

S3045

SAT-PDR-20190321-00018

IR2019000825

←← GRANT IN PART / DEFER IN PART →→



+with conditions

File # SAT-PDR-20190321-00018

Call Sign S3045 Grant Date 10/07/19

(or other identifier)

From 10/07/19 Term Dates see conditions To: conditions

Approved: *Stephen J. Duall*

Stephen J. Duall
Chief, Satellite Policy Branch

Approved by OMB
3060-0678

Date & Time Filed: Mar 21 2019 2:23:17:843PM
File Number: SAT-PDR-20190321-00018
Callsign/Satellite ID: S3045

APPLICATION FOR SATELLITE SPACE STATION AUTHORIZATIONS FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	FCC Use Only
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APPLICANT INFORMATION

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

MINAS Market Access Application

1-8. Legal Name of Applicant			
Name:	Spire Global, Inc.	Phone Number:	202-747-2619
DBA Name:		Fax Number:	
Street:	575 Florida Street	E-Mail:	george.john@spire.com
	Suite 150		
City:	San Francisco	State:	CA
Country:	USA	Zipcode:	94110
Attention:			

ATTACHMENT TO GRANT
 Spire Global, Inc.
 IBFS File No. SAT-PDR-20190321-00018

IBFS File No(s):	SAT-PDR-20190321-00018	<p>GRANT IN PART / DEFER IN PART – With Conditions</p>  <p>International Bureau Satellite Division</p>
Licensee/Grantee:	Spire Global, Inc.	
Call Sign:	S3045	
Satellite Name:	MINAS constellation ¹	
Orbital Location: (required station- keeping tolerance)	NGSO at altitudes up to 650 km (see scope of grant below)	
Administration:	Luxembourg	
Nature of Service:	Earth Exploration Satellite Service (EESS)	
Scope of Grant:	Grant of U.S. market access for up to 636 MINAS satellites, initially deployed to altitudes from 385 to 650 km with inclinations ranging from equatorial to polar sun-synchronous (98 degrees). ²	
Service Area(s):	Global. See Receiving and Transmitting Beam Attachments. ³	
Frequencies:	8025-8400 MHz (space-to-Earth) (primary data downlink) 2020-2025 MHz (space-to-Earth) (data downlink)(Phase IC only) ⁴ 2025-2110 MHz (Earth-to-space) (primary data uplink) 402-403 MHz (Earth-to-space) (space-to-Earth (data back up only))	

¹ Spire currently holds a U.S. license (Call Sign S2946) for the LEMUR constellation, and it states that its MINAS satellites will operate together with the LEMUR constellation as a single system. *See* Petition for Declaratory Ruling at 1. The current license for the LEMUR constellation is available in IBFS File No. SAT-AMD-20180102-00001 (granted in part Nov. 29, 2018). For purposes of clarity, in this document all U.S.-licensed Spire satellites will be referred to as “LEMUR” satellites, including LEMUR Phase I, LEMUR Phase IB, LEMUR Phase IC, and LEMUR Phase II. The Luxembourg-licensed satellites granted U.S. market access herein will be referred to as “MINAS” satellites. Spire’s market access request is for no more than 636 MINAS satellites. *See* Letter from George John, Lead Legal & Regulatory Counsel, Spire Global, Inc., to Jose Albuquerque, Chief, Satellite Division, FCC, filed May 5, 2019. Spire states that 8 MINAS satellites have already been deployed. Petition for Declaratory Ruling at 4. These 8 satellites were launched December 27, 2018, from Vostochny, Russia, and are included in the total of 636 MINAS satellites that are granted market access.

² Spire states that it plans to host payloads on its satellites for educational, government, and commercial customers, and will work with the Commission for market access of such payloads when it has sufficient details. Petition for Declaratory Ruling at 17-18. Accordingly, Spire does not seek market access for satellites with hosted payloads as part of its application, and no market access is granted. Accordingly, our action here is with respect to satellites having a nominal mass configuration 4.5 kg, rather than the maximum mass of 6 kg that Spire contemplates for satellites with hosted payloads. In addition, we defer action on Spire’s request for market access in the 399.9-400.05 MHz (Earth-to-space) frequency band, subject to the outcome of a processing round in this frequency band. *See Satellite Policy Branch Information: Myriota Pty. Petition Accepted for Filing, IBFS File No. SAT-PDR-20190328-00020; Cut-Off Established for Additional NVNG MSS Applications or Petitions for Operations in the 399.9-400/05 MHz and 400.15-401 MHz Bands*, Public Notice, DA 19-779 (Sat Div. rel. Aug. 15, 2019). Spire also does not seek market access for what it describes as Singapore-licensed COLUGA satellites (2 satellites launched January 20, 2018 from Mahia, New Zealand; 2 satellites launched November 11, 2018, from Mahia, New Zealand, and 4 satellites launched November 29, 2018, from Sriharikota, India), and no U.S. market access is granted. Petition for Declaratory Ruling at 1.

