

S2946
Spire Global, Inc.
LEMUR-2

SAT-AMD-20161114-00107

IB2016002457

**Corrected* 7/18/17*

GRANT IN PART/DEFER IN PART*
File # SAT-AMD-20161114-00107



Call Sign 32946 Grant Date 7/13/17
(or other identifier)

Approved by OMB
3060-0678

From 7/13/17 Term Dates To: See Conditions

Approved: Kathryn Medley

Kathryn Medley, Chief, Satellite Energy Br

Date & Time Filed: Nov 14 2016 6:48:39:916AM
File Number: SAT-AMD-20161114-00107

With Conditions

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD – MAIN FORM	FCC Use Only
FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:

LEMUR-2 LOA Amendment Application


1-8. Legal Name of Applicant

Name:	Spire Global, Inc.	Phone Number:	628-221-5324
DBA Name:		Fax Number:	
Street:	575 Florida Street Suite 150	E-Mail:	
City:	San Francisco	State:	CA
Country:	USA	Zipcode:	94110 -
Attention:			

ATTACHMENT TO GRANT

Spire Global, Inc.

IBFS File No. SAT-AMD-20161114-00107

IBFS File No(s):	SAT-AMD-20161114-00107 ¹	<p align="center">GRANT IN PART / DEFER IN PART – With Conditions</p>  <p align="center">International Bureau Satellite Division</p>
Licensee/Grantee:	Spire Global, Inc.	
Call Sign:	S2946	
Satellite Name:	LEMUR-2 constellation	
Orbital Location: (required station- keeping tolerance)	NGSO at altitudes up to 600 km (see scope of grant below)	
Administration:	United States of America	
Nature of Service:	Earth Exploration Satellite Service	
Scope of Grant:	Authority to construct, deploy, and operate up to 72 Phase IC satellites, initially deployed to circular orbits of no greater than 600 km in altitude. ²	
Previous Grant(s)	<p>Authority to construct, deploy, and operate up to 24 technically identical Phase IB satellites, initially deployed to circular orbits of no greater than 600 km in altitude.³</p> <p>Authority to construct, deploy, and operate up to 4 technically identical Phase IB satellites, initially deployed to circular orbits of no greater than 500 km in altitude.</p> <p>Authority to construct, deploy and operate 28 technically identical satellites for what the applicant describes as “Phase IA” deployment, initially deployed to orbital altitudes of no greater than 650 km</p> <p><i>See</i> IBFS File No. SAT-LOA-20151123-00078 (granted in part Mar. 18, 2016); IBFS File No. SAT-LOA-20151123-00078 (granted in part June 16, 2016); IBFS File No. SAT-LOA-20151123-00078 (granted in part Oct. 14, 2016);⁴ IBFS File No. SAT-AMD-20161114-00107 (granted in part Apr. 7, 2017) and IBFS File No. SAT-AMD-20161114-00107 (granted in part May 18, 2017).</p>	

¹ The application was placed on Public Notice as accepted for filing on December 23, 2016. *See Policy Branch Information, Applications Accepted for Filing*, Public Notice, Report No. SAT-01207 (IBFS File No. SAT-MOD-20161114-00107). We previously granted in part Spire’s application and authorized 28 satellites. We deferred action on Spire’s request with respect to 872 additional satellites for what it describes as “Phase II” operations. *See Policy Branch Information, Satellite Space Applications Actions Taken*, Public Notice, DA 16-1211, Report No. SAT-01195 (IBFS File No. SAT-LOA-20151123-00078). On April 7, 2017, we granted authority to construct, deploy and operate up to four technically identical Phase IB satellites to be deployed from the Cygnus cargo vessel at orbital altitudes no greater than 500 km. *See Policy Branch Information, Satellite Space Applications Actions Taken*, Public Notice, DA 17-358, Report No. SAT-01231 (IBFS File Nos. SAT-AMD-20161114-00107 & SAT-LOA-20151123-00078). On May 18, 2017, we granted authority to construct, deploy, and operate 24 additional technically identical Phase IB satellites to be deployed at orbital altitudes no greater than 600 km. *See Policy Branch Information, Satellite Space Applications Actions Taken*, Public Notice, DA 17-490, Report No. SAT-01239 (IBFS File Nos. SAT-AMD-20161114-00107 & SAT-LOA-20151123-00078).

² We defer action on the remainder of Spire’s application as amended to add Phase II satellites and to operate in additional frequency bands.

