

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

In the Matter of

Application of RBC Signals, LLC for a	)	
60-Day Special Temporary Authorization	)	Call Sign: E220057
to Operate with Non-Geostationary Orbit	)	
Spacecraft	)	File No.: SES-STA-_____
	)	

**REQUEST FOR 60-DAY SPECIAL TEMPORARY AUTHORIZATION
(S-band 4.5m 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 special temporary authorization (“STA”) to operate a fixed 4.5 meter S-band earth station in Deadhorse, Alaska (the “4.5 m Earth Station”) to conduct telemetry, tracking, and command (“TT&C”) uplink operations in portions of the 2025-2110 MHz (Earth-to-space) band with certain non-geostationary orbit (“NGSO”) space stations.

Specifically, RBC Signals seeks to support the Vigoride-6,¹ set to deploy April 1, 2023², and the anticipated Vigoride-7 spacecrafts operated by Momentus Space LLC (“Momentus”), using 100 kilohertz emissions at center frequencies 2075 MHz. Given the fast approaching launch date, RBC Signals respectfully requests the Commission to grant this 60-day STA to allow it to provide uplink operations identical to those that have been previously authorized for RBC Signals’ 4.5-meter Earth Station (the “4.5m Earth Station”).³

¹See Momentus Space LLC, Application for Authority to Deploy and Operate Vigoride-6, a Non-Geostationary Orbit, in orbit services vehicle, File No. SAT-LOA-20221009-00131, Call Sign S3154 (“Vigoride-6 Application”) filed October 9, 2022, pending authorization.

² The applicant was made aware of this customer requirement and the launch date just prior to February 23, 2023, and the undersigned learned of this on February 23, 2023. We respectfully request the good offices of the Commission to help ensure that an authorization is in place to support this satellite.

³ See RBC Signals, LLC, File No. SES-LIC-20220509-00468, Call Sign E220057 (granted February 16, 2023) (the “Deadhorse 4.5m S-band Application”)

Because the Vigoride-6 mission will last beyond six months, RBC Signals also will be filing an earth station modification application to add Vigoride-6 and Vigoride-7 as points of communication to its license E220057 for operation of its 4.5m dish in Deadhorse, Alaska.

RBC Signals will conduct all operations in accordance with the Commission's rules and requirements. RBC Signals is attaching a draft Form 312 Schedule B, and incorporates by reference the operational specifications included in the authorizations of the subject spacecraft.⁴ As demonstrated in this application, the 60-day STA requested herein will serve the public interest because it will allow RBC Signals additional diversity in supporting multiple satellite operations.

I. BACKGROUND

RBC Signals is a Seattle, Washington-based company providing innovative earth station services in the United States and around the world both to U.S. government and commercial clients. RBC Signals has provided ground station support for Spaceflight, Inc. ("Spaceflight") Sherpa-AC1 spacecraft from the 4.5m Earth Station as well as supporting Vigoride-3. No harmful interference has resulted from those operations, and none 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.

II. DISCUSSION

RBC Signals seeks to provide TT&C uplink communications using the 4.5m Earth Station in portions of the 2025-2110 MHz (Earth-to-space) band to support the Momentus Vigoride-6, set to launch April 1, 2023, as described below, and the anticipated Vigoride-7

⁴ RBC requests leave to update the technical or operational data associated with this application request should the Commission seek any clarifying or supplemental information in considering this request.

spacecraft. The existing 4.5m ground station will continue to operate with the same EIRP, previously authorized by the Commission⁵, to provide the same service to Vigoride-6 and Vigoride-7.