³ In addition to the frequencies specified immediately below that will be used for communications between MINAS satellites and Spire’s U.S. earth stations, Spire plans to operate the MINAS constellation using additional frequencies that will be received at the MINAS satellites, in the same fashion as for the LEMUR satellites. These frequencies are: 156.7625-156.7875 MHz (Automatic Identification System (AIS) (AIS 3)); 156.8125-156.8375 MHz (AIS 4); 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)); 161.9875-162.0125 MHz (ASM 2); 1087.7-1092.3 MHz ((Earth-to-space) Automatic Dependent Surveillance-Broadcast (ADS-B)); 1559-1591 MHz (Galileo E1 signal); 1164-1219 MHz (Galileo E5 signal).

⁴ See Condition 4 below.

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	<u>Telemetry, Tracking, and Command:</u> 401-402 MHz (space-to-Earth) 402-403 MHz (Earth-to-space and space-to-Earth) 449.75-450.25 MHz (Earth-to-space) 2025-2110 MHz (Earth-to-space) 8025-8400 MHz (space-to-Earth)
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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. Communications between U.S.-licensed earth stations and the MINAS space stations must comply with all existing and future space station coordination agreements reached between Luxembourg and other administrations, including U.S. Federal operators.
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. The number of simultaneously operational LEMUR, MINAS, and other satellites that are substantially technically identical to the satellites in the LEMUR constellation must not exceed 175.⁵
4. Market access for MINAS satellites operating in the 2020-2025 MHz band is limited to only as many satellites as will limit to 72 the combined number of LEMUR and MINAS satellites that have operated, operate, and will operate with U.S. earth stations.
5. The information provided by Spire supports a finding that market access for some portion of the requested number of satellites is in the public interest, but it does not resolve all material questions of fact concerning whether deployment of the full constellation would involve debris mitigation plans sufficient to support a finding that the full deployment is in the public interest.⁶ Accordingly, prior to deploying a combined total of LEMUR Phase II satellites, MINAS satellites, and other satellites that are substantially technically identical in excess of 100 satellites, Spire must supplement the information provided in its orbital debris mitigation plan and must obtain FCC approval of the supplemented orbital debris mitigation plan for both its LEMUR and MINAS constellations.⁷ In particular, the supplement should clarify and expand the information provided regarding the aggregate collision risk for its proposed system at all altitudes requested, based on launches completed and planned.
6. Spire must comply with any new rules adopted by the Commission as a result of the rulemaking in IB Docket No. 18-13.⁸
7. Spire must notify the Commission in writing at least 30 days prior to launch of a satellite that will operate with and be substantially technically identical to satellites in the LEMUR constellation and is licensed by Luxembourg or an Administration other than the United States. This notification must include the name of the

⁵ We note that the total number of simultaneously operational satellites refers specifically to those satellites operating in frequencies other than TT&C frequencies and does not include non-operational satellites that continue to operate in TT&C frequency bands as part of approved post-mission disposal plans.

⁶ See Condition 4, IBFS File No. SAT-AMD-20180102-00001 (granted in part Nov. 29, 2018).

⁷ If there are more than 100 operational satellites and this condition has not been met, this market access grant will be limited to a number of non-U.S. licensed satellites that keeps the total number of satellites operating with U.S. earth stations to 100.

⁸ *Mitigation of Orbital Debris in the New Space Age*, Notice of Proposed Rulemaking, FCC 18-159 (rel. Nov. 19, 2018).

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Administration that has licensed the satellite, the anticipated launch date and launch vehicle, as well as the apogee, perigee, and inclination of the satellite, as intended to be deployed and intended to be operated. Any such satellite will count towards the number of satellites specified in this market access grant, the maximum number of simultaneously operational satellites specified under Condition 3 of this grant, and the 100 satellites for which no additional review of debris mitigation plans is required as specified in Condition 5 of this grant.

