

**SES Government Solutions, Inc. (“SES-GS”)
Application for Experimental Special Temporary Authority**

Narrative Statement

(1) Name, address, phone number (also e-mail address and facsimile number, if available) of the applicant.

SES-GS Representative and Stop Buzzer Contact:
Mike Blefko
11790 Sunrise Valley Drive, Suite 300, Reston, VA 20191¹
Office Phone: (703) 610-0957; Mobile Phone: (571) 419-1333
Mike.Blefko@SES-GS.com

Counsel to SES-GS: Karis Hastings, SatCom Law LLC, karis@satcomlaw.com

(2) Description of why an STA is needed.

SES Government Solutions, Inc. (“SES-GS”), a wholly-owned subsidiary of SES S.A. and an affiliate of O3b Limited (“O3b”), provides satellite solutions to U.S. government customers to meet mission critical needs. SES-GS seeks an experimental special temporary authority (“STA”) in order to test and demonstrate a terminal communicating with the O3b Ka-band non-geostationary orbit (“NGSO”) satellite system.²

Specifically, SES-GS requests STA to perform testing and demonstration of a 20.5 inch General Dynamics model M-20 antenna with the O3b network to assess the antenna’s suitability to support U.S. armed forces deployed around the world. SES-GS will conduct the tests and demonstrations at locations in Scottsdale, AZ; Aberdeen, MD; and Taunton, MA. The antenna will communicate with O3b’s Ka-band NGSO satellite constellation using spectrum in which NGSO operations have sole primary status, transmitting in the 28.6-29.1 GHz frequencies and receiving in the 18.8-19.3 GHz frequencies.

(3) Time and Date of Proposed Operation

SES-GS requests expedited processing to allow testing to begin by May 1, 2021. The timing is driven by the need to support U.S. armed forces around the world. The terminal will be used to upload and download files and data at higher speeds and lower latencies than previously possible. With this type of capability, the men and women in our armed forces will be better connected, providing a higher probability of mission

¹ Given the ongoing COVID-19 pandemic, SES-GS requests that all correspondence be sent electronically, as physical mail to this address may not be checked regularly.

² The FCC has granted market access to the current O3b 20 satellite constellation and authorized the expansion of the constellation to up to 42 satellites. See *O3b Limited*, Order and Declaratory Ruling, 33 FCC Rcd 5508 (2018) (“O3b Market Access Grant”).

success as well as morale, welfare and recreation connectivity if needed. SES-GS is seeking to expedite the testing and demonstration process in order to speed the delivery of this valuable service to armed services personnel.

(4) Class(es) of station (fixed, mobile, fixed and mobile) and call sign of station (if applicable).

The transmitting antenna will operate as a fixed satellite earth station.

(5) Description of the location(s) and, if applicable, geographical coordinates of the proposed operation.

SES-GS will operate the terminal in fixed mode at and around three locations: Scottsdale, AZ; Aberdeen, MD; and Taunton, MA. During testing or demonstration the antennas will be positioned within a 0.5-mile (0.8 km) radius of the designated coordinates listed below:

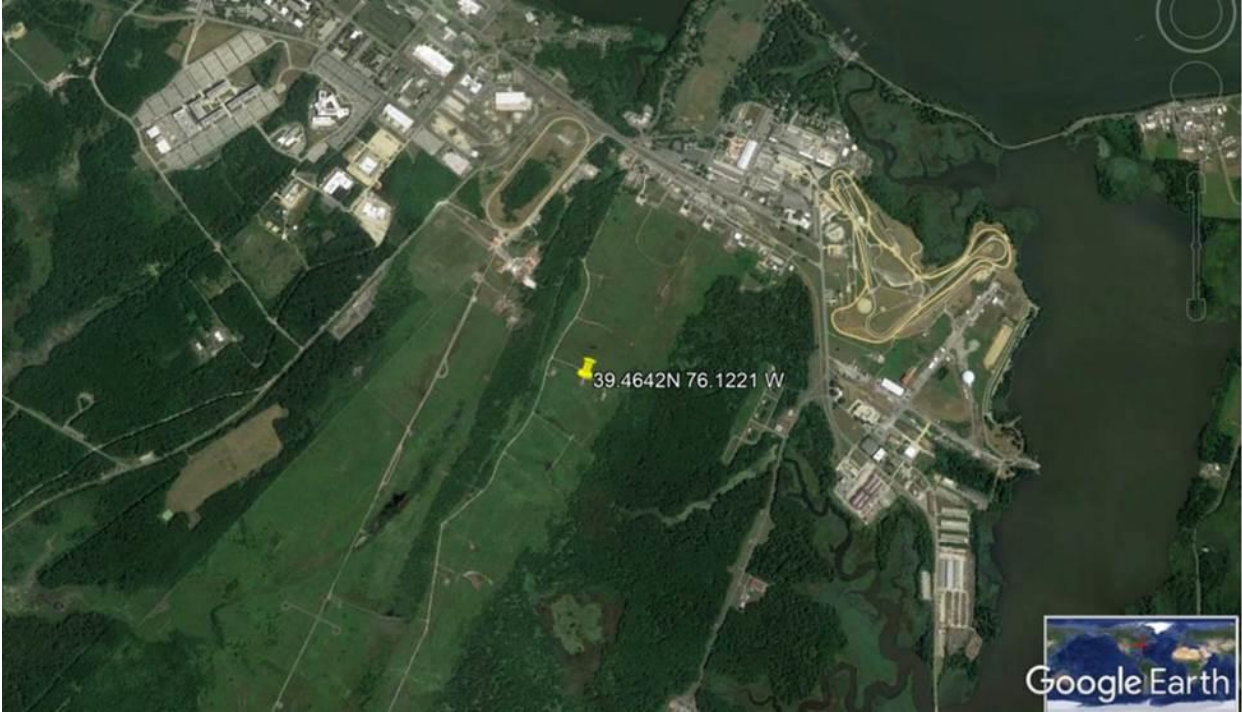
1. Fixed testing within 0.8 km of 33° 27' 34" N 111° 54' 20" W (Scottsdale, AZ)
2. Fixed testing within 0.8 km of 39° 27' 51" N 76° 7' 20" W (Aberdeen, MD)
3. Fixed testing within 0.8 km of 41° 56' 54" N 71° 7' 42" W (Taunton, MA)

Maps of the sites are provided below.

