

February 27, 2023

BY EMAIL

Mr. Richard DalBello
Director
Office of Space Commerce
Herbert C. Hoover Building, Room 62024
1401 Constitution Ave., NW
Washington, D.C. 20230
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**RE: Request for Information on Scope of Civil Space Situational Awareness Services
RTID 0648-XV190**

Dear Mr. DalBello:

Spire Global, Inc. (“Spire”) respectfully submits these comments in response to the Office of Space Commerce’s (“OSC”) Request for Information (“RFI”) seeking additional inputs on the currently planned scope of basic safety services to be provided through OSC’s Traffic Management System for Space (“TraCSS”) program.¹ Spire commends the OSC’s efforts to expand and enhance the basic safety services available to the public free of charge while balancing the interests of private entities to offer innovative commercial products that can further improve on-orbit operations. By “clearly defin[ing] and communicat[ing] the scope of basic safety [Space Situational Awareness (“SSA”)] services,” the OSC can efficiently effectuate the transition of SSA services from the Department of Defense (“DoD”) to TraCSS, while still fostering and facilitating innovation in the commercial sector.²

Spire owns and operates one of the world’s largest multi-purpose satellite constellations. Spire’s fully deployed constellation consists of over 120 satellites that observe the Earth by “listening,” utilizing radio frequency sensors to collect data so that businesses around the world can improve business operations, decrease their environmental footprint, deploy resources for growth and competitive advantage, and mitigate risk. Spire’s satellite constellation makes nearly 2000 orbits daily (120 satellites, ~90 mins average orbit/16 per day/sat) and its global ground station network performs over 2,300 contacts each day on average, reliably and resiliently collecting data with low latency. Spire provides services to over 700 customers, including both private companies and government agencies.

To safely maintain its constellation on orbit and deliver reliable services to its customers, Spire relies on the free SSA services provided by the 18th Space Defense Squadron (“18th SDS”).

¹ See Scope of Civil Space Situational Awareness Services, Request for Information, 88 Fed. Reg. 4970 (Jan. 26, 2023) (“RFI”).

² See *id.*, at 4972.

These free SSA services have enabled Spire to operate and manage its growing fleet without incident during its decade on orbit. While Spire receives thousands of Conjunction Data Messages (“CDMs”) from the 18th SDS every year, only about two per week exceed the actionable threshold of 1E-04.³ With this data, Spire has been able to successfully coordinate with the other parties (where they are active satellites) to share ephemeris data and to take necessary action to avoid actual collision.

The OSC must similarly ensure that TraCSS provides at least the same level of free basic safety services that operators like Spire rely on, as “[t]imely and actionable SSA data...[is] essential to space activities.”⁴ The basic safety service should, at a minimum, include:

- Position knowledge (ephemerides) of all objects associated with that operator;
- Screening services that provide CDMs for all potential conjunction events;
- A database of basic contact information for all operators; and
- Screening services that allow operators to submit special ephemerides for consideration, which are screened to determine if the maneuver would result in unsafe operations.

The basic safety service should not restrict, or in any way prevent, satellite operators from obtaining commercial SSA products in conjunction with or in addition to the TraCSS service. In the event the OSC decides to offer a pay tier that will compete with the commercial sector, it must be truly optional for operators to subscribe and in no way hinder or limit commercial SSA providers from developing or selling competing or complementary for-profit products. When considering a pay tier, the OSC should explore whether to offer visualization and operational toolsets that can enhance the basic safety service offering.

Critically, the transition of commercial SSA from the 18th SDS to TraCSS must be seamless; it cannot result in any interruption or degradation of data to commercial satellite operators. To help resolve or mitigate potential issues, the OSC should continue to provide regular updates and seek public input throughout the development of TraCSS, the transition from services from DoD, and the expansion or implementation of new basic or pay tier services.

³ See Comments of Spire Global, Inc., IB Docket No. 18-313, at 9 (Oct. 9, 2020).

⁴ Presidential Memoranda, *Space Policy Directive-3, National Space Traffic Management Policy*, § 3(b) (June 18, 2018).

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Spire commends the OSC for its efforts to date to ensure a safe and efficient transition of SSA services from the 18th SDS to TraCSS.

Respectfully Submitted,

/s/ Boyd Johnson

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