

S2110 SAT-STA-20140612-00062 IB2014001164
Iridium Constellation LLC
Iridium



File # SAT-STA-20140612-00062

Call Sign S2110 Grant Date 07/29/14

(or other identifier)

Term Dates period of
From 06/22/14 To: 180 days

Approved: Stephen J. Duall

Approved by OMB
3060-0678

Date & Time Filed: Jun 12 2014 11:13:10:610AM
File Number: SAT-STA-20140612-00062
Callsign:

*with conditions

Stephen J. Duall
Chief, Satellite Policy Branch

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY
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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
180-day Iridium Orbital Debris STA for six satellites


1. Applicant

Name:	Iridium Constellation LLC	Phone Number:	703-287-7400
DBA Name:		Fax Number:	703-287-7450
Street:	1750 Tysons Boulevard	E-Mail:	donna.bethea-murphy@iridium.com
	Suite 1400		
City:	McLean	State:	VA
Country:	USA	Zipcode:	22102 -
Attention:	Donna Bethea-Murphy		

Attachment to Grant
IBFS File No. SAT-STA-20140612-00062
Call Sign S2110

The application of Iridium Constellation LLC (Iridium), IBFS File No. SAT-STA-20140612-00062, for special temporary authority for a period of 180 days is granted, commencing June 22, 2014, subject to the following conditions:

1. Any action taken or expense incurred as a result of operations pursuant to this special temporary authority is solely at Iridium's own risk.
2. Grant of this special temporary authority is without prejudice to any action on IBFS File No. SAT-MOD-20080701-00140.
3. 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.

 GRANTED* International Bureau *with conditions	File # <u>SAT-STA-20140612-00062</u>
	Call Sign <u>S2110</u> Grant Date <u>07/29/14</u> (or other identifier)
	From <u>06/22/14</u> Term Dates period of To: <u>180 days</u>
	Approved: <u><i>Stephen J. Duall</i></u> Stephen J. Duall Chief, Satellite Policy Branch

2. Contact

Name:	Jennifer Hindin	Phone Number:	202-719-4975
Company:	Wiley Rein LLP	Fax Number:	202-719-7049
Street:	1776 K St NW	E-Mail:	jhindin@wileyrein.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20006 -
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 CXW - Space Station (Non-Geostationary)

5. Type Request

Change Station Location

Extend Expiration Date

Other

6. Temporary Orbit Location

7. Requested Extended Expiration Date

8. 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.)

Iridium requests special temporary authority to operate a total of six space stations in its non-geostationary satellite orbit constellation for up to one hundred eighty (180) days in a manner that complies with the updated orbital debris mitigation plan Iridium previously submitted to the Commission.

9. 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. Yes No

10. Name of Person Signing
Donna Bethea-Murphy

11. Title of Person Signing
Vice President, Regulatory Engineering

12. Please supply any need attachments.

Attachment 1: Narrative

Attachment 2:

Attachment 3:

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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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

Application of)	
)	
Iridium Constellation LLC)	Call Sign: S2110
)	
For Special Temporary Authority)	File No. SAT-STA-2013_____

APPLICATION FOR SPECIAL TEMPORARY AUTHORITY

On December 24, 2014, the Commission granted Iridium Constellation LLC (“Iridium”) special temporary authority (“STA”)¹ through June 22, 2014 to operate a total of six space stations in its non-geostationary satellite orbit (“NGSO”) constellation for up to one hundred eighty (180) days in a manner that complies with the updated orbital debris mitigation plan Iridium previously submitted to the Commission (the “Iridium ODM Plan”).² Iridium hereby requests STA for an additional one hundred eighty (180) days – from June 23, 2014 through December 19, 2014 – to continue to operate six space stations in its NGSO constellation in a manner compliant with the Iridium ODM Plan.

Grant of this application serves the public interest because it would allow Iridium to operate these additional satellites in accordance with the Commission’s current orbital debris mitigation guidelines and would be wholly consistent with authority granted to other NGSO operators. In 2015, Iridium expects to begin the launch Iridium NEXT, its cutting-edge, second-generation satellite constellation. Importantly, until the Iridium NEXT constellation is phased in

¹ See Iridium Constellation LLC, Application for Special Temporary Authority, File No. SAT-STA-20131114-00134 (filed Nov. 14, 2014).

² See Application of Iridium Constellation LLC for Minor Modification of Mobile Satellite Service Authorization to Update Orbital Debris Mitigation Requirements, Call Sign S2110, File No. SAT-MOD-20080701-00140 (filed Jul. 1, 2008). The orbital debris mitigation plan in File No. SAT-MOD-20080701-00140 is hereby incorporated by reference.

to replace the current constellation, grant will ensure continuity of reliable service for the critical communications needs of first responders, public safety users, the U.S. military, the U.S. government, commercial users, and consumers around the globe.

