

EL/HL

E960244 SES-STA-20160804-00716 IB2016001796
Iridium Constellation 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:
E960244 Chandler Gateway STA during launch and early operations phase

1. Applicant

Name:	Iridium Constellation LLC	Phone Number:	703-287-7518
DBA Name:		Fax Number:	
Street:	1750 Tysons Boulevard	E-Mail:	maureen.mclaughlin@iridium.com
	Suite 1400		
City:	McLean	State:	VA
Country:	USA	Zipcode:	22102 -
Attention:	Ms Maureen C McLaughlin		


30 days "with conditions"

File # SES-STA-20160804-00716

Call Sign E960244 **Grant Date** 09/09/2016
(or other identifier)

From 09/16/2016 **Term Date** 10/15/2016

Approved: Paul E. Miller



Iridium Satellite LLC
Call Sign E960244
File Number SES-STA-20160804-00716

Iridium Satellite is granted Special Temporary Authority (STA), for a period of 30 days commencing September 16, 2016, to provide LEOP service to the Iridium NEXT NGSO satellites and to operate at a U.S. licensed authorize gateway earth station located in Chandler, AZ in the 29.1-29.3 GHz Earth-to-Space frequency band and the 19.4-19.6 GHz Space-to-Earth frequency band. The STA operations must comply with all operational parameters described in Iridium's request for STA. The STA operation subjects to the following conditions:

- Operations shall not cause harmful interference to, and shall not claim protection from, interference caused to it by any other lawfully operating station and it shall cease transmission(s) immediately upon notice of such interference.
- Grant of this STA is without prejudice to any determination that the Commission may make regarding other pending or future applications.
- Any action taken or expense incurred as a result of operations pursuant to this STA is solely at the applicant's risk.
- This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. §0.261, and is effective immediately.


30 days "With Conditions"

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Call Sign E960244 Grant Date 09/09/2016
(or other identifier)

From 09/16/2016 Term Dates To 10/15/2016

Approved: Paul E. Hlav



The stamp is a red rectangular seal from the Federal Communications Commission (FCC). It features the FCC logo at the top, which includes a shield with a scale of justice and a radio tower, surrounded by the words "FEDERAL COMMUNICATIONS COMMISSION". Below the logo, the word "GRANTED" is printed in large, bold, capital letters. Underneath "GRANTED", the words "International Bureau" are printed in a smaller font.

REQUEST FOR SPECIAL TEMPORARY AUTHORITY

Iridium Satellite LLC and Iridium Constellation LLC (collectively, "Iridium"), pursuant to Section 25.120 of the Commission's Rules, hereby request special temporary authority ("STA") to operate their gateway earth stations located in Tempe, Arizona; Chandler, Arizona; and Fairbanks, Alaska, in the manner identified below.¹ Iridium seeks STAs for 30 days commencing on September 16, 2016.²

These gateway earth stations transmit and receive the feeder links and tracking, telemetry, and command ("TT&C") links for Iridium's non-geostationary satellite orbit, mobile satellite service constellation (call sign : S 2110). The STAs requested herein are needed for Iridium to satisfy system requirements for TT&C during the launch and early operation phase ("LEOP") of Iridium's next generation system, which is known as Iridium NEXT.

The Iridium NEXT telecommand signals are transmitted on two carriers, a 29.102 GHz carrier and a 29.298 GHz carrier, using a bandwidth of 1 MHz and a 1M00F9D emission designator. Iridium seeks STAs authorizing it to transmit these carriers at 69.1 dBW EIRP and a 69.1 dBW/MHz EIRP density with a transmitter power of 11.7 dBW.

Iridium also seeks authority to operate both Iridium NEXT uplink carriers from its gateway earth station in Chandler, Arizona. Iridium's license for Chandler includes the 29.1-29.25 GHz portion of Iridium's feeder link band that encompasses the 29.102 GHz Iridium NEXT TT&C frequency, but does not include the 29.25-29.3 GHz portion of Iridium's feeder link band that encompasses the 29.298 GHz Iridium NEXT TT&C frequency.

In addition, Iridium seeks authority to use its Tempe, Chandler, and Fairbanks gateway earth stations to receive 13 Iridium NEXT telemetry carriers spaced at 400 kHz with center frequencies from 19400.2 to 19405 MHz. The emission designator for these telemetry carriers is 200KF9D.

