

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

In the Matter of	)	
	)	
Application of RBC Signals LLC	)	Call Sign: E220056
for 30-Day Extension of its Special	)	
Temporary Authorization to Operate with	)	File No.:
a Non-Geostationary Orbit Spacecraft	)	
	)	

**REQUEST FOR SPECIAL TEMPORARY AUTHORIZATION
(Deadhorse, Alaska)**

RBC Signals LLC (“RBC Signals”), pursuant to Section 25.120 of the Commission’s rules,¹ respectfully requests a 30-day extension of the special temporary authorization (“STA”) previously granted by the Commission to operate a fixed 400 MHz Yagi earth station in Deadhorse, Alaska to conduct telemetry, tracking and command (“TT&C”) operations in the 400.48-400.52 MHz band (space-to-Earth; center frequency 400.5 MHz) and 402.88-402.92 MHz band (Earth-to-space; center frequency 402.9 MHz)² to support a non-geostationary orbit (“NGSO”) deployment vehicle, the Sherpa-AC1 spacecraft, operated by Spaceflight, Inc. (“Spaceflight”),³ which was deployed from a Space Exploration Technologies Corporation (“SpaceX”) Falcon 9 on May 25, 2022. RBC Signals has also requested regular authority to support the Sherpa-AC1 in its application for a fixed earth station license.⁴ RBC Signals seeks this 30-day extension to continue providing essential TT&C support to the Sherpa-AC1 while

¹ 47 C.F.R. § 25.120.

² See RBC Signals LLC, File No. SES-STA-20220509-00466, Call Sign E220056, granted May 25, 2022, (“*Deadhorse STA*”).

³ See Spaceflight, Inc., File No. SAT-LOA-20220111-00007 (“*Sherpa-AC1 Grant*”). To the extent applicable, RBC Signals incorporates by reference relevant satellite technical and operational information authorized in the *Sherpa-AC1 Grant* and provided in the associated application (“*Sherpa-AC1 Application*”).

⁴ See RBC Signals LLC, File No. SES-LIC-20220509-00467, Call Sign E220056, filed May 9, 2022, (“*Deadhorse Application*”).

also affording the Commission sufficient time to review and process its application for longer-term authority. Grant of this request will serve the public interest and is consistent with the Commission's rules.

I. DISCUSSION

RBC Signals is a Seattle, Washington-based company that provides earth station services around the world. With this application, RBC Signals seeks additional temporary authority to support the Sherpa-AC1 spacecraft from Deadhorse, Alaska in the 400.48-400.52 MHz band (space-to-Earth; center frequency 400.5 MHz) and 402.88-402.92 MHz band (Earth-to-space; center frequency 402.9 MHz). RBC Signals will coordinate to ensure that these operations will not cause harmful interference to current or future co-frequency operations and that the interests of the United States are accommodated.

A. Sherpa-AC1 Satellite Overview

RBC Signals incorporates by reference the Sherpa-AC1 mission information and payload specifications provided in the *Sherpa-AC1 Application*. Spaceflight hosts two payloads that are permanently affixed to the Sherpa-AC1 spacecraft: NearSpace Launch's TROOP-3 payload and Xona Space System's navigational payload. In addition, there were seven customer spacecraft being carried by Sherpa-AC1. TT&C support for these important space operations is plainly in the public interest.

B. Frequency Use

a. TT&C Downlink — 400.15-401 MHz (space-to-Earth)

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 400.15-401 MHz band is shared between meteorological aids (Earth-to-space), mobile satellite (space-to-Earth), space research

(space-to-Earth) and space operation services (space-to-Earth). RBC Signals seeks to perform TT&C downlink operations consistent with the co-primary space operations allocation in this band.⁵

RBC Signals seeks to perform TT&C downlink operations using the 400 MHz Yagi in the 400.48-400.52 MHz band (space-to-Earth; center frequency 400.5 MHz) consistent with the secondary allocation for space operations in this band. RBC Signals is not currently aware of any use of the subject frequency bands by incumbent operators near the Deadhorse, Alaska facility and will continue to coordinate as needed to ensure its TT&C operations do not cause interference with primary mobile satellite or meteorological-aid services.

