

S3032 SAT-LOA-20180320-00023 IB2018000669  
BlackSky Global, LLC  
BlackSky Global Cons



File # SAT-LOA-20180320-00023

Call Sign S3032 Grant Date 10/03/18

(or other identifier)

From see conditions Term Dates see conditions To: conditions

Approved: *Stephen J. Duall*

Stephen J. Duall  
Chief, Satellite Policy Branch

Approved by OMB  
3060-0678

\*Corrected on  
10/23/18

Date & Time Filed: Mar 20 2018 10:21:02:906AM  
File Number: SAT-LOA-20180320-00023  
Callsign/Satellite ID: S3032

\*with conditions


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

APPLICANT INFORMATION

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

1-8. Legal Name of Applicant			
Name:	BlackSky Global, LLC	Phone Number:	866-342-9934
DBA Name:		Fax Number:	
Street:	1505 Westlake Ave. North, Ste 600	E-Mail:	KristinaH@SpaceflightIndustries.com
City:	Seattle	State:	WA
Country:	USA	Zipcode:	98109
Attention:	Ms Kristina Hloptsidis		

**ATTACHMENT TO GRANT**  
**BlackSky Global LLC**  
**IBFS File No. SAT-LOA-20180320-00023**  
**\*CORRECTED ON 10.23.18\***

<b>IBFS File No(s):</b>	SAT-LOA-20180320-00023	<p><b>GRANT – With Conditions</b></p>  <p><b>International Bureau Satellite Division</b></p>
<b>Licensee/Grantee:</b>	BlackSky Global LLC (BlackSky)	
<b>Call Sign:</b>	S3032	
<b>Satellite Name:</b>	Global-1, Global-2, Global-3, & Global-4	
<b>Orbital Location: (required station- keeping tolerance)</b>	Non-Geostationary (NGSO) (see scope of grant below)	
<b>Administration:</b>	United States of America	
<b>Nature of Service:</b>	Earth Exploration Satellite Service (EESS)	
<b>Scope of Grant:</b>	Authority to construct, deploy, and operate a constellation of up to 4 technically identical NGSO space stations, initially deployed to orbital apogee altitudes ranging from 460 km to 585 km and with inclinations ranging from 42 degrees to polar sun-synchronous (nominal 98 degrees). <sup>1</sup>	
<b>Service Area(s):</b>	Global. See Schedule S Tech Report and associated antenna gain contours.	
<b>Frequencies:</b>	8025-8400 (space-to-Earth) (remote sensing data) 1575.42 MHz (GPS) (receive-only)  Telemetry, Tracking, and Command (TT&C) frequencies: 2025-2110 MHz (Earth-to-space) (primary TT&C uplink) 401.5 MHz or 401.375 MHz (space-to-Earth) (secondary TT&C downlink) 449.75-450.25 MHz (Earth-to-space) (secondary TT&C uplink) (center carrier frequency at 450.2 MHz)	
<p><b>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:</b></p> <ol style="list-style-type: none"> <li>BlackSky 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. BlackSky shall 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 with the frequency assignments of other administrations. <i>See</i> 47 CFR § 25.111(b).</li> <li>BlackSky must coordinate physical operations of spacecraft with any operator using similar orbits, for the purpose of eliminating collision risk and minimizing operational impacts. The orbital parameters specified in this grant are subject to change based on such coordination.</li> <li>Upon receipt of a conjunction warning from the JSpOC or other source, BlackSky must review the warning and take all possible steps to assess and, if necessary, to mitigate collision risk, including, but not limited</li> </ol>		

<sup>1</sup> This authorization for four space stations includes the Global-1 space station, which BlackSky intends to use initially for demonstration and testing, but for which BlackSky also seeks authority as part of this application. Exhibit 1 at 4. BlackSky also has filed an application for an experimental authorization for Global-1 (0864-EX-CN-2017), which is currently pending. Grant of this authorization under Part 25 eliminates the need for an experimental authorization for Global-1.

**ATTACHMENT TO GRANT**  
BlackSky Global LLC  
IBFS File No. SAT-LOA-20180320-00023  
\*CORRECTED ON 10.23.18\*

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.