³ Spire may elect to use Phase 1B satellites for the Orbital/Minotaur4 launch, initially deployed to 400x600 km orbital altitude.

⁴ This prior grant also included authority to deploy up to eight satellites of the 28 authorized on the SHERPA/FormoSat mission. That deployment has since been cancelled. *See* Letter from Henry Goldberg, Spaceflight, Inc. to Jose P. Albuquerque, Chief, Satellite Division, International Bureau, FCC, IBFS File No. SAT-STA-20150821-00060 (filed Feb. 8, 2017). Accordingly, we are not including this information in the description of prior grants and this license, and have omitted from this license conditions previously included specifically with respect to the SHERPA/FormoSat mission.

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Service Area(s):	Global. See Schedule S Tech Report at Item S6
Frequencies:	2020-2025 MHz (space-to-Earth) 2200-2290 MHz (space-to-Earth) (Phase IB and 1C only) 156.7625-156.7875 MHz (Automatic Identification System (AIS) (AIS 3)) (Phase IB and IC only) 156.8125-156.8375 MHz (AIS 4) (Phase IB and IC only) 161.9625-161.9875 MHz (AIS 1) 162.0125-162.0375 MHz (AIS 2) 161.9375-161.9625 MHz (Application Specific Messages (ASM) (ASM 1)) (Phase IB and IC only) 161.9875-162.0125 MHz (ASM 2) (Phase IB and IC only) 1087.7-1092.3 MHz ((Earth-to-space) Automatic Dependent Surveillance-Broadcast (ADS-B)) (Phase IC only) 1575.42 MHz and 1227.60 MHz (center frequencies, GPS reception) ⁵ 402-403 MHz (Earth-to-space) (space-to-Earth (data back up only)) Telemetry, Tracking, and Command: 402-403 MHz (Earth-to-space and space-to-Earth) 449.75-450.25 MHz (Earth-to-space) (Phase IC only).

Unless otherwise specified herein, operations under this grant must comport with the legal and technical specifications set forth by the applicant or petitioner and with Federal Communication Commission's rules not waived herein. This grant is also subject to the following conditions:

1. Spire must prepare the necessary information, as may be required, for submission to the International Telecommunication Union (ITU) to initiate and complete the advance publication, coordination, due diligence, and notification process for these space stations, in accordance with the ITU Radio Regulations. Spire will be held responsible for all cost-recovery fees associated with ITU filings. No protection from interference caused by radio stations authorized by other administrations is guaranteed unless coordination and notification procedures are timely completed or, with respect to individual administrations, by successfully completing coordination agreements. Any radio station authorization for which coordination has not been completed may be subject to additional terms and conditions as required to effect coordination of the frequency assignments of other administrations. *See* 47 CFR § 25.111(b).
2. Upon receipt of a conjunction warning from the Joint Space Operation Center or other source, Spire must review the warning and take all possible steps to assess and, if necessary, to mitigate collision risk, including, but not limited to: contacting the operator of any active spacecraft involved in such warning; sharing ephemeris data and other appropriate operational information with any such operator; modifying spacecraft attitude and/or operations.
3. Deployment into an orbit with an inclination of 51.6 degrees, plus or minus 0.1 degree, other than directly from the ISS, is only authorized for satellites to be launched on Cygnus re-supply missions and is subject to the following:
 - a. Deployment shall be into an orbit that, if from below the ISS altitude, is not less than 15 km below and 15 km in front of ISS and, if above the ISS altitude, is to an orbit acceptable to NASA, which is currently defined as a co-elliptic orbit above the ISS semi-major axis with a relative perigee greater than 45km. If deployment is planned from an altitude above the ISS, not later than 10 business days prior to launch of the resupply mission, Spire shall provide documentation

⁵ This grant of authority to construct and deploy satellites also includes authority to construct and deploy the satellites with the capability to receive additional radio-navigation signals, but Spire's request to operate with such signals is DEFERRED. Spire's authority to construct and deploy satellites capable of receiving foreign radio-navigation signals is at Spire's own risk.

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from NASA confirming that deployment from the Cygnus capsule is acceptable to NASA.

- b. Deployment above the ISS altitude may proceed only if it is confirmed in a manner acceptable to NASA that, following launch and docking operations, there is sufficient fuel on Cygnus to execute both the planned satellite deployment and planned Cygnus disposal operations.

