Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Application of RBC Signals LLC	)	Call Sign:
for 60-day Special Temporary	)	
Authorization to Operate with a Non-	)	File No.: SES-STA-
Geostationary Orbit Spacecraft	)	
	)	

REQUEST FOR 60-DAY SPECIAL TEMPORARY AUTHORIZATION
(Talkeetna, 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 Yagi antenna in Talkeetna, Alaska (the "Talkeetna Antenna") to conduct telemetry, tracking, and command ("TT&C") in the 401-402 MHz band (space-to-Earth) and 449.75-450.25 MHz band (Earth-to-space) with a certain non-geostationary orbit ("NGSO") space station.

Specifically, RBC Signals seeks authority to support the Outpost Mission 0 satellite, set to deploy June 10, 2023, operated by Outpost Technologies Corporation,[1] using 25 kilohertz emissions in the 449.75-450.25 MHz band. Given the fast approaching launch date, grant of the 60-day STA will permit RBC Signals to conduct pertinent TT&C operations for Outpost Mission 0 while providing additional time for the Commission to review RBC Signal's application for long-term authority.

RBC Signals will conduct all operations in accordance with the Commission's rules and requirements governing fixed earth station operations in the subject bands. RBC Signals provides

[1] *See* Outpost Technologies Corporation, Application for Authority to Deploy and Operate Outpost Mission 0, a Non-Geostationary Orbit, 3U cubesatellite, File No. SAT-LOA-20230209, Call Sign ("Outpost Mission 0 Application") filed February 9, 2023, pending authorization.

the attached Technical Appendix, which includes a radiation hazard analysis and a draft Form 312 Schedule B, for information relating to the proposed earth station operations.[2] In addition, grant of this 60-day STA request will serve the public interest because it will allow RBC Signals additional diversity in supporting a pivotal satellite mission dedicated to space sustainability.

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. With this application, RBC Signals seeks a 60-day STA to operate in Talkeetna, Alaska to support the Outpost Mission 0 mission. RBC Signals will 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 ongoing TT&C support to the Outpost Mission 0 spacecraft from Talkeetna, Alaska in the 401-402 MHz band (space-to-Earth) and 449.75-450.25 MHz band (Earth-to-space). 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. Outpost Mission 0 Satellite Overview

Outpost Technologies has a long term goal of reducing space debris and lowering costs for satellite operators by developing reusable satellites that, "can be refurbished, repaired, and upgraded before being relaunched into space to deliver revamped existing or innovative new service." Outpost Mission 0 is a "NGSO 3U cubesatellite" designed to, "trial flight software,

[2] RBC Signals requests leave to update the technical or operational data associated with this STA request should the Commission seek any clarifying or supplemental information in considering this request.

avionics, power system, and radio frequency links that could support future reusable satellites."[3] As a result, according to their application, Outpost Mission 0, "will inform reusable satellite technology development." RBC Signals incorporates by reference the Outpost Mission 0 mission information and specifications provided in the *Outpost Mission 0 Application*.[4] TT&C support for these important space operations is plainly in the public interest as it will showcase United States leadership in the space industry in regard to space sustainability.

B. Frequency Use

a. TT&C Downlink — 401-402 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 401-402 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 401-402 MHz band (space-to-Earth) 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 Talkeetna, Alaska facility and will coordinate as needed to ensure its TT&C operations do not cause harmful interference to primary mobile satellite or meteorological-aid services.

[3] *See supra* n. 1
[4] *Id.*
[5] See 47 C.F.R. § 2.106 (defining "space operations" as "radiocommunication service concerned exclusively with the operation of spacecraft, in particularly space tracking, space telemetry, and space telecommand.").

b. TT&C Uplink – 449.75-450.25 MHz band (Earth-to-space)

The Table of Allocations provides that the 450 MHz may be used for space operations service operations (Earth-to-space), subject to coordination, in the international frequency allocation table and a space telecommand allocation (Earth-to-Space), on a case-by-case basis, in the U.S. frequency allocation table.[6] This application proposes TT&C operations (Earth-to-space) in accordance with the provisions of the U.S. frequency allocation table.

C. Waiver Request

The Commission may waive its rules for "good cause shown."[7] RBC Signals respectfully requests that if a waiver is deemed necessary for these operations that the Commission grant 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 antenna in Talkeetna, Alaska and perform TT&C in the 450 MHz band. Good cause exists to grant a waiver in this case to permit RBC Signals to perform critical TT&C functions for the Outpost Mission 0 mission, and a waiver would not undermine the purpose of the rules. The waiver is also consistent with Commission precedent.

D. Public Interest Considerations

Grant of this 60-day STA will further the public interest by enabling TT&C support for the Outpost Mission 0 mission during the pendency of RBC Signals' earth station license application. It will also further position the United States as a leader in the development and encouragement of pioneering satellite technologies and space sustainability.

Since RBC Signals is at the forefront of reinventing TT&C and earth station support

[6] 47 C.F.R. §2.106, fn. US87. "The band 449.75-450.25 MHz may be used by Federal and non-Federal stations for space telecommand (Earth-to-space) at specific locations, subject to such conditions as may be applied on a case-by-case basis. Operators shall take all practical steps to keep the carrier frequency close to 450 MHz."

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

solutions, authorizing its operations would further cement the United States dedication to the advancement of satellite services in the United States. Grant of this 60-day STA application will enable the continued operation and realization of the significant benefits and commercial viability of novel small satellite communications systems.

III. CONCLUSION

Based on the foregoing, RBC Signals respectfully requests that the Commission grant this request for a 60-day STA during the pendency of its application for long-term authority, so that RBC Signals can provide essential TT&C services for the Outpost Mission 0 spacecraft from its Talkeetna, Alaska Ground Station.