4. BlackSky shall tune TT&C UHF links to 401.5 MHz or 401.375 MHz as this represents the agreed transmit frequencies with NOAA to minimize interference to NOAA GOES Data Collection System (DCS), and radiosonde operations and continue to work closely with NOAA to identify and implement any further measures needed to avoid RFI to the systems mentioned earlier. For future mission planning, transition out of 401-406 MHz to avoid interference to DCS and radiosondes is recommended by October 2021. BlackSky and NOAA shall work jointly to explore future mitigation strategies to avoid interference to NOAA missions.
5. Operations in the 449.75-450.25 MHz (Earth-to-space) frequency band are limited to telecommand and must be consistent with footnote US87 to the U.S. Table of Frequency Allocations, 47 CFR § 2.106. BlackSky must take all practical steps to keep the telecommand carrier frequency close to 450 MHz.
6. Operations pursuant to this authorization must not cause harmful interference to stations operating in the 2025-2110 MHz band in accordance with the U.S. Table of Frequency Allocations. See 47 CFR § 2.106, Footnote US347.
7. 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). BlackSky shall provide the FCC the list of coordinated earth stations.
8. Power flux-density 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.
9. Given the opportunity for additional entrants to operate in the 8025-8400 MHz band, we grant BlackSky's request for waiver of the modified processing round requirements of 47 CFR §§ 25.156 and 25.157. See *DigitalGlobe, Inc.*, Order and Authorization, 20 FCC Red 15696 (Sat. Div., Int'l Bur. 2005), at paragraph 8.
10. Because BlackSky must comply with technical requirements in Part 2 of the Commission's rules and the above-referenced power flux-density limits, which should prevent harmful interference to other operations in the band, we grant its request for a waiver of the default service rules in 47 CFR § 25.217(b). See *DigitalGlobe, Inc.*, *supra* at paragraph 15.
11. Unless extended by the Commission for good cause shown, this authorization will become null and void in the event the space stations are not constructed and launched in accordance with this application by the schedule set forth in Section 25.164(b) of the Commission's rules.
  - a. BlackSky must post a surety bond in satisfaction of 47 CFR §§ 25.165(a)(1) & (b) no later than **November 2, 2018**, and thereafter maintain on file a surety bond requiring payment in the event of a default in an amount, at minimum, determined according to the formula set forth in 47 CFR § 25.165(a)(1); and
  - b. BlackSky must launch 50 percent of the maximum number of proposed space stations, place them in the assigned orbits, and operate them in accordance with this grant no later than **October 3, 2024**, and must launch the remaining space stations necessary to complete its authorized service constellation, place them in their assigned orbits, and operate them in accordance with the authorization no later than **October 3, 2027**. 47 CFR § 25.164(b).<sup>2</sup>

<sup>2</sup> We note that the *NGSO FSS R&O* recently modified Section 25.164(b) to offer additional flexibility and requires launch and operation of 50 percent of an authorized system within six years of grant and the remaining satellites within nine years of grant.

**ATTACHMENT TO GRANT**  
**BlackSky Global LLC**  
 IBFS File No. SAT-LOA-20180320-00023  
 \*CORRECTED ON 10.23.18\*

c. Failure to post and maintain a surety bond will render this grant null and void automatically, without further Commission action. Failure to meet the milestone requirements of 47 CFR § 25.164(b) may result BlackSky's authorization being reduced to the number of satellites in use at the milestone date. Failure to comply with the milestone requirements of 47 CFR § 25.164(b) will also result in forfeiture of BlackSky's surety bond. By **October 18, 2024**, BlackSky must either demonstrate compliance with this milestone requirement or notify the Commission in writing that the requirement was not met. 47 CFR § 25.164(f).

12. Prior to commencing operations with the space stations authorized herein, BlackSky must file with the Commission the information required by Section 25.172 of the Commission's rules, 47 CFR § 25.172.

13. Within 30 days after launching each satellite authorized herein, BlackSky must file a notification with the Commission specifying the satellite's orbital altitude and inclination.