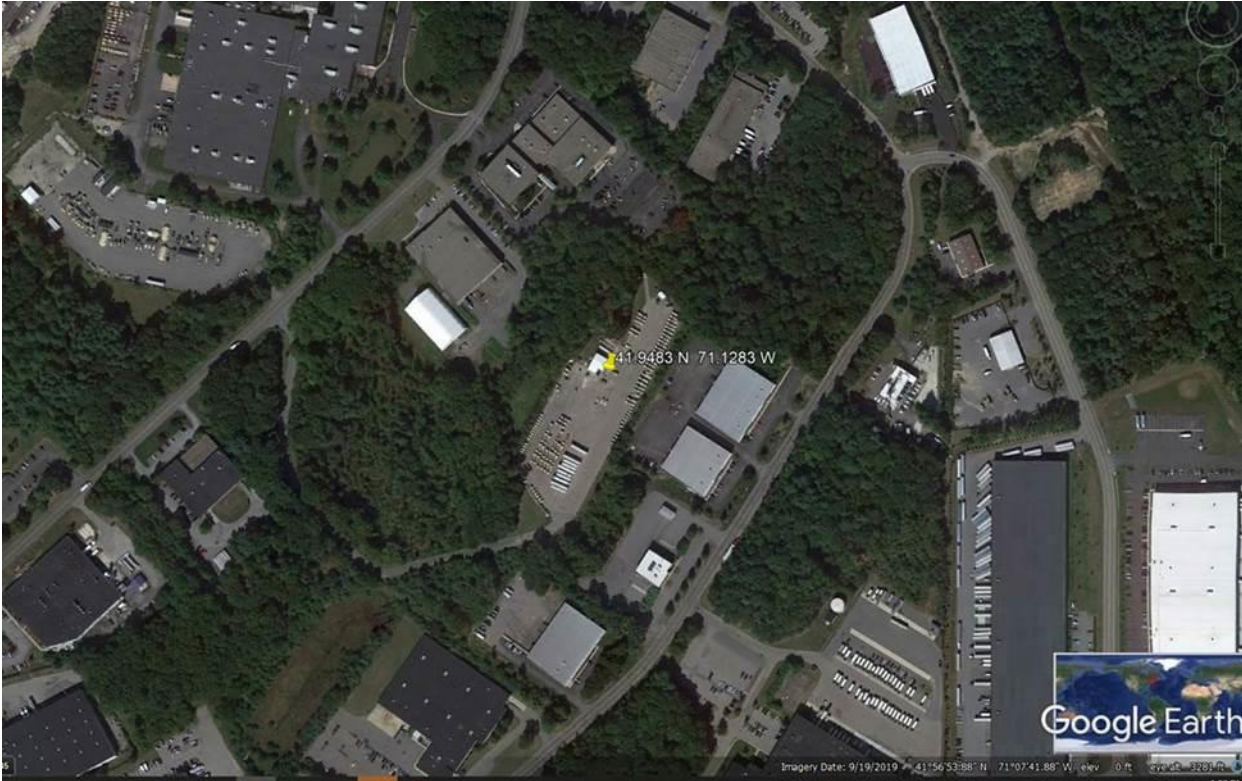
Scottsdale, AZ:



Aberdeen, MD:



Taunton, MA:



(6) Transmit equipment to be used, including name of manufacturer, model, and number of units.

General Dynamics Model M-20, 1 unit.

(7) Maximum effective radiated power (ERP) or equivalent isotropically radiated power (EIRP).

The maximum transmitted EIRP will be 53.5 dBW. The transmitted power is 18 Watts. The peak ERP is 135030 Watts.

For all operations, SES-GS will comply with the radiofrequency radiation exposure limits in 47 C.F.R. § 1.1310 and apply the measures recommended in the FCC's OET Bulletin 65 to ensure compliance.

(8) Emission Designator

50M0G7D

(9) Overall height of antenna of antenna structure above the ground (if greater than 6 meters above the ground or an existing structure, see part 17 of this Chapter concerning notification to the FAA).

The antenna's overall height above ground level is less than 1 meter.

(10) Directional Antenna Characteristics

Scottsdale, AZ Location	
Width of the antenna beam in degrees at the half-power point	1.3-1.4 degrees
Orientation of the antenna in the horizontal plane	Azimuth sweep range is from 230 degrees to 152 degrees
Orientation of the antenna in the vertical plane	Elevation will vary from 19.6 degrees to 35 degrees across the pass

Aberdeen, MD Location	
Width of the antenna beam in degrees at the half-power point	1.3-1.4 degrees
Orientation of the antenna in the horizontal plane	Azimuth sweep range is from 208 degrees to 170 degrees
Orientation of the antenna in the vertical plane	Elevation will vary from 23 degrees to 27 degrees across the pass

Taunton, MA Location	
Width of the antenna beam in degrees at the half-power point	1.3-1.4 degrees
Orientation of the antenna in the horizontal plane	Azimuth sweep range is from 213 degrees to 158 degrees
Orientation of the antenna in the vertical plane	Elevation will vary from 18 degrees to 25 degrees across the pass

Antenna patterns are provided in Annex 1.