

S2110 SAT-STA-20121207-00210 IB2012002814
Iridium Constellation LLC
Iridium



File # SAT-STA-20121207-00210

Call Sign S2110 Grant Date 12/19/12

(or other identifier)

Term Dates period of
From 12/13/12 To: 60 days

Approved by OMB
3060-0678

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*without prejudice to
IBFS File No. SAT-MOD-20121207-00211

Approved: Stephen J. Duall

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:
2nd Iridium STA SV023 positioning

1. Applicant

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

2. Contact

Name:	Jennifer D. Hindin	Phone Number:	202-719-4975
Company:	Wiley Rein LLP	Fax Number:	202-719-7049
Street:	1776 K Street, 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 Constellation LLC ('Iridium') requests special temporary authority for thirty (60) days -- from December 13, 2012 through February 10, 2013 -- to continue to keep spare satellite SV023 positioned in a parking orbit.

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-2012 _____
)	

APPLICATION FOR SPECIAL TEMPORARY AUTHORITY

On November 13, 2012, the International Bureau granted Iridium Constellation LLC (“Iridium”) special temporary authority (“STA”) for 30 days—until December 12, 2012—to modify its authorization for its “Big LEO” band non-geostationary satellite orbit (“NGSO”) constellation (call sign S2110).¹ Specifically, the Bureau granted Iridium STA to keep spare satellite SV023 at mission altitude and move it to a parking orbit approximately 300 kilometers behind the center of plane 2, slot 2 rather than the spare satellite orbit.² Iridium hereby requests STA for an additional sixty (60 days)³—from December 13, 2012 through February 10, 2013—to continue to keep spare satellite SV023 positioned in a parking orbit approximately 300

¹ See *Motorola Satellite Communications, Inc. for Authority to Construct, Launch, and Operate a Low Earth Satellite System in the 1616-1626.5 MHz Band*, 10 FCC Rcd 2268 (1995) (“*Motorola Order*”).

² See Iridium Constellation LLC, Application for Special Temporary Authority, File No. SAT-STA-20121108-00195 (filed Nov. 8, 2012). On November 13, 2012, Iridium brought in-orbit spare satellite SV094 into operation in its mission constellation and replaced SV023 in plane 2, slot 2. See Letter from Donna Bethea Murphy, Iridium Constellation LLC, to Marlene H. Dortch, Federal Communications Commission (filed Nov. 14, 2012); 47 C.F.R. § 25.143(d).

³ See 47 C.F.R. § 25.120(b)(2). Along with this application, Iridium is also filing a modification application seeking regular authority. See Iridium Constellation LLC, Application of Iridium Constellation LLC for Modification of Authorization, File No. SAT-MOD-_____ (to be filed Dec. 7, 2012) (“Iridium Modification Application”).

kilometers behind the center of plane 2, slot 2.⁴ Such positioning will serve the public interest by reducing the amount of fuel that SV023 expends and extending the satellite's operational life.

I. BACKGROUND AND REQUEST FOR SPECIAL TEMPORARY AUTHORITY

On January 1, 1995, the FCC authorized Iridium's predecessor in interest to launch and operate an NGSO mission constellation of 66 satellites in the Big LEO band along with 12 in-orbit spares "in accordance with the technical specifications set forth in its applications"⁵

The application of Iridium's predecessor in interest specified that spare satellites would "be placed in a nominal 645 km orbit."⁶

On November 13, 2012, Iridium brought spare satellite SV094 into operation in plane 2, slot 2 to replace satellite SV023, which then suspended mission operations in order to be maintained as a spare. On November 14, 2012, Iridium, pursuant to a grant of special temporary authority, began to drift spare satellite SV023 to a parking orbit at its current mission altitude rather than moving it to the spare satellite orbit.⁷ This application seeks STA to continue to

⁴ On November 14, 2013, Iridium began to drift SV023 to the parking orbit. Iridium expects SV023 to reach the parking orbit on approximately December 13, 2012.

