

S2110 SAT-STA-20130806-00102 IB2013001719  
Iridium Constellation LLC  
Iridium



File # SAT-STA-20130806-00102

Call Sign S2110 Grant Date 09/19/13

(or other identifier)

From 08/19/13 Term Dates period of To: 180 days

Approved: *Stephen J. Duall*

Stephen J. Duall  
Chief, Satellite Policy Branch

Approved by OMB  
3060-0678

Date & Time Filed: Aug 6 2013 3:01:56:810PM  
File Number: SAT-STA-20130806-00102  
Callsign:

\*with conditions

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:  
August 2013 Request for 180-Day STA for Updated Orbital Debris Mitigation Plan


1. Applicant

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

**Attachment to Grant**  
**IBFS File No. SAT-STA-20130806-00102**  
**Call Sign S2110**

The application of Iridium Constellation LLC (Iridium), IBFS File No. SAT-STA-20130806-00102, for special temporary authority for a period of 180 days is granted, commencing August 19, 2013, 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.

 <b>GRANTED*</b> International Bureau * with conditions	<b>File #</b> <u>SAT-STA-20130806-00102</u>
	<b>Call Sign</b> <u>S2110</u> <b>Grant Date</b> <u>09/19/13</u> (or other identifier)
	<b>Term Dates</b> period of <b>From</b> <u>08/19/13</u> <b>To:</b> <u>180 days</u>
	<b>Approved:</b> <u>Stephen J. Dull</u> Stephen J. Dull Chief, Satellite Policy Branch

2. Contact	
<b>Name:</b> Jennifer D. Hindin	<b>Phone Number:</b> 202-719-4975
<b>Company:</b> Wiley Rein LLP	<b>Fax Number:</b> 202-719-7049
<b>Street:</b> 1776 K Street, NW	<b>E-Mail:</b> jhindin@wileyrein.com
<b>City:</b> Washington	<b>State:</b> DC
<b>Country:</b> USA	<b>Zipcode:</b> 20006 -
<b>Attention:</b>	<b>Relationship:</b> 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?	
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114). <input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee <input type="radio"/> Other (please explain):	
4b. Fee Classification    CXW – Space Station (Non-Geostationary)	
5. Type Request	
<input type="radio"/> Change Station Location <input type="radio"/> Extend Expiration Date <input checked="" type="radio"/> 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 Constellation LLC ('Iridium') seeks Special Temporary Authority to operate three space stations in its non-geostationary satellite orbit constellation for an additional 180 days in a manner that complies with the updated orbital debris mitigation plan Iridium has 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 August 23, 2012, the International Bureau granted Iridium Constellation LLC (“Iridium”) special temporary authority (“STA”) for one hundred eighty (180) days<sup>1</sup> to operate three space stations in its non-geostationary satellite orbit (“NGSO”) constellation in a manner that complies with the updated orbital debris mitigation plan Iridium previously submitted to the Commission.<sup>2</sup> On April 4, 2013, the International Bureau granted Iridium STA for an additional 180-day period, until August 18, 2013.<sup>3</sup> Iridium hereby requests STA for an additional one

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<sup>1</sup> See Federal Communications Commission, Public Notice, Report No. SAT-00892 (Aug. 24, 2012); Iridium Constellation LLC for Special Temporary Authority, Call Sign S2110, File No. SAT-STA-20120222-00021 (filed Feb. 12, 2012). On March 4, 2011, Iridium originally applied for both a 180-day STA and a 60-day STA to operate three space stations in its NGSO constellation in a matter that complied with the updated orbital debris mitigation plan. See Application of Iridium Constellation LLC for Special Temporary Authority, Call Sign S2110, File No. SAT-STA-20110304-00049 (filed Mar. 4, 2011); and Application of Iridium Constellation LLC for Special Temporary Authority, Call Sign S2110, File No. SAT-STA-20110304-00050 (filed Mar. 4, 2011). On August 26, 2011, though the International Bureau had not yet acted on the initial 180-day STA request, Iridium filed a second STA request out of an abundance of caution for a successive one hundred eighty (180) days. See Application of Iridium Constellation LLC for Special Temporary Authority, Call Sign S2110, File No. SAT-STA-20110826-00167 (filed Aug. 26, 2011). On June 11, 2012, the International Bureau granted the March 4, 2011 60-day STA request. On June 13, 2012, the International Bureau returned the March 2011 and August 2011 requests with no action.

<sup>2</sup> 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.

<sup>3</sup> Application of Iridium Constellation LLC for Special Temporary Authority, SAT-STA-20130212-00019 (filed Feb. 12, 2013).

hundred eighty (180) days – from August 19, 2013 through February 14, 2014 – to continue operation of three space stations in a manner compliant with the updated orbital debris mitigation plan.

Grant of this application serves the public interest because it would allow Iridium to operate these satellites in accordance with the Commission’s current orbital debris mitigation guidelines and would be wholly consistent with authority granted to other NGSO operators. Importantly, grant will also 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.<sup>4</sup> 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.”<sup>5</sup> As required under the new rules, on November 18, 2005, Iridium amended its pending application to provide AMS(R)S to include an orbital debris mitigation statement

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<sup>4</sup> 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).

<sup>5</sup> *Mitigation of Orbital Debris*, 19 FCC Rcd 11567, ¶ 84 (2004) (“*Orbital Debris Order*”).

reflecting the Commission's new twenty-five year standard,<sup>6</sup> which is also consistent with international guidelines.<sup>7</sup> Thereafter, 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.<sup>8</sup> The 2008 application remain pending.

## **II. REQUEST FOR SPECIAL TEMPORARY AUTHORITY**

This request seeks special temporary authority for Iridium to operate three satellites in its existing constellation in a manner that complies with its updated orbital debris mitigation plan. 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, three of its satellites do not contain fuel reserves sufficient for a controlled de-orbit to 250 km.<sup>9</sup>

## **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 three satellites. This, in turn, will enable the Iridium constellation to continue to provide highly reliable service to customers who use Iridium's

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<sup>6</sup> *Iridium Satellite LLC, Orbital Debris Mitigation*, File No. SAT-AMD-20051118-00236 (filed Nov. 18, 2005) ("2005 Amendment"). On February 4, 2013, the International Bureau granted Iridium authority to provide AMS(R)S and dismissed the 2005 Amendment as duplicative with a 2008 modification application. *Iridium Constellation LLC*, Memorandum Opinion and Order, DA 13-141 (rel. Feb. 4, 2013); *see supra* note 7.

<sup>7</sup> *See Orbital Debris Order*, ¶ 85 (citing the twenty-five year re-entry standard in the guidelines of the Inter-Agency Space Debris Coordination Committee, an international forum of government bodies for the coordination of activities related to space debris).

<sup>8</sup> *Iridium Constellation LLC, Orbital Debris Mitigation*, File No. SAT-MOD-20080701-00140 (filed July 1, 2008).

<sup>9</sup> Each of these satellites has experienced an anomaly which has resulted in large fuel expenditures.



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 from which the satellites will be expected to re-enter the atmosphere within twenty-five years.<sup>10</sup> 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.<sup>11</sup>

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<sup>10</sup> 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)).

<sup>11</sup> 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)).

**IV. CONCLUSION**

For these reasons, Iridium respectfully requests that the Commission expeditiously grant an STA to allow continued operation of three 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

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August 6, 2013