

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of

Application of RBC Signals, LLC for a	)	
60-Day Extension for Special Temporary	)	Call Sign:
Authorization to Operate with Non-	)	
Geostationary Orbit Spacecraft	)	File No.: SES-STA-_____
	)	

**REQUEST FOR 60-DAY SPECIAL TEMPORARY AUTHORIZATION
(S-band 6m Antenna Uplink – Deadhorse, Alaska)**

RBC Signals, LLC (“RBC Signals”), pursuant to Section 25.120 of the Commission’s rules, 47 C.F.R. § 25.120, respectfully seeks a 60-day extension of its special temporary authorization (“STA”) to operate the fixed 6.0 meter S-band earth station in Deadhorse, Alaska¹ to conduct telemetry, tracking, and command (“TT&C”) uplink operations in the 2025-2110 MHz band (Earth-to-space) to support the Vigoride-5 satellite operated by Momentus Space LLC (“Momentus”).² Because the Rapid Revisit Optical Cloud Imaging (RROCI) satellite, operated by Orion Space Solutions, LLC, did not get deployed, we are withdrawing RROCI as a point of communication from this application and seek no extension to provide services to RROCI. As demonstrated herein, grant of the requested extension for STA will continue to serve the public interest because it will allow RBC Signals to provide necessary TT&C support for Vigoride 5.

RBC Signals will continue to conduct all operations in accordance with the Commission’s rules and requirements governing fixed earth station operations in the subject

¹ See RBC Signals LLC, File No. SES-STA-20221014-01134, Call Sign E220185 (granted December 14, 2022) (the “Deadhorse S-band STA”).

² See Momentus Space LLC, *Application for Authority to Deploy and Operate Vigoride-5 as a Non-Geostationary Orbit InSpace Transportation Spacecraft*, File No. SAT-LOA-20220504-00047, Call Sign S3144 (“Vigoride-5 Application”) granted November 15, 2022.

bands. RBC Signals is attaching a draft Form 312 Schedule B with information relating to the earth station operations.³ The 6.0 meter antenna is located in an area with restricted access, and meets the requirements of 47 CFR 25.115(p). Therefore, grant of this request remains consistent with the Commission's rules, and will continue to serve the public interest. RBC Signals respectfully requests that the Commission consider and authorize the extension as soon as practicable.

I. BACKGROUND

RBC Signals is a Seattle, Washington-based company that provides earth station services around the world. RBC Signals has a contract with Momentus to provide TT&C services to its satellite from the 6.0 meter SeaTel Tracker EO 6000 S/X Antenna System at its ground station in Deadhorse, Alaska, and filed an application for regular authority to support these operations.⁴ However, RBC Signals seeks this 60-day STA extension to allow ongoing operations to serve Vigoride 5 since it was deployed January 3, 2023, while also affording the Commission sufficient time to review and process its application for longer-term authority.

II. DISCUSSION

RBC Signals seeks to continue providing TT&C uplink communications in the 2025-2110 MHz (Earth-to-space) band to support the Vigoride 5 at a center frequency of 2075 MHz with a 100 kilohertz bandwidth, using the 6.0 meter earth station previously authorized for operations on December 14, 2022.⁵

³ RBC Signals incorporates by reference all relevant information in Momentus' Vigoride 5 application, *See Supra*, no. 2, and requests leave to update any technical or operational data should the Commission seek any clarifying or supplemental information in considering this request.

⁴ See RBC Signals, LLC, File No. SES-LIC-20221121-01273, Call Sign E220185 (filed November 21, 2022) (the "Deadhorse 6m S-band Application") (pending).

⁵ *See Supra* no. 1

No harmful interference has resulted from the previously approved 6.0 meter earth station operations and no further interference is anticipated. RBC Signals will continue to ensure that its TT&C operations will not cause harmful interference to current or future co-frequency operations and that the interests of the United States are accommodated.

A. Summary of Frequency Use

In Table 1 below, RBC Signals presents information on the frequencies to be used to communicate with the satellite that is the subject of this application.

Table 1 - Summary of Frequency Use

<u>Satellite</u>	<u>Center Frequencies</u>	<u>Emission Designator</u>
<u>Vigoride 5</u>	2075 MHz	100KG1D

B. Overview of Satellite Points of Contact

1. Vigoride-5

Vigoride-5 is a non-geostationary orbit (“NGSO”) spacecraft designed to transport and deploy customer payloads in low-Earth orbit (“LEO”), as well as to permanently host experimental customer operations. Propelled primarily by a novel microwave electrothermal thruster, a non-toxic and low-pressurized water propellant system capable of providing orbit transfers, Vigoride-5 transported a total of five (5) third-party payloads. Four of the five payloads are Momentus’s customer cubesats, which were deployed directly from Vigoride-5 shortly after it was injected into orbit. The fifth payload is an experimental light-weight flexible phased array system designed by the California Institute of Technology’s High-Speed Integrated Circuits Group (“Caltech”). This payload will remain on board the Vigoride-5 satellite and will be operated by Caltech in cooperation with Momentus.