8. Satellites deployed into an orbit with an inclination of 51.6 degrees, plus or minus 0.1 degree, other than directly from the ISS, will be granted market access only if launched on Cygnus re-supply missions and are subject to the following:

a. Deployment shall be into an orbit that, if from below the ISS altitude, is not closer 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 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.

9. Spire's request for waiver of the U.S. Table of Frequency Allocations, Section 2.106, to receive ASM transmissions from U.S.-licensed stations 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."⁹ 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.¹⁰ 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. 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 (47 U.S.C. § 605). This U.S. market access grant does not constitute an "authorization" with respect to the activities specified in section 705 of the Communications Act or in related provisions of chapter 119, Title 18, United States Code.

10. Spire may claim protection for reception in the 156.7625-162.0375 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 156.7625-162.0375 MHz and 1087.7-1092.3 MHz bands must be in accordance with any Commission rulemakings subsequent to the release of this market access grant that implement any new domestic allocations or service rules for these bands.¹¹

11. 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

⁹ *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).

¹⁰ *Iridium Constellation LLC*, Order and Authorization, 31 FCC Rcd 8675, 8683-84, para. 22 (IB 2016).

¹¹ *Iridium Order and Authorization*, 31 FCC Rcd at 8689, para. 50.

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interference basis. Spire must immediately terminate non-conforming operations upon notification of harmful interference.

12. Operations in the 449.75-450.25 MHz band may be used for space telecommand (Earth-to-space) at specific locations, subject to conditions as may be applied on a case-by-case basis, pursuant to US87 of the Table of Frequency Allocations, 47 CFR§ 2.106. As of the date of this grant, Spire has earth station authorizations for operations with the LEMUR constellation in the 449.75-450.25 MHz band at three locations in the United States (Charlotte, NC, Call Sign E170171, Duluth, MN, Call Sign E170150, and Naalehu, HI, Call Sign E160037). Operations of MINAS satellites with these earth stations must not occur until Spire seeks and obtains modifications to the earth station licenses to specify the MINAS constellation (S3045) as a point of communication. Spire must take all practical steps to keep the carrier frequency between 450.15 and 450.25 MHz.

13. Spire and DOC/NOAA shall work jointly to explore mitigation strategies to avoid interference to NOAA missions in the band 402-403 MHz. As of the date of this grant, Spire has earth station authorizations for operations with the LEMUR constellation in the 402-403 MHz band at the locations listed in Appendix A to this grant and outside the United States. Operations of MINAS satellites with the earth stations listed in Appendix A to this grant must not occur until Spire seeks and obtains license modifications to specify the MINAS constellation (S3045) as a point of communication. Spire shall coordinate new ground station locations in U.S. territory 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.

14. 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 that are the subject of this market access grant. 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).

15. The maximum bandwidth of any transmission in the 402-403 MHz frequency band involving earth stations within the United States is limited to 15 kHz, and all such 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, , unless otherwise agreed in a Memorandum of Agreement with DOC/NOAA.

16. Operations pursuant to this grant of market access must not cause harmful interference to stations operating in the 2025-2110 MHz band in accordance with the United States Table of Frequency Allocations. *See* 47 CFR § 2.106, Footnote US347.

17. 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.

18. Transmissions of remote-sensing data in the 8025-8400 MHz frequency band may only be made to earth stations coordinated with the National Aeronautics and Space Administration (NASA) and Air Force Spectrum Management Office. Spire shall provide the FCC with an updated list of coordinated earth stations within ten business days following any changes to that list.

19. Power flux-density limits from operation in the 8025-8400 MHz band must not exceed the limits in No. 22.5 and Table 21-4 of the International Telecommunication Union's Radio Regulations, the limits/protection criteria in Recommendation ITU-R SA.1157-1 must be met, and the guidelines in Recommendation ITU-R SA.1810 must be followed.

