

**AMENDMENT TO APPLICATION FOR
EXPERIMENTAL SPACE STATION AUTHORITY (FILE NO. 1004-EX-ST-2013)**

BlackSky, LLC (“BlackSky”) hereby amends its above-referenced pending application for experimental space station authority. BlackSky notes that it has recently filed a companion experimental earth station application to the subject request for space station authority.¹

In the process of completing that companion application, BlackSky determined that some technical details outlined in its space station application should be updated. BlackSky is also submitting herewith a revised narrative to the above-referenced application.

BlackSky amends its pending experimental space station application in the following ways:

1. Manufacturer section: the L3 radio needs to be changed to Tethers Unlimited for the manufacturer. The model is UHF Radio.
2. Station location section: Modulating signal for the 401-402 MHz signal needs to be changed to BPSK.
3. Under Scout 1 and 2 Frequency Characteristics: Primary TT&C uplink needs to be changed from 2071.88MHz+/- 25 kHz to +/-49 kHz.

¹ File No. 1136-EX-ST-2013.

REQUEST FOR EXPERIMENTAL SPECIAL TEMPORARY AUTHORITY

BlackSky, LLC (“BlackSky”) herein requests experimental Special Temporary Authority (“STA”) to demonstrate and test the use of two microsatellites in the manner described below.

Purpose of Special Temporary Authority.

BlackSky seeks to test, develop, and demonstrate the efficacy and design of a newly configured microsatellites, including associated software applications, relative to their ability to provide high-resolution remote sensing in the Earth Exploration Satellite Service (“EESS”). To this end, BlackSky seeks experimental STA to launch, test, and demonstrate¹ two prototype satellites – Scout 1 and Scout 2 – anticipated to be launched and ready for testing in approximately November 1, 2014,² for a period of up to six (6) months.

The launch and operation of the subject microsatellites on the basis of such authority will permit BlackSky the opportunity to assemble critical feedback both as to the performance of the microsatellites themselves and the overall architecture of the proposed imaging and communications system.

BlackSky brings to the Commission’s attention that it has also submitted an application for authority to operate the Scout 1 and Scout 2 microsatellites with the National Oceanographic and Atmospheric Administration (“NOAA”). Additionally, BlackSky is submitting herewith an analysis it performed to satisfy the Commission’s Orbital Debris Assessment requirements. Finally, BlackSky has also rendered the application data in an exhibit formatted to facilitate its analysis by the NTIA.

Operational Description.

BlackSky is developing plans to deploy two satellites intended to demonstrate the technology and to experiment with configurations and processes. The satellites are proposed for launch to Low Earth Orbit on a Roscosmos Soyuz launch vehicle. Scouts 1 and 2 will be deployed from the Soyuz upper stage into a planned circular orbit of 600 x

¹ BlackSky has followed herein the Commission’s policy articulated regarding the seeking of STA for such purposes. See *Guidance on Obtaining Experimental Authorizations for Commercial Space Launch Activities*, Public Notice, DA 13-446 (rel. Mar. 15, 2013).

² Because BlackSky is submitting the instant application well in advance of when it needs such authority and of the proposed launch of the subject microsatellites, it is requesting a start date of November 10, 2014, with the possibility that the microsatellites may be ready for testing later than, but not earlier than, that date.

600 km at 97.8 degrees inclination approximately 1 week after the primary payload's (Meteor) separation from the launch vehicle.

Once in orbit, the demonstration and testing will focus on each satellite's subsystems and their collective interaction, as well as the ability to communicate with and control the satellites, test the imaging capability of the satellites, and ascertain the actual throughput of imaging data from the satellite to ground stations³ and the BlackSky network operations center.

The technical details of the space segment are as follows:

Scout 1 and 2 frequency characteristics:

Primary Payload Downlink:	8080 MHz $\pm$ 80.0 MHz
Secondary TT&C Downlink:	401-402 MHz
Primary TT&C Uplink ⁴ :	2071.88MHz $\pm$ 49kHz
Secondary TT&C Uplink:	449.75 – 451.25 MHz

Scout 1 and 2 radio characteristics:

<i>Frequencies</i>	<i>Manufacturer</i>	<i>Model Number</i>
X-Band	Syrlinks	EWC22
S-Band	Quasonix	QSX-RDMS-T-1100-AB-RS
UHF	Tethers Unlimited	UHF Radio

Scout 1 and 2 antenna characteristics:

X-Band (Tx):

15 dBi patch antenna, 18 degree half power beamwidth, nadir pointing
45° RHCP in horizontal orientation; 45° RHCP in vertical orientation

S-Band (Rx):

6 dBi patch antenna, 90 degree half power beamwidth, nadir pointing
45° RHCP in horizontal orientation; 45° RHCP in vertical orientation

UHF (Tx/Rx):

2.15 dBi non-directional monopole, 156 degree half power beamwidth
Linear polarization

³ BlackSky notes that it has not yet finalized the exact location of the ground station that will communicate with Scout 1 and Scout 2 for communications and control purposes. Once it has completed its assessment of available locations, BlackSky will be submitting a further application for experimental STA to license that facility, as well.

⁴ BlackSky is providing in this exhibit the proposed uplink frequencies only as informational. These frequencies will be the subject of a separate application for experimental earth station authority. See n.3.

24-hour contact details:

BlackSky maintains a 24-hour, 7-day-per-week hotline at its Mission Control Center, which can be reached at the following telephone number for any interference issues: (425) 998-7370.