⁵ See *Motorola Order*, ¶ 25. On July 19, 2012, Iridium increased its total number of space stations and commenced operating a pair of co-located satellites in plane 4, slot 7 of its NGSO mission constellation pursuant to a grant of STA. See File No. SAT-STA-20120716-00116 (filed July 16, 2012); File No. SAT-STA-20120813-00129 (filed Aug. 13, 2012); File No. SAT-STA-20120927-00157 (filed Sept. 27, 2012). Iridium also filed a modification application seeking regular authority to periodically co-locate and operate additional satellites in its mission constellation, which remains pending. See Iridium Constellation LLC, Application for Modification of Authorization, File No. SAT-MOD-20120813-00128 (filed Aug. 13, 2012) ("Iridium Co-location Modification"). As described herein, satellite SV023 will not be co-located with satellite SV094.

⁶ See *Motorola Satellite Communications, Inc., Minor Amendment to Application of Motorola Satellite Communications, Inc. for Authority to Construct, Launch and Operate a Low Earth Orbit Satellite System in the 1616-1626.5 MHz Band*, File No. SAT-AMD-19941115-00069, at Table R-1 (Rev 1) – (Page 1 of 3) n.1 (filed Nov. 15, 1994) ("Motorola 1994 Amendment").

⁷ See Iridium Constellation LLC, Application for Special Temporary Authority, File No. SAT-STA-20121108-00195 (filed Nov. 8, 2012). Iridium estimates that SV023 will reach the parking orbit on approximately December 13, 2012.

position spare satellite SV023 approximately 300 kilometers behind operational satellite SV094 in a parking orbit at approximately 778 kilometers, its current mission altitude, instead of the nominal 645-kilometer orbit. SV023 will not be co-located with SV094 and will not operate as part of Iridium's mission constellation.⁸ The technical information provided in Iridium's modification application and previously provided to the Commission is incorporated by reference herein.⁹

II. PUBLIC INTEREST STATEMENT

Grant of this STA request will serve the public interest. By positioning SV023 in a parking orbit at its mission altitude rather than moving the satellite to the nominal 645 km orbit, Iridium will greatly minimize the amount of fuel that SV023 expends. Relying primarily on atmospheric drag to move the satellite 300 km over the course of approximately one month, very little fuel will be required to position SV023 in a parking orbit. By contrast, Iridium would need to fire the satellite's thrusters to establish the momentum needed to lower the orbit of the satellite to the nominal 645 km. And, Iridium would need to use fuel again in order re-position the satellite back to mission altitude if the spare is needed as a replacement. As such, grant of this STA will conserve fuel on SV023 and extend the satellite's mission life now and in the future by facilitating safe deorbiting.

In addition, grant of this STA request poses no interference risk. The proposed location of SV023 approximately 300 km behind SV094 ensures safe station-keeping of both satellites

⁸ Cf. File No. SAT-MOD-20120813-00128.

⁹ See Iridium Modification Application; Motorola 1994 Amendment; Motorola Satellite Communications, Inc., Application for Minor License Modifications and Technical Waivers, File No. SAT-MOD-19960322-00047 (filed Mar. 8, 1996); Iridium Constellation LLC, Application for Minor Modification of Mobile Satellite Service Authorization to Update Orbital Debris Mitigation Requirements, File No. SAT-MOD-20080701-00140 (filed Jul. 1, 2008); Iridium Co-location Modification.

without any overlap in orbital position. Further, SV023 has suspended mission operations and will not be co-located and operated in tandem with SV094. Instead, only the satellite's TT&C frequencies will be utilized.

III. CONCLUSION

Iridium respectfully requests that the Commission expeditiously grant this STA to continue to permit Iridium to maintain spare satellite SV023 in a parking orbit for a period of sixty (60) days.

Respectfully submitted,

By: Donna Bethea-Murphy

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December 7, 2012