b. TT&C Uplink — 402.88-402.92 MHz band (Earth-to-space)

The Table of Allocations provides that the 402-403 MHz band is allocated on a primary basis to non-Federal meteorological-aid services and on secondary basis to Earth-exploration satellite services (“EESS”) (Earth-to-space). Moreover, the Table of Allocations provides that “in the band 401-403 MHz, the non-Federal Earth exploration-satellite (Earth-to-space) and meteorological-satellite (Earth-to-space) services are limited to earth stations transmitting to Federal space stations.”⁶ RBC Signals acknowledges that there are certain U.S. government meteorological aids and Earth exploration operations conducted in the 402-403 MHz band.⁷

C. Waiver Request

The Commission may waive its rules for “good cause shown.”⁸ RBC Signals respectfully

⁵ See 47 C.F.R. § 2.106 (defining “space operation service” as “radiocommunication service concerned exclusively with the operation of spacecraft, in particular space tracking, space telemetry, and space telecommand.”).

⁶ 47 C.F.R. § 2.106, fn. US384.

⁷ See https://www.ntia.doc.gov/files/ntia/publications/compendium/0402.00-0403.00_01MAR14.pdf.

⁸ See 47 C.F.R. § 1.3 (“Any provision of the rules may be waived by the Commission on its own motion or on petition if good cause therefor is shown.”).

seeks a waiver of Section 2.106 of the Commission's rules, 47 C.F.R. § 2.106, to the extent necessary to operate the 400 MHz Yagi and perform TT&C in the 402.88-402.92 MHz band using a 402.9 MHz center frequency. Good cause exists to grant a waiver in this case to permit RBC Signals to perform critical TT&C functions for the Sherpa-AC1 mission, and this waiver would not undermine the purpose of the rules. The waiver is also consistent with Commission precedent in granting the *Deadhorse STA* and the *Sherpa-AC1 Application*.⁹

The Table of Allocations provides that the 402-403 band is allocated on a primary basis to non-federal meteorological-aid services and on secondary basis to EESS (Earth-to-space). Moreover, "in the band 401-403 MHz, the non-Federal Earth exploration-satellite (Earth-to-space) and meteorological-satellite (Earth-to-space) services are limited to earth stations transmitting to Federal space stations."¹⁰ Thus, RBC Signals seeks a waiver of this footnote to permit it to provide TT&C uplink support for the Sherpa-AC1 mission, which will facilitate the development and evaluation of an innovative U.S.-licensed satellite. A waiver is warranted here because it will provide RBC Signals with the ability to dependably provide critical satellite support for the short-term, one-year, Sherpa-AC1 mission, which will promote novel space technologies that bridge traditional launch deployment services. Finally, given the limited nature of the proposed operations and the coordination performed in support of the *Sherpa-AC1 Application* to ensure the proposed operations will not cause harmful interference to co-frequency operations, grant of the waiver will not undermine the purposes of the rule. Thus, there is good cause to grant the requested waiver to permit the limited earth station operations proposed herein.

⁹ See also Astro Digital U.S., Inc., File No. SAT-LOA-20170508-00071 (grant stamp Oct. 9, 2020), Condition 9, for similar waiver grant.

¹⁰ *Supra* n. 7.

D. Public Interest Considerations

Grant of this STA extension will further the public interest by enabling continuing TT&C support for the Sherpa-AC1 mission during near-term operations during the pendency of RBC Signals' previously filed earth station license application. RBC Signals is at the forefront of reinventing TT&C and earth station support solutions and granting the requested extension would further the advancement of satellite and earth station services in the United States, enhance the commercial viability of novel small satellite communications systems, and ensure continued support for the in-orbit Sherpa-AC1 spacecraft.

II. CONCLUSION

Based on the foregoing, RBC Signals respectfully requests that the Commission grant this request for a 30-day extension of its STA during the pendency of its application for long-term authority, so that RBC Signals can continue to provide essential TT&C services for the Sherpa-AC1 spacecraft from its Deadhorse, Alaska facility.