Vigoride-5 was granted application for authority to operate on November 15, 2022,⁶ and RBC Signals incorporates by reference the Vigoride-5 mission information and payload specifications provided in the *Vigoride-5 Application*.

C. Frequency Allocations and Frequency Use

The United States Table of Frequency Allocations (“Table of Allocations”), Section 2.106 of the Commission’s rules, 47 C.F.R. § 2.106, provides that the 2025-2110 MHz band is allocated on a primary basis to both federal and non-federal uses. The non-federal primary allocation is for terrestrial fixed and mobile services. Non-federal Earth-to-space transmissions may be authorized on a case-by-case basis for space research and Earth exploration-satellite services, so long as such operations are conducted on a non-interference basis with Federal and non-Federal users of the band.⁷ RBC Signals will maintain operation of these links on a non-interference basis, as required by the Table of Allocations, and seeks extended authorization for its operations under the provisions of 47 C.F.R. § 2.106, fn. US347.

RBC Signals will continue to transmit using the 2075 MHz center frequency (Earth-to-space) to provide TT&C for Vigoride-5, discussed above, consistent with the Commission’s Table of Allocations. RBC Signals understands that there are certain U.S. government operations conducted in the 2025-2110 MHz band, including use by the National Aeronautics and Space Administration (“NASA”).⁸ RBC Signals will maintain its coordination efforts with NASA and other government agencies to ensure compatibility of the proposed operations.

⁶ See *supra* no.2. When Vigoride-5 is no longer in operation, RBC Signals will request to remove the satellite from its license. Momentus expects that it will have, as a minimum, between four to five passes per day over the ground stations. Each communication window presents an average of approximately seven minutes contact time.

⁷ See 47 C.F.R. § 2.106, fn. US347.

⁸ See https://www.ntia.doc.gov/files/ntia/publications/compendium/2025.00-2110.00_01MAR14.pdf

RBC Signals will transmit without causing any harmful interference to other spectrum users operating in the band. These operations at the 6.0 meter earth station have not nor are expected to create any risk of interference, and RBC Signals has not identified any conflicting federal operations.

D. Frequency Coordination and Interference

RBC Signals intends to continue to operate its S-band transmitter on an unprotected, non-interference basis and, if it learns that its operations are causing harmful interference to other operations, it will suspend or modify its operations to resolve such interference. Based on its experience with these operations, which have not caused any interference to others, RBC Signals is confident that there will be no additional potential for interference between other users of this spectrum and the operations of the 6.0 meter earth station. In addition, RBC Signals understands that the satellite operators have coordinated access to the required frequencies for their respective operations.

E. Waiver Request

To the extent necessary, RBC Signals requests waiver of the Table of Allocations to permit the proposed TT&C transmit operations in the 2025-2110 MHz band. Given the limited spectrum use, RBC Signals' confirming coordination of these frequencies, and the public interest served by RBC Signals' supporting the operations of the satellite, Vigoride-5, RBC Signals submits that a limited waiver remains justified in this instance. RBC Signals will continue to ensure that its Earth-to-space operations do not increase the potential for interference into current or future government or commercial users.

The Commission may waive any of its rules for “good cause” shown.⁹ In general, waiver is appropriate if (i) special circumstances warrant a deviation from the general rule; and (ii) such deviation would better serve the public interest than would strict adherence to the rule.¹⁰ As discussed, special circumstances justify grant of the requested waivers, and grant will not undermine the policy objectives of the rules and will otherwise be consistent with the public interest. RBC Signals therefore respectfully requests, if a waiver is needed, that it be granted by the Commission.

F. Public Interest Consideration

RBC Signals is at the forefront of reinventing TT&C and earth station support solutions and grant of the requested STA extension would continue to promote U.S. leadership in innovative satellite technologies and services. Grant of this extension application will enable the sustained realization of the significant benefits and commercial viability of developing novel small satellite communications systems. In addition, grant of this STA extension will further the public interest by enabling near-term TT&C support for the specific missions of the Vigoride-5 spacecraft.

III. CONCLUSION

Based on the foregoing, RBC Signals respectfully requests that the Commission grant this 60-day STA extension application to enable its 6.0 meter earth station to provide TT&C services on S-band frequencies for the Momentus Vigoride-5.

⁹ See 47 C.F.R. § 1.3; *Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1164 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969).

¹⁰ See *Northeast Cellular*, 897 F.2d at 1166; see also *WAIT Radio*, 418 F.2d at 1157.