14. The license term for the constellation is 15 years and will begin on 3 a.m. EST on the date that BlackSky certifies to the Commission that its initial space station has been successfully placed into orbit and its operations fully conform to the terms and conditions of this authorization. BlackSky must file such certification within five business days of placing its initial satellite into operation.

15. BlackSky must launch the space stations no later than October 31, 2020. No authority is granted to deploy space stations after October 31, 2020.

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).

<b>Action Date:</b>	October 3, 2018	
<b>Term Dates</b>	<b>From:</b> see conditions	<b>To:</b> see conditions

**Approved:**



Stephen J. Duall  
 Chief, Satellite Policy Branch

9-16. Name of Contact Representative

Name:	Jonathan L. Wiener, Esq.	Phone Number:	202-429-4900
Company:	Goldberg, Godles, Wiener & Wright LLP	Fax Number:	202-429-4912
Street:	1025 Connecticut Avenue, NW Ste 1000	E-Mail:	jwiener@g2w2.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20036 -
Attention:		Relationship:	Legal Counsel

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.

a.

- (N/A) a1. Earth Station  
 a2. Space Station

b.

- b1. Application for License of New Station  
(N/A) b2. Application for Registration of New Domestic Receive-Only Station  
(N/A) b3. Amendment to a Pending Application  
(N/A) b4. Modification of License or Registration  
(N/A) b5. Assignment of License or Registration  
(N/A) b6. Transfer of Control of License or Registration  
(N/A) b7. Notification of Minor Modification  
(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
- b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States  
 b10. Replacement Satellite Application - no new frequency bands  
 b11. Replacement Satellite Application - new frequency bands (Not eligible for streamlined processing)  
 b12. Petition for Declaratory Ruling to be Added to the Permitted List  
(N/A) b13. Other (Please specify)

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):

17c. Fee Classification    CLW – Space Station (Non-Geostationary)

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

(a) Call sign of station:

Not Applicable

19. If this filing is an amendment to a pending application enter:

(a) Date pending application was filed:

Not Applicable

(b) File number of pending application:

Not Applicable

TYPE OF SERVICE

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:	
<input type="checkbox"/> a. Fixed Satellite <input type="checkbox"/> b. Mobile Satellite <input type="checkbox"/> c. Radiodetermination Satellite <input checked="" type="checkbox"/> d. Earth Exploration Satellite <input type="checkbox"/> e. Direct to Home Fixed Satellite <input type="checkbox"/> f. Digital Audio Radio Service <input type="checkbox"/> g. Other (please specify)	
21. STATUS: Choose the button next to the applicable status. Choose only one. <input type="radio"/> Common Carrier <input checked="" type="radio"/> Non-Common Carrier	22. If earth station applicant, check all that apply. Not Applicable
23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities: <input type="radio"/> Connected to a Public Switched Network <input checked="" type="radio"/> Not connected to a Public Switched Network <input type="radio"/> N/A	
24. FREQUENCY BAND(S): Place an "X" in the box(es) next to all applicable frequency band(s). <input type="checkbox"/> a. C-Band (4/6 GHz) <input type="checkbox"/> b. Ku-Band (12/14 GHz) <input checked="" type="checkbox"/> c. Other (Please specify upper and lower frequencies in MHz.) Frequency Lower: 401                      Frequency Upper: 8400                      (Please specify additional frequencies in an attachment)	

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?

Yes  No

30. Is the applicant an alien or the representative of an alien?

Yes  No  N/A

31. Is the applicant a corporation organized under the laws of any foreign government?

Yes  No  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?

Yes  No  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?

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

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

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.

Yes  No

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

Yes  No

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.

Yes  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 2

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?

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 requests licensing of a small-sat non-geostationary orbit Earth Exploration Satellite Service system. See Narrative in Exhibit 1 hereto.

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)      Limited Liability Company

45. Name of Person Signing  
Rakesh Narasimhan

46. Title of Person Signing  
President & COO, Spaceflight Industries

47. Please supply any need attachments.

1: Exhibit 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).

**FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT**

The public reporting for this collection of information is estimated to average 0.25 – 24 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD–PERM, Paperwork Reduction Project (3060–0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to [PRA@fcc.gov](mailto:PRA@fcc.gov). PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060–0678.

**THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104–13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.**