



File # SAT-STA-20200728-00089

Call Sign N/A Grant Date 12/10/2020  
(or other identifier)

Approved by OMB  
3060-0678

Term Dates

From See conditions To: period of 24 hours  
or less

Approved: M. L. Velez

Merissa L. Velez  
Chief, Satellite Policy Branch

Date & Time Filed: Jul 28 2020 7:29:20:300PM  
File Number: SAT-STA-20200728-00089  
Callsign:

\* with conditions

FEDERAL COMMUNICATIONS COMMISSION  
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY

FOR OFFICIAL USE ONLY

APPLICANT INFORMATION

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

Sherpa FX1 STA


I. Applicant

<b>Name:</b>	Spaceflight, Inc.	<b>Phone Number:</b>	202-262-1825
<b>DBA Name:</b>		<b>Fax Number:</b>	
<b>Street:</b>	1505 Westlake Ave. North, Ste 600	<b>E-Mail:</b>	kristina@spaceflight.com
<b>City:</b>	Seattle	<b>State:</b>	WA
<b>Country:</b>	USA	<b>Zipcode:</b>	98109 -
<b>Attention:</b>	Ms Kristina Hloptsidis		

**ATTACHMENT TO GRANT**

Spaceflight Inc.

IBFS File No. SAT-STA-20200728-00089

<b>IBFS File No(s):</b>	SAT-STA-20200728-00089 <sup>1</sup>	<p align="center"><b>GRANT – With Conditions</b></p>  <p align="center"><b>International Bureau Satellite Division</b></p>
<b>Licensee/Grantee:</b>	Spaceflight Inc.	
<b>Satellite Names:</b>	Sherpa-FX1	
<b>Orbital Location: (required station-keeping tolerance)</b>	NGSO in a sun-synchronous circular orbit with altitude of 525 km (± 25 km) at an inclination of 97.59°	
<b>Administration:</b>	United States of America	
<b>Nature of Service:</b>	Space Operations	
<b>Scope of Grant:</b>	Authority to transmit for a period of 24 hours or less, <sup>2</sup> in order to deploy spacecraft described in the Spaceflight Sherpa-FX1 manifest. <sup>3</sup>	
<b>Service Area(s):</b>	Global (to space stations in the Globalstar constellation and from an earth station in Upland, Indiana, U.S. <sup>4</sup> ).	
<b>Frequencies:</b>	<u>Telemetry and Tracking Frequencies:</u> <sup>5</sup>  Transmit Frequencies: Center frequency 1616.25 MHz, 2.5 MHz bandwidth (space-to-space) (to the Globalstar Satellite System)  Receive Frequencies: 1227.60-1575.42 MHz (space-to-space) (from the U.S. Global Positioning System (GPS)) 2456-2478 MHz (Earth-to-space) <sup>6</sup>	
<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>		

<sup>1</sup> The application was placed on public notice on October 2, 2020. *Satellite Policy Branch Information Satellite Space Station Applications Accepted for Filing*, Public Notice, Report No. SAT-01501 (Oct. 2, 2020).

<sup>2</sup> Spaceflight states that the mission of the Sherpa-FX1 is expected to last less than six hours following launch and separation from the SpaceX Falcon 9 launch vehicle. Spaceflight Inc., Narrative at 1, n.2. Spaceflight states that the radio transmissions may last longer than six hours, but no more than 24 hours. *Id.*

<sup>3</sup> Spaceflight filed a manifest with its application specifying that 14 spacecraft would be deployed from the Sherpa-FX1 and that four “hosted payloads” would remain attached to the Sherpa-FX1. *See* Spaceflight Inc., Narrative, Attach. 1, Exh. A at 4 & Narrative, Attach. 1, Exh. B. Spaceflight subsequently indicated that one of the objects, planned for operation by Keplerian Technologies, would not be included in the launch of the Sherpa-FX1. *See* Letter from Jonathan L. Wiener, Attorney for Spaceflight, Inc. to Karl Kensinger, Acting Chief, Satellite Division, FCC (filed Oct. 5, 2020) (Spaceflight Oct. 5, 2020 Letter). One of the three objects identified by Spaceflight that will remain attached to Sherpa-FX1, the EyeStar-Tag will include radiofrequency operations. *See* Spaceflight Inc., Narrative, Attach. 1, Exh. A at 4 & Narrative, Attach. 1, Exh. B; Spaceflight Oct. 5, 2020 Letter. Spaceflight has also stated that none of the spacecraft to be deployed will themselves deploy additional spacecraft. Spaceflight Inc., Sherpa-FX1 Long-Term Recontact Probability at 3 n.2. Spaceflight additionally stated that non-separating mass models will be substituted if any customer or operator is unable to provide its spacecraft for launch. Spaceflight Inc., Narrative at 3.

<sup>4</sup> *See* Near Space Launch Inc., Experimental Licensing System File No. 0211-EX-CM-2020.

<sup>5</sup> These frequencies are assigned for special temporary authority only, for a period not to exceed that specified in the scope of grant.

<sup>6</sup> Spaceflight states that the sole purpose of operations in this band would be to receive commands from a ground station operated by NearSpace Launch in order to shut off the Sherpa-FX1 radiofrequency transmissions if it became necessary. *See* Spaceflight Inc., Narrative at 3 & Narrative, Attach. 1 at 4. No other operations are permitted using this frequency band.