4. Spire's request for waiver of the U.S. Table of Frequency Allocations, Section 2.106, to receive AIS signals in the 156.7625-156.7875 MHz (AIS 3), 156.8125-156.8375 MHz (AIS 4), 161.9625-161.9875 MHz (AIS 1) and 162.0125-162.0375 MHz (AIS 2) frequency bands until the bands are allocated in the U.S. Table of Frequency Allocations, IS GRANTED. We find that the reception of AIS transmissions cannot cause harmful interference, and these transmissions will be present pursuant to existing authorizations using frequencies allocated to other services regardless of whether they are received by a Spire satellite. We also conclude that the service Spire proposes will serve the public interest by providing critical near real-time maritime data of interest for both government and commercial users. As a condition of this waiver, Spire must not claim protection for reception of messages in the 156.0125-162.0375 MHz frequency band that is not in accordance with the Table of Frequency Allocations for the pertinent area, and may only claim protection to the extent provided by the status of the reception under the Table of Frequency Allocations. In addition, we note that all reception in this frequency band must comport with the requirements on unauthorized publication or use of communications in section 705 of the Communications Act of 1934, as amended.

5. Spire's request for waiver of the U.S. Table of Frequency Allocations, Section 2.106, to receive ASM transmissions in the 161.9375-161.9625 MHz (ASM 1), and 161.9875-162.0125 MHz (ASM 2), frequency bands, on a non-conforming, non-harmful interference basis, IS GRANTED. In addition, we waive Section 25.112(a)(3) to permit consideration of Spire's request for operations on the channels 161.9375-161.9625 MHz (ASM 1), and 161.9875-162.0125 MHz (ASM 2), which are not allocated internationally for satellite service. In 2003, the Commission determined to return as "premature" such applications seeking to operate in frequencies for which there is no international allocation, because it can take several years for the ITU to adopt an international frequency allocation. The Commission also expressed concern that such applications would constitute "place holders."⁶ In this case, however, the lack of a current MSS allocation in these bands does not necessarily preclude initiation of service, as transmissions may be conducted under other allocations.⁷ Accordingly, we do not believe it would serve the public interest to prohibit Spire the flexibility of including the capability to receive ASM messages on frequencies not allocated to satellite services. We note that all reception in this band must comport with the requirements on unauthorized publication or use of communications in section 705 of the Communications Act of 1934, as amended.⁸

6. Spire may claim protection for reception in the 156.0125-162.0375 MHz or 1087.7-1092.3 MHz bands only to the extent permitted under the U.S. Table of Frequency Allocations for domestic operations or the ITU Radio Regulations for international operations, as of the time of operation. Operations in the 156.0125-162.0375 MHz and 1087.7-1092.3 MHz bands must be in accordance with any Commission rulemakings subsequent to the release of this license that implement any new domestic allocations or service rules for these bands.⁹

7. Spire's request for a waiver of the United States Table of Frequency Allocations, 47 CFR § 2.106, is GRANTED to permit operations in the 402-403 MHz (Earth-to-space and space-to-Earth (TT&C and data back up only)) and 2020-2025 MHz (space-to-Earth) frequency bands on a non-conforming, non-harmful interference basis. Spire must immediately terminate non-conforming operations upon notification of harmful

⁶ *Amendment of the Commission's Space Station Licensing Rules and Policies*, First Report and Order, 18 FCC Rcd 10760, 10783 and 10809, paras. 49 and 124 (2003).

⁷ *Iridium Order and Authorization*, at 8683-84, para. 22.

⁸ 47 U.S.C. § 605.

⁹ *Id.* at 8689, para. 50.

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interference.

8. Spire's request for a waiver of the United States Table of Frequency Allocations, 47 CFR § 2.106, is GRANTED to permit operations in the 449.75-450.25 MHz (Earth-to-space) (TT&C) frequency band on a non-conforming, non-harmful interference basis. Spire must immediately terminate non-conforming operations upon notification of harmful interference.

9. Based upon information provided by the National Telecommunication and Information Administration (NTIA) as part of the frequency coordination process, future non-federal licenses for additional satellites will only be exceptionally considered for requests of downlink operations in the band 402-403 MHz, and Spire shall have no expectations that future licenses will be approved. Spire and DOC/NOAA shall work jointly to explore mitigation strategies to avoid interference to NOAA missions. For future missions, transition of TT&C links out of the 402-403 MHz band is required such that operations within the frequency band do not extend beyond October 31, 2020. Spire shall coordinate new ground station locations operating in 402-403 MHz with DOC/NOAA by providing the location of such stations for DOC/NOAA's review for interference concerns and approval prior to operation of those ground stations.