I. BACKGROUND

In 2002, the Commission approved an end-of-life disposal plan developed by Iridium's predecessor.³ That plan contemplates placement of spacecraft in a disposal orbit at a perigee altitude of approximately 250 kilometers, which would result in atmospheric re-entry within one year. In 2004, the Commission conducted a rulemaking on orbital debris mitigation and determined that either placing NGSO spacecraft in an orbit that would allow re-entry to the Earth's atmosphere within twenty-five years or boosting the spacecraft to a perigee altitude level above the low-Earth orbit would "suggest that the space station will operate consistent with the public interest."⁴ In 2008, Iridium filed an application requesting that the FCC modify its authorization to operate its NGSO satellites consistent with this updated orbital debris plan.⁵ The 2008 application remains pending.

II. REQUEST FOR SPECIAL TEMPORARY AUTHORITY

The Commission has granted STA for Iridium to operate six satellites in its NGSO constellation for one hundred eighty (180) days in a manner compliant with the Iridium ODM. This request seeks special temporary authority for Iridium to continue to operate the same six satellites for an additional one hundred eighty (180) days in its existing constellation in a manner

³ See *Application of Space Station System Licensee, Assignor, and Iridium Constellation LLC, Assignee, for Consent to Assignment of License*, File No. SAT-ASG-20010319-00025, Memorandum Opinion, Order and Authorization, 18 FCC Rcd 2271, ¶ 47 (Int'l Bur. 2002).

⁴ *Mitigation of Orbital Debris*, 19 FCC Rcd 11567, ¶ 84 (2004) ("*Orbital Debris Order*").

⁵ *Iridium Constellation LLC, Orbital Debris Mitigation*, File No. SAT-MOD-20080701-00140 (filed July 1, 2008).

that complies with the Iridium ODM. Following fuel gauging estimates, Iridium determined that while each satellite has ample fuel to achieve an orbit with a perigee altitude of 600 km, which leads to a predicted orbital lifetime of less than twenty-five years, these six satellites do not contain fuel reserves sufficient for a controlled de-orbit to 250 km.⁶

III. PUBLIC INTEREST STATEMENT

Grant of the requested special temporary authority will serve the public interest and is necessitated by extraordinary circumstances. In particular, grant of this application will enable Iridium to maximize the useful life of these satellites. Iridium anticipates launch of Iridium NEXT, its second-generation satellite constellation, in 2015. Until Iridium NEXT is phased in to replace the current constellation, grant of this STA will enable the Iridium constellation to continue to provide highly reliable service to customers who use Iridium's system for communications throughout the world, particularly in regions that are not reached by terrestrial services. It will also benefit Iridium's significant government users, such as the Department of Defense and many federal U.S. bureaus, agencies and departments. And it would avoid service disruptions that could impede the use of Iridium's services in national and international emergencies, in which Iridium's system has played a vital role in the past.

Grant of the requested STA is also consistent with Commission policy and precedent. Indeed, since the FCC endorsed a twenty-five year de-orbit policy for NGSO operators in 2004, no operator has been required to follow the stringent one-year re-entry standard earlier proposed by Iridium. For example, the Commission approved the orbital debris mitigation plan of Orbcomm Licensee Corporation to move its satellites to a perigee altitude of 635-680 kilometers

⁶ Each of these satellites has experienced an anomaly or maneuver which has resulted in large fuel expenditures.

from which the satellites will be expected to re-enter the atmosphere within twenty-five years.⁷

And the FCC also approved Globalstar's amended post-mission disposal plan to raise its satellites at their end-of-life to a 1514 kilometer graveyard orbit.⁸

IV. CONCLUSION

For these reasons, Iridium respectfully requests that the Commission expeditiously grant an STA to allow operation of six satellites with the capability to achieve atmospheric re-entry within twenty-five years at end of life, for a period of up to one hundred eighty (180) days while its application requesting modification of its authorization to reflect Iridium's updated orbital debris mitigation plan remains pending.

Respectfully submitted,

By: Donna Bethea-Murphy

Donna Bethea-Murphy
Vice President, Regulatory
Engineering
Iridium Satellite LLC
1750 Tysons Boulevard
Suite 1400
McLean, VA 22102

June 12, 2014

⁷ See Modification Application of Orbcomm Licensee Corp. File No. SAT-MOD-20070531-00076 at 28-31 (filed May 31, 2007) (approved by *Applications by Orbcomm Licensee Corp. for Authority to Modify its Non-Voice, Non-Geostationary Satellite System*, Order and Authorization, 23 FCC Rcd 4804 (Int'l Bur. 2008)).

⁸ See Globalstar LLC, Amended Orbital Debris Mitigation Plan, File Nos. SAT-MOD-20030606-00098 and SAT-AMD-20050105-00003 (stamp-granted January 28, 2005, Public Notice, DA No. 05-316 (rel. Feb. 4, 2005)).