

REQUEST FOR EXPERIMENTAL SPECIAL TEMPORARY AUTHORITY

BlackSky, LLC (“BlackSky”) herein requests experimental Special Temporary Authority (“STA”) to demonstrate and test earth station facilities in connection with the launch 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 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 has submitted an application for STA to launch, test, and demonstrate two prototype satellites – Scout 1 and Scout 2 – anticipated to be launched and ready for testing around approximately November 1, 2014, for a period of up to six (6) months.¹

BlackSky submits herein an associated request for experimental STA to use earth station facilities at three locations to communicate with the Scout 1 and Scout 2 satellites. As with its associated space station application, BlackSky herein seeks authority for up to six (6) months, beginning on November 10, 2014.²

The grant of the instant request will permit BlackSky to communicate and control the satellites and thereby to assemble critical feedback 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”). A letter granting authority from NOAA is expected in the near future, as the NOAA staff has indicated that they have completed the bulk of their analysis and review.

Operational Description.

BlackSky is developing plans to deploy two satellites intended to demonstrate the technology and to experiment with configurations and processes.

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 the ground stations identified below and the BlackSky network operations center.

¹ FCC File No. 1004-EX-ST-2013.

² As it noted in its associated space station application, because BlackSky is submitting the instant application well in advance of when it needs such authority 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.

The technical details of the ground segment are as follows:

Ground station locations:

- (1) Tukwila
(47° 29' 56" N , 122° 17' 22" W)
3415 S 116th St, Ste 123, Tukwila, WA 9816
Site elevation = 15.9 m AMSL
- (2) Tonsina Tract
(61° 42' 45.72" N 145° 8' 3.48" W)
Township 2 South, Range 1 East, Copper River Meridian, AK
Site elevation = 594.4 m AMSL
- (3) Prudhoe Bay Tract
(70° 13' 28.42" N 148° 25' 38.02" W)
Track 11, North Slope Lease Tracts, Umiat Meridian, AK
Site elevation = 9.1 m AMSL

Antenna details:

S-band & X-band: (Tx and Rx)	Manufacturer: ORBIT Model: AL-1000-SX Diameter size: 3.7 m
UHF Tx:	Manufacturer: M2 Antenna Systems Model: 450CP34 (yagi antenna) Boom length: 304.8 cm
UHF Rx:	Manufacturer: M2 Antenna Systems Model: 400CP30 (yagi antenna) Boom length: 337.9 cm

Frequencies:

UHF Tx (uplink):	449.75-451.25 MHz
UHF Rx (downlink):	401-402 MHz
S-band Tx (uplink):	2071.88 MHz, 78 kHz bandwidth at 100 kbps
X-band Rx (downlink):	8080 MHz, 80 MHz bandwidth at 100 Mbps

Antenna gain:

UHF Tx:	16.0 dBi @ 435-455 MHz
UHF Rx:	16.2 dBi @ 395-405 MHz
S-band Tx:	33.5 dBi @ 2025-2110 MHz (no S-band receive)
X-band Rx:	45.9 dBi @ 8100-8400 MHz

Power, EIRP, Polarization:

UHF: 10 W, Total EIRP 24.15 dBW, Linear
S-band: 10 W, Total EIRP 41.65 dBW, RHCP

Modulation and Services:

UHF: BPSK, Command
S-band: SOQPSK, Data
X-band: O-QPSK, Data

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: (206) 351-5165.