

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

In the Matter of	)	
	)	
Astranis Projects USA LLC	)	
	)	File No.: SAT-LOA-20221019-00145
Application for Modification of Authority	)	and SAT-MOD-_____
to Launch and Operate the Arcturus	)	
Satellite at the 163° W.L. Orbital	)	Call Sign: S3092
Location in Ka-band Frequencies	)	

MODIFICATION APPLICATION OF ASTRANIS PROJECTS USA LLC

Astranis Projects USA LLC (“Astranis USA”) respectfully files this application pursuant to Section 25.117 of the Federal Communications Commission’s (“FCC” or “Commission”) rules, 47 C.F.R § 25.117, to modify its authority to launch and operate the Arcturus satellite.¹ Specifically, Astranis USA seeks to update the telemetry, tracking, and command (“TT&C”) frequencies on the satellite to reflect its current design and afford redundancy and flexibility for such critical operations. Consistent with Section 25.117(d)(1), 47 C.F.R § 25.117(d)(1), Astranis submits with this modification application technical information, including an updated Schedule S, focused only on frequency changes to the TT&C operations of the Arcturus satellite.

Arcturus is a small geostationary orbit (“GSO”) fixed-satellite service (“FSS”) satellite manufactured by Astranis Space Technologies Corp. (“Astranis”). Arcturus will be operated by Astranis USA, an indirect wholly owned subsidiary of Astranis,² to provide satellite-based broadband connectivity to Alaska and the surrounding region in Ka-band frequencies from the 163° W.L. orbital location. Arcturus is currently scheduled for launch as a secondary payload on

¹ See Astranis Projects USA LLC, File No.: SAT-LOA-20221019-00145, Call Sign S3092 (granted-in-part/deferred-in-part Dec. 6, 2022) (the “Arcturus License”). The Arcturus satellite is also known as Aurora 4A.

² For ease of reference, Astranis and Astranis USA will be collectively referred to as “Astranis.”

a SpaceX Falcon Heavy mission on April 18, 2023,³ and should begin providing high-speed connectivity to the Alaska region in Q3 2023. As discussed below, grant of the proposed license modification would strongly serve the public interest.

I. INTRODUCTION

From the 163°W.L. orbital location, Arcturus is ideally positioned to provide high-speed Ka-band satellite connectivity to consumers, businesses, and government customers throughout Alaska, western Canada, and the surrounding Pacific Ocean regions. Astranis has partnered with Pacific Dataport, Inc. (“PDI”)⁴ to offer this dedicated satellite broadband connectivity. PDI will be the exclusive distributor of broadband capacity and services provided by the Arcturus satellite. PDI will also operate a dedicated Ka-band gateway located in Utah that provides gateway and on-station TT&C communications.

The center frequencies for the two megahertz TT&C emission included in the Arcturus License include 28.356 GHz (RHCP) (uplink) and 19.706 GHz (RHCP) (downlink). The updated TT&C center frequencies include 28.352 GHz (RHCP) and 28.355 GHz (LHCP) (uplink), and 19.702 GHz (RHCP) and 19.705 GHz (LHCP) (downlink). Importantly, the correct frequencies are included in an STA for the Intelsat Riverside, California earth station to support transfer orbit TT&C for the Arcturus satellite⁵ and have been coordinated with the U.S. government. Astranis otherwise seeks to operate the Arcturus satellite with the same technical characteristics authorized in the Arcturus License.

³ Given the impending launch of the Arcturus satellite, a companion application for a special temporary authorization (“STA”) is being filed concurrent with this modification application.

⁴ PDI, a Delaware corporation headquartered in Alaska, was established to provide satellite broadband connectivity to Alaska and the surrounding region. The principal investor in PDI is Microcom, the largest provider of satellite systems and services in Alaska.

⁵ See File No. SES-STA-20221028-01229, Call Sign E170039 (granted March 7, 2023).

II. DISCUSSION

A. Legal Qualifications

The legal qualifications of an Astranis subsidiary to serve the U.S. market using the Arcturus satellite and the involvement of Astranis in the proposed operations have been accepted by the Commission.⁶ Among other things, Astranis has maintained a surety bond to support the launch and operation of the Arcturus satellite.⁷ In addition, except as sought to be modified herein, Astranis will comply with applicable Commission reporting requirements, all rules applicable to Arcturus operations, and with conditions included in the Arcturus License.

B. Modification of TT&C Frequencies

In the context of granting the Arcturus License, Astranis demonstrates pursuant to Section 25.114 of the Commission's rules that the proposed operations of the satellite comply with applicable Commission rules and policies. Pursuant to Section 25.117 of the Commission's rules, Astranis provides information relating only to its proposed changes to the TT&C operations of the Arcturus satellite. Astranis proposes no other changes to the technical and operational characteristics of the Arcturus satellite.

Astranis seeks to update the TT&C frequencies on the satellite to reflect its current design and afford redundancy and flexibility for such critical satellite operations. The correct frequencies have been included in an STA for the Intelsat Riverside, California earth station to support transfer orbit TT&C for the Arcturus satellite.⁸ In addition, Astranis has successfully coordinated use of the frequencies with the U.S. government. There are no other parties that

⁶ See Arcturus License, *supra* n. 1, and supporting application materials.

⁷ See Astranis Projects Surety Bond, File No. SAT-LOA-20221019-00145, Call Sign S3092 (filed Dec. 20, 2022); *see also* Astranis Projects Surety Bond Rider, File No. SAT-LOA-20221019-00145, Call Sign S3092 (filed Mar. 3, 2023).

⁸ See *supra* n. 5.

may potentially be affected by the change in TT&C frequencies of the Arcturus satellite, particularly given its location in the geostationary arc over the Pacific Ocean.

C. Public Interest Considerations

The Commission has recognized the strong public interest in authorizing Arcturus satellite operations in granting the Arcturus License. Among other things, launch and operation of a purpose-built broadband satellite system to serve Alaska will greatly enhance consumer choice by bringing more reliable broadband Internet access to the entire state and surrounding regions, resulting in increased competition and connectivity.

Modifying the Arcturus License to update the satellite's TT&C frequencies will more completely satisfy the Commission's public interest objectives. Astranis seeks to update the TT&C frequencies on the satellite to reflect its current design. Moving from one to two TT&C center frequencies in each direction of transmission will afford redundancy and flexibility for such critical satellite operations. In addition, the new frequencies have already been coordinated with the U.S. government. Finally, because no other satellite operators would be adversely affected by the change, there would be no public interest drawbacks in granting the proposed license modification.

In view of the foregoing, grant of this application to modify the Arcturus License would be consistent with the Commission's rules and policies; and would serve the