satellites to affirm the post-launch health to verify the performance	
13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes. <input checked="" type="radio"/> Yes <input type="radio"/> No	
14. Name of Person Signing Mr. Anthony Navarra	15. Title of Person Signing President
WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).	

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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

12. Description

GUSA Licensee LLC is applying for extension of special temporary authority to operate an earth station antenna in Clifton, TX, for constellation maintenance and station keeping. The satellite manufacturer needs to continue the testing of service link transponder of the satellites to affirm the post-launch health to verify the performance of the individual Globalstar satellites.