10. Spire must maintain a U.S. point of contact available by telephone 24 hours per day, seven days per week, with the authority and ability to terminate operations authorized herein. The telephone number for this U.S. point of contact must be provided to NTIA (bmitchell@ntia.doc.gov) and DOC/NOAA (dfranc@doc.gov).

11. The maximum bandwidth of any transmission in the 402-403 MHz frequency band is limited to 15 kHz, and all transmissions in these frequencies shall be within a 200 kHz frequency band centered on 402.7 MHz, i.e., within the 402.6-402.8 MHz frequency band, except as necessary for a period immediately following (i) the deployment of the satellites or (ii) a satellite software reset, resulting in satellite transmissions returning to the default transmission channels, in both cases to allow for the retuning of transmissions, or unless otherwise agreed in a Memorandum of Agreement with DOC/NOAA.

12. Spire's request for a waiver of the United States Table of Frequency Allocations, 47 CFR § 2.106, to permit United States and Possessions (US&P) operations in the 2200-2290 MHz (space-to-Earth) frequency band is DEFERRED. Operations in the 2200-2290 MHz frequency band are permitted for use only outside of the US&P. Spire is required to successfully coordinate with NTIA prior to submitting any ITU filing involving any ground stations outside of the US&P that operate in the frequency band 2200-2290 MHz. NTIA will consider the request by Spire for accessing to the 2200-2290 MHz for ground stations located outside of US&P on a case-by-case coordinated basis with appropriate EMC analysis to NTIA (bmitchell@ntia.doc.gov), AFSMO (jimmy.nguyen@us.af.mil) NASA (john.e.zuzek@nasa.gov) and DOC (david.franc@doc.gov) to ensure compatibility of operations with the Federal government. Transmissions in the 2200-2290 MHz band to any single earth station must be no greater than one megahertz in bandwidth.

13. This authorization will become null and void if, at any time during the license term, there are no Spire satellites operating.

14. Spire is subject to milestone and bond obligations imposed as conditions to a previous grant of authority to operate up to nine NGSO satellites in the 2020-2025 MHz frequency band. *See supra*, note 1. We find that, following the discharge of the bond requirement associated with this previous grant, warehousing concerns are addressed in this situation through the imposition of condition 13 above.

15. Within 30 days after deployment of each satellite pursuant to this authorization, Spire must file a notification with the Commission specifying its apogee and perigee altitudes and orbital inclination.

16. The license term expires on October 31, 2020, with all Phase IB & IC satellites to be launched by December 31, 2019.

17. Spire's request for a waiver of Section 25.114(c) of the Commission's rules, 47 CFR § 25.114(c), to the extent described in its application with respect to certain information to be provided in the Schedule S, IS GRANTED. We find that a waiver is warranted for the requirement for orbital information on the

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Schedule S for each satellite because the information Spire provided in its Narrative is sufficient to fulfill the relevant informational requirements.

18. Spire's request for processing of its amendment on a first-come, first-serve basis pursuant to Section 25.158 of the Commission's rules, is GRANTED. Spire's request for waiver of Sections 25.156 and 25.157 of the Commission's rules, IS MOOT.

Licensee/grantee is afforded thirty (30) days from the date of release of this action to decline the grant as conditioned. Failure to respond within this period will constitute formal acceptance of the grant as conditioned.

This action is taken pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 CFR § 0.261, and is effective upon release.

Station licenses are subject to the conditions specified in Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(h).

Action Date:	July 13, 2017	
Term Dates	From: July 13, 2017	To: see conditions

Approved:


Kathryn J. Medley
Chief, Engineering Branch

9-16. Name of Contact Representative

Name:	Jonathan Rosenblatt	Phone Number:	628-221-5324
Company:	Spire Global, Inc.	Fax Number:	
Street:	575 Florida Street Suite 150	E-Mail:	jonathan.rosenblatt@spire.com
City:	San Francisco	State:	CA
Country:	USA	Zipcode:	94110-
Attention:		Relationship:	

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

- a1. Earth Station
- a2. Space Station

- (N/A) b1. Application for License of New Station
- (N/A) b2. Application for Registration of New Domestic Receive-Only Station
- b3. Amendment to a Pending Application
- b4. Modification of License or Registration
- b5. Assignment of License or Registration
- b6. Transfer of Control of License or Registration
- b7. Notification of Minor Modification
- (N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
- (N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
- (N/A) b10. Other (Please specify)
- (N/A) b11. Application for Earth Station to Access a Non-U.S. satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States
- (N/A) b12. Application for Database Entry
- b13. Amendment to a Pending Database Entry Application
- b14. Modification of Database Entry

17c. 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):

17d.