Iridium's request for STAs is supported by good cause. TT&C transmissions are essential to the implementation, health and safety of Iridium's constellation, and the authority requested in this filing is needed to implement its TT&C links and provide coverage from all essential facilities. Ensuring the deployment, implementation, health and safety of Iridium's constellation is unquestionably in the public interest.

¹ The call signs for these gateway earth stations are E050282, E060300, E960131, and E960244. The licensee of the first three call signs is Iridium Satellite LLC. The licensee of the fourth call sign is Iridium Constellation LLC. This exhibit accompanies separate STA requests that Iridium is filing for each call sign.

² The initial launch of Iridium NEXT space stations is scheduled for September 19, 2016, which is on a Monday. Out of an abundance of caution, Iridium is requesting that the term of its STAs commence on the preceding Friday.

Operating in the manner requested in this filing, moreover, presents no concerns of interference to the LMDS stations, Fixed Service stations, and Fixed-Satellite Service stations that share Iridium's TT&C/feeder link band.

LMDS stations. Iridium shares the 29.1-29.25 GHz portion of its uplink TT&C/feeder link band with LMDS. Iridium has coordinated its proposed uplink operations with LMDS licensees; coordination reports prepared by Comsearch are attached.

Fixed Service stations. Iridium shares its 19.4-19.6 GHz downlink TT&C/feeder link band with the Fixed Service. Iridium has coordinated its proposed downlink operations with Fixed Service licensees. Coordination reports prepared by Comsearch concerning those operations are attached.³

Geostationary Satellite Orbit ("GSO") Fixed-Satellite Service ("FSS") stations. The 29.25-29.3 GHz band Iridium uses to uplink its feeder link and TT&C transmissions is shared on a co-primary basis with GSO FSS stations. Iridium's Tempe and Fairbanks gateway earth stations have been operating on these frequencies for years.⁴

In order to avoid interference to Iridium's satellites, GSO FSS earth stations operate in the 29.25-29.3 GHz band only in areas that are widely separated from Iridium's gateway earth stations. There are fixed separations in the case of individually-licensed GSO FSS earth stations and exclusion zones around Iridium gateway earth stations in the case of blanket-licensed GSO FSS earth stations.

The separation distances required to avoid interference from GSO FSS earth stations to Iridium's satellites are far greater than the separation distances that are required to avoid interference from Iridium gateway earth stations to GSO FSS satellites. The locations at which GSO FSS stations transmit in the 29.25-29.3 GHz band, therefore, of necessity are locations that protect GSO FSS satellites against interference from Iridium gateway earth stations. In any event, the Iridium NEXT LEOP operations pursuant to the requested STAs will be on a secondary, unprotected, non-interference basis.

Conclusion

Accordingly, and for good cause shown, Iridium respectfully asks that its STA requests be granted.

³ Please note that the coordinates shown for Iridium's gateway earth stations in the Comsearch reports all are based on NAD83. The coordinates shown in the FCC license for Iridium's Chandler gateway earth stations are based on NAD27, and Comsearch converted the coordinates to NAD83.

⁴ Although Iridium's Chandler earth station has not been operating in the 29.25-29.3 GHz band, it is located only 8.5 km (*i.e.*, 5.3 miles) from Iridium's Tempe earth station, which has been operating in the 29.25-29.3 GHz band.

2. Contact

Name:	Joseph A. Godles Esq.	Phone Number:	202-429-4900
Company:	Goldberg, Godles, Wiener & Wright LLP	Fax Number:	202-429-4912
Street:	1229 Nineteenth St. N.W.	E-Mail:	jgodles@g2w2.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20036 -
Attention:		Relationship:	Legal Counsel

(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 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

7. City Chandler	8. Latitude (dd mm ss.s h) 33 15 59.4 N
9. State AZ	10. Longitude (dd mm ss.s h) 111 52 56.4 W
11. Please supply any need attachments. Attachment 1: STA Request Attachment 2: FQ Coord 28GHz Attachment 3: Final Coordination	
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.) <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> Iridium Constellation LLC ('Iridium') pursuant to 47 CFR ss 25.120, hereby requests special temporary authority ('STA') to operate its gateway earth station E960244 in Chandler, AZ in the manner described herein during the launch and early operations phase ('LEOP') of the Iridium NEXT constellation of satellites. </div>	
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. <div style="text-align: right;"> <input checked="" type="radio"/> Yes <input type="radio"/> No </div>	
14. Name of Person Signing Maureen C. McLaughlin	15. Title of Person Signing Vice President, Public Policy
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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