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1. All operations under this grant of special temporary authority must be on an unprotected and non-harmful interference basis, *i.e.*, Spaceflight must not cause harmful interference to, and shall not claim protection from interference caused to it by, any other lawfully operating station.
2. Spaceflight's request for waiver of Section 25.113(g) of the Commission's rules, requiring orbital deployment approval and a license to be applied for and granted prior to orbital deployment and operation of a space station, is GRANTED.<sup>7</sup> We find that the special circumstances presented here, including the short operational lifetime of the space stations, and the similarity of the space stations to an upper stage launch vehicle,<sup>8</sup> justify waiver of the rule. Further, waiver of the rule would not undermine the policy objective of the rule. The Commission has described the intent of the rule to be "that the approval process [for space stations] involves a public interest review of proposed space station operation and debris mitigation plans before a space station is launched into orbit."<sup>9</sup> Consistent with the intent of the rule, we have reviewed the description of space station operations and orbital debris mitigation plan submitted by Spaceflight, and make a finding that granting the requested STA is in the public interest. In light of these specific circumstances, we conclude that waiver would serve the public interest. The rule is waived herein without prejudice to any future applications by Spaceflight, or by any other operators seeking authority to operate space stations designed to deploy satellites.
3. This authorization is limited to operations of the Sherpa-FX1 spacecraft and the radio stations specified in this grant, and does not in any way grant authority for operations or express a view concerning the status of any other radio stations, objects or spacecraft.<sup>10</sup>
4. Spaceflight 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.
5. Spaceflight must provide information about the deployments from the Sherpa FX-1 to the United States Air Force's 18<sup>th</sup> Space Control Squadron, to assist in identifying and tracking the space objects being deployed.
6. Upon receipt of a conjunction warning from the 18<sup>th</sup> Space Control Squadron or other source, Spaceflight must review and take all possible steps to assess the collision risk, and mitigate collision risk if necessary. As appropriate, steps to assess and mitigate should include, but are 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; and modifying spacecraft attitude and/or operations. In addition, Spaceflight must:

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<sup>7</sup> 47 CFR § 25.113(g).

<sup>8</sup> An upper stage launch vehicle would not be licensed by the Commission, to the extent that the vehicle falls within the authority of the Federal Aviation Administration (FAA). *See Mitigation of Orbital Debris*, Notice of Proposed Rulemaking, 17 FCC Rcd 5586, 5592-93, paras. 14-15 (2002) (citing the Commercial Space Launch Act of 1984, as amended, 49 U.S.C. § 70101 *et seq.*, and the FAA's implementing regulations, codified at 14 CFR Ch. III, § 400 *et seq.*); *see also Mitigation of Orbital Debris*, Second Report and Order, 19 FCC Rcd 11567, 11611, para. 105 (2004) (noting the Commission's prior observation that "matters addressed under the Commercial Space Launch Act and its implementing regulations are most appropriately addressed by the FAA"); *Orbital Debris Mitigation in the New Space Age*, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd 4156, 4192-93, paras. 78-79 (distinguishing between free-flying or separated deployment devices and those deployment devices that may be part of or remain attached to the launch vehicle).

<sup>9</sup> *Comprehensive Review of Licensing and Operating Rules for Satellite Services*, Further Notice of Proposed Rulemaking, 29 FCC Rcd 12116, 12155, para. 133 (2014).

<sup>10</sup> Spaceflight has indicated that one "hosted payload" remaining aboard the Sherpa-FX1, the EyeStar-Tag payload operated by NearSpace Launch, will include radiofrequency operations. *See* Spaceflight Inc., Narrative, Attach. 1, Exh. A at 4 & Narrative, Attach. 1, Exh. B; Spaceflight Oct. 5, 2020 Letter.

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- a. Utilize a deployment sequence that will reduce the probability of recontact.<sup>11</sup>
  - b. Ensure that the risk of recontact specified in its application does not increase as a result of the substitution of non-separating mass models for any of the spacecraft originally planned for deployment.<sup>12</sup>
7. Upon commencement of operations, Spaceflight must file a notification within one (1) day certifying to the Commission that the space stations have been placed in orbit and indicating whether the operations fully conform to the terms and conditions of this grant.


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:** December 10, 2020

<b>Term Dates</b>	<b>From:</b> see conditions	<b>To:</b> 24 hours or less following commencement of operations
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<b>Approved:</b>	 Merissa L. Velez Chief, Satellite Policy Branch
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<sup>11</sup> See Spaceflight, Inc., Sherpa-FX1 Long-Term Recontact Probability at 4.

<sup>12</sup> See *id.* at n.1.

2. Contact	
<b>Name:</b> Jonathan L. Wiener	<b>Phone Number:</b> 703-216-9224
<b>Company:</b> Goldberg, Godles, Wiener & Wright LLP	<b>Fax Number:</b>
<b>Street:</b> 1025 Connecticut Ave., NW Ste. 1000	<b>E-Mail:</b> jwiener@g2w2.com
<b>City:</b> Washington	<b>State:</b> DC
<b>Country:</b> USA	<b>Zipcode:</b> 20036 -
<b>Attention:</b>	<b>Relationship:</b> Legal Counsel
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)	
3. Reference File Number or Submission ID	
4a. Is a fee submitted with this application?	
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).	
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee	
<input type="radio"/> Other (please explain):	
4b. Fee Classification    CXW – Space Station (Non-Geostationary)	
5. Type Request	
<input type="radio"/> Change Station Location <input type="radio"/> Extend Expiration Date <input checked="" type="radio"/> Other	
6. Temporary Orbit Location NGSO	7. Requested Extended Expiration Date 2021-01-31 00:00:00.0

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.)

Spaceflight Inc., seeks STA to permit it to deploy and operate a spacecraft (Sherpa FX1) for a duration of less than 24 (twenty-four) hours.

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  
Kristina Hloptsidis

11. Title of Person Signing  
Chief of Regulatory and Risk

12. Please supply any need attachments.

Attachment 1: Attachment 1

Attachment 2: Attachments 2

Attachment 3: 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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