Fee Classification CAW – Space Station Amendment (Non-Geostationary)

18. If this filing is in reference to an existing station, enter:

(a) Call sign of station:
S2946

19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:

(a) Date pending application was filed:

11/23/2015

(b) File number:

SATLOA2015112300078

TYPE OF SERVICE

<p>20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:</p> <p><input type="checkbox"/> a. Fixed Satellite</p> <p><input checked="" type="checkbox"/> b. Mobile Satellite</p> <p><input type="checkbox"/> c. Radiodetermination Satellite</p> <p><input checked="" type="checkbox"/> d. Earth Exploration Satellite</p> <p><input type="checkbox"/> e. Direct to Home Fixed Satellite</p> <p><input type="checkbox"/> f. Digital Audio Radio Service</p> <p><input checked="" type="checkbox"/> g. Other (please specify) METS and Space Ops</p>	
<p>21. STATUS: Choose the button next to the applicable status. Choose only one.</p> <p><input type="radio"/> Common Carrier <input checked="" type="radio"/> Non-Common Carrier</p>	<p>22. If earth station applicant, check all that apply.</p> <p><input type="checkbox"/> Using U.S. licensed satellites</p> <p><input type="checkbox"/> Using Non-U.S. licensed satellites</p>
<p>23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:</p> <p><input type="radio"/> Connected to a Public Switched Network <input type="radio"/> Not connected to a Public Switched Network <input checked="" type="radio"/> N/A</p>	
<p>24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).</p> <p><input type="checkbox"/> a. C-Band (4/6 GHz) <input type="checkbox"/> b. Ku-Band (12/14 GHz)</p> <p><input checked="" type="checkbox"/> c. Other (Please specify upper and lower frequencies in MHz.)</p> <p> Frequency Lower: 399.9 Frequency Upper: 2290 (Please specify additional frequencies in an attachment)</p>	

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- a. Fixed Earth Station
- b. Temporary-Fixed Earth Station
- c. 12/14 GHz VSAT Network
- d. Mobile Earth Station
- e. Geostationary Space Station
- f. Non-Geostationary Space Station
- g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY:

- Transmit/Receive Transmit-Only Receive-Only N/A

"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

- a — authorization to add new emission designator and related service
- b — authorization to change emission designator and related service
- c — authorization to increase EIRP and EIRP density
- d — authorization to replace antenna
- e — authorization to add antenna
- f — authorization to relocate fixed station
- g — authorization to change frequency(ies)
- h — authorization to add frequency
- i — authorization to add Points of Communication (satellites & countries)
- j — authorization to change Points of Communication (satellites & countries)
- k — authorization for facilities for which environmental assessment and radiation hazard reporting is required
- l — authorization to change orbit location
- m — authorization to perform fleet management
- n — authorization to extend milestones
- o — Other (Please specify)

ENVIRONMENTAL POLICY

<p>28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p> <p>Exhibit B</p>
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ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30–34.

<p>29. Is the applicant a foreign government or the representative of any foreign government?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>
<p>30. Is the applicant an alien or the representative of an alien?</p>	<p><input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A</p>
<p>31. Is the applicant a corporation organized under the laws of any foreign government?</p>	<p><input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A</p>
<p>32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?</p>	<p><input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A</p>

33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?

Yes No N/A

34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules?
If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.

Yes No

Exhibit C

36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.

Yes No

<p>37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>
<p>38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>
<p>39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhibit, an explanation of the circumstances.</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>
<p>40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer. Exhibit D</p>	

41. 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

42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.

Yes No

42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station? United States of America

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Applicant seeks to amend its pending LOA application by (i) adding new frequencies to increase the flexibility it has to coordinate spectrum use and (ii) providing deployment parameters to minimize orbital debris concerns.

43a. Geographic Service Rule Certification

By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.

A

By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.

B

By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.

C

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Governmental Entity
- Other (please specify)

45. Name of Person Signing
Jonathan Rosenblatt

46. Title of Person Signing
General Counsel

—>

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).

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

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