20. This grant of market access will become null and void if, at any time, there are no MINAS satellites operating.

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

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

23. Spire's request for waiver of Sections 25.156 and 25.157 of the Commission's rules IS GRANTED.

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:	October 7, 2019
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Term Dates	From: October 7, 2019	To: see conditions
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Approved:



Stephen J. Duall
Chief, Satellite Policy Branch

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Appendix A:
Authorized Spire Earth Stations in the 402-403 MHz Band

CALL SIGN	LOCATION
E160037	Naalehu, HI
E160032	Hartford, CT
E160034	Anchorage, AK
E160035	Boca Raton, FL
E160036	Juneau, AK
E160038	Piti, GU
E160039	Tukwila, WA
E160040	San Francisco, CA
E160041	Richardson, TX
E160043	San Francisco, CA
E160044	Saint Croix, VI
E170171	Charlotte, NC
E170148	Juneau, AK
E170149	Tucson, AZ
E170150	Duluth, MN
E160033	Boulder, CO

9-16. Name of Contact Representative			
Name:	George John	Phone Number:	202-747-2619
Company:	Spire Global, Inc.	Fax Number:	
Street:	575 Florida Street	E-Mail:	george.john@spire.com
	Suite 150		
City:	San Francisco	State:	CA
Country:	USA	Zipcode:	94110 -
Attention:		Relationship:	

CLASSIFICATION OF FILING

<p>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.</p> <p>a.</p> <p>(N/A) a1. Earth Station</p> <p><input checked="" type="radio"/> a2. Space Station</p>	<p>b.</p> <p><input type="radio"/> b1. Application for License of New Station</p> <p>(N/A) b2. Application for Registration of New Domestic Receive-Only Station</p> <p>(N/A) b3. Amendment to a Pending Application</p> <p>(N/A) b4. Modification of License or Registration</p> <p>(N/A) b5. Assignment of License or Registration</p> <p>(N/A) b6. Transfer of Control of License or Registration</p> <p>(N/A) b7. Notification of Minor Modification</p> <p>(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite</p> <p><input type="radio"/> b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States</p> <p><input type="radio"/> b10. Replacement Satellite Application – no new frequency bands</p> <p><input type="radio"/> b11. Replacement Satellite Application – new frequency bands (Not eligible for streamlined processing)</p> <p><input checked="" type="radio"/> b12. Petition for Declaratory Ruling to be Added to the Permitted List</p> <p>(N/A) b13. Other (Please specify)</p>
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<p>17c. Is a fee submitted with this application?</p> <p><input type="radio"/> If Yes, complete and attach FCC Form 159.</p> <p>If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).</p> <p><input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee</p> <p><input checked="" type="radio"/> Other(please explain): Petition for Declaratory Ruling (no fee required)</p>				
<p>17c. Fee Classification CLW – Space Station (Non–Geostationary)</p>				
<p>18. If this filing is in reference to an existing station, enter:</p> <p>(a) Call sign of station: Not Applicable</p>				
<p>19. If this filing is an amendment to a pending application enter:</p> <table><tr><td>(a) Date pending application was filed:</td><td>(b) File number of pending application:</td></tr><tr><td>Not Applicable</td><td>Not Applicable</td></tr></table>	(a) Date pending application was filed:	(b) File number of pending application:	Not Applicable	Not Applicable
(a) Date pending application was filed:	(b) File number of pending application:			
Not Applicable	Not Applicable			

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 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) MetSat and SpaceOps</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>Not Applicable</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: 8325 (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.

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

26. TYPE OF EARTH STATION FACILITY: Not Applicable

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an "X" in the box(es) next to all that apply.) Not Applicable

ENVIRONMENTAL POLICY

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. Yes No

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.

29. Is the applicant a foreign government or the representative of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No
30. Is the applicant an alien or the representative of an alien?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A
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?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A
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?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> 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

<p>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.</p>	<input checked="" type="radio"/> Yes <input type="radio"/> No
<p>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.</p>	<input type="radio"/> Yes <input checked="" type="radio"/> 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>	<input type="radio"/> Yes <input checked="" type="radio"/> No
<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>	<input type="radio"/> Yes <input checked="" type="radio"/> No
<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>	<input type="radio"/> Yes <input checked="" type="radio"/> No

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 A

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? Luxembourg

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 market access for its Luxembourg-licensed MINAS satellites, which are technically identical to the LEMUR-2 satellites (Call Sign

Exhibit C

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

Exhibit D

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
George John

46. Title of Person Signing
Lead Legal & Regulatory Counsel

47. Please supply any need attachments.

1:

2:

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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