A. Summary of Frequency Use

In Table 1 below, RBC Signals presents information on the frequencies currently approved for use by the 4.5m Earth Station.⁶

Table 1 - Summary of Frequency Use

Satellite	Center Frequencies	Emission Designator
Vigoride-6	2075 MHz	100KG1D
Vigoride-7 (anticipated)	2075 MHz	100KG1D

B. Satellite Overviews

1. Vigoride-6

Vigoride-6 is an NGSO spacecraft designed to transport and deploy multiple payloads. Each deployed payload is a third-party smallsat individually licensed and authorized to operate by its respective national jurisdiction. For the mission, the launch vehicle will arrive at insertion orbit (maximum 520 km altitude circular sunsynchronous orbit (“SSO”)), and then, Vigoride-6 will separate from the launch vehicle and undergo commissioning and preliminary testing. Once completed, Vigoride-6 will deploy 3 out of 5 deployable customers, and after deployment, conduct orbit maneuvers to its second (operational) orbit (495 km circular SSO) and deploy remaining customers. After remaining payloads deploy, Vigoride-6 will conduct LTAN change maneuvers and 90-degree phase change maneuvers. The spacecraft will also deploy a

⁵ See *Supra* n. 3

⁶ See *Supra* n. 3

demonstration solar array and conduct testing, after, it will relocate to end-of-life orbit (380 km x 350 km elliptical). RBC Signals incorporates by reference the Vigoride-6 mission information and payload specifications provided in the Vigoride-6 application.⁷ RBC Signals proposes to support the Vigoride-6 mission from deployment to demise.

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 non-Federal 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 (“EESS”), so long as such operations are conducted on a non-interference basis with Federal and non-Federal users of the band.⁸ RBC Signals will operate these links on a non-interference basis, as required by the Table of Allocations.

The Table of Allocations also provides that the 2025-2110 MHz band is allocated on a primary basis to space operations, EESS, and space research. In the United States, space operations are limited to federal operators, and EESS use by commercial operators is subject to conditions as may be applied on a case-by-case basis and the limitation that any use may not cause harmful interference to authorized operations. 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”).⁹ RBC Signals will continue its

⁷ See *supra* n. 1

⁸ See 47 C.F.R. § 2.106, fn. US347.

⁹ See https://www.ntia.doc.gov/files/ntia/publications/compendium/2025.00-2110.00_01MAR14.pdf.

coordination efforts with NASA and other government agencies to ensure compatibility of the proposed operations.

D. Frequency Coordination and Interference

Previous coordination reports which supported the 4.5m Earth Station show no interference cases. RBC Signals understands that the satellite operators have coordinated access to the required frequencies for their respective operations. RBC Signals notes that it has operated in the subject spectrum using the 4.5m Earth Station without any harmful interference incidents.

Nonetheless, RBC Signals will 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. RBC Signals is confident that there is no potential for interference between other users of this spectrum and the operations of the 4.5m Earth Station as discussed in this 60-day STA application.

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. Specifically, a waiver may be appropriate to the extent the Commission concludes that any of the proposed operations do not conform to the available non-Federal allocations in the band.

The Commission may waive any of its rules for “good cause” shown.¹⁰ 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

¹⁰ 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).

rule.¹¹ Special circumstances justify grant of the requested waivers and grant will not undermine the policy objectives of the rules and will otherwise serve the public interest.

Given RBC Signals' limited spectrum use, prior use of the same frequencies for the same operations using the 4.5m Earth Station without interference incident, and successful coordination of these frequencies, the public interest would be served by permitting the 4.5m Earth Station to support the operations of the satellites identified herein. RBC Signals will continue to ensure that its earth station transmit operations do not increase the potential for interference into current or future U.S. government or commercial users. 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 application would promote U.S. leadership in innovative satellite technologies and services. Grant of this 60-day STA application will enable the continued realization of the significant benefits and commercial viability of developing novel small satellite communications systems. In addition, grant of this application will further the public interest by enabling longer-term TT&C support for the specific missions of the Vigoride-6 and the anticipated Vigoride-7.

III. CONCLUSION

Based on the foregoing, RBC Signals respectfully requests that the Commission grant this 60-day STA application to enable its 4.5m Earth Station to provide TT&C uplink services on S-band frequencies for the satellites discussed above. There have been no instances of harmful

¹¹ See *Northeast Cellular*, 897 F.2d at 1166; see also *WAIT Radio*, 418 F.2d at 1157.

interference from existing TT&C uplink operations in the subject spectrum and RBC Signals will continue to ensure interference-free operations from its 4.5m Earth Station.