Request for Special Temporary Authority

Spire Global, Inc. ("Spire") hereby requests special temporary authority ("STA") for thirty (30) days,[1] beginning on April 18, 2017, to allow three (3) of its Phase I satellites[2] to downlink in the 2200-2290 MHz frequency band on a temporary basis with a Kongsberg Satellite Services ("KSAT") ground station in Tromsø, Norway.[3]

The number of Spire Global Positioning System-Radio Occultation ("GPS-RO") satellites has increased as a result of its recent LEMUR-2 Phase I satellite deployment;[4] however, Spire's ground station network buildout for its Phase I satellites has been limited due to its pending Phase IB/IC space station amendment application.[5] This buildout limitation has caused a backlog of GPS-RO data aboard three of its Phase I satellites, preventing the timely downlinking of radio occultation profiles.

As a recipient of the National Oceanic and Atmospheric Administration's ("NOAA's") first Commercial Weather Data Pilot contract, Spire must provide "space-based GNSS radio occultation data to NOAA for the purpose of demonstrating data quality and potential value to NOAA's weather forecasts and warnings" prior to April 30, 2017.[6] Accordingly, Spire requires additional downlink capacity, beyond the capability of its current ground station network, to support the transmission of GPS-RO data from its LEMUR-2 satellite constellation prior to the NOAA delivery deadline.

The International Bureau ("Bureau") has previously found that the grant of STAs permitting earth stations to communicate with satellites pending the processing of permanent applications serves the public interest, convenience, and necessity by allowing for the deployment of new and additional satellite services in a timely manner.[7] Approving the instant STA request will allow Spire to downlink the radio occultation data and complete delivery of its

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[1] *See* 47 C.F.R. § 25.120(b)(4).

[2] *See* Stamp Grant, Spire Global, Inc., File No. SAT-LOA-20151123-00078 (granted in part and deferred in part Mar. 18, 2016, as corrected Mar. 24, 2016); Stamp Grant, Spire Global, Inc., File No. SAT-LOA-20151123- 00078 (granted in part and deferred in part June 16, 2016); Stamp Grant, Spire Global, Inc., File No. SAT-LOA- 20151123-00078 (granted in part and deferred in part Oct. 14, 2016). FM36, FM37, and FM40 are the three satellites that will transmit.

[3] *See infra* Attachment 1. The chart contains the relevant technical information for the requested operations in the 2200-2290 MHz band for the KSAT ground station.

[4] On February 15, 2017, Spire successfully launched eight more LEMUR-2 satellites into orbit. *See* Stephen Clark, *India lofts a record 104 spacecraft on a single rocket*, Spaceflight Now (Feb. 15, 2017), https://spaceflightnow.com/2017/02/15/india-lofts-a-record-104-spacecraft-on-a-single-rocket/.

[5] *See* Application, Spire Global, Inc., IBFS File No. SAT-AMD-20161114-00107 (filed Nov. 14, 2016).

[6] *Commercial Weather Data Pilot (CWDP)*, National Oceanic and Atmospheric Administration Office of Space Commercialization, http://www.space.commerce.gov/business-with-noaa/commercial-weather-data-pilot-cwdp/ (last viewed Apr. 10, 2017).

[7] *See, e.g.*, Stamp Grant, Spire Global, Inc., IBFS File No. SES-STA-201660324-00292 to 00294 (granted Apr. 19, 2016); Stamp Grant, DG Consents Sub, Inc., IBFS File No. SES-STA-20140717-00605 (granted Aug. 12, 2014); Stamp Grant, EchoStar Broadcasting Corporation, IBFS File No. SES-STA-20130108-00019 (granted Jan. 10, 2013).

radio occultation profiles prior to the NOAA Commercial Weather Data Pilot delivery deadline on April 30, 2017.

Further, Spire will commence coordination for the temporary use of this KSAT ground station with the relevant U.S. federal agencies and expects completion of coordination prior to the requested STA commencement date. Accordingly, Spire requests that the Bureau expeditiously grant this STA.

Attachment 1
Ground Station Information

Site Address	Latitude/Longitude	Number of Antenna(s)	Manufacturer	Diameter (m)	Peak Gain (dBi)	3dB Beamwidth (deg)	Polarization
Prestvannveien 38 9011 Tromsø Norway	69° 39' 45.421"N 18° 56' 25.800"E	1	VIASAT	5.4	51.86	1.95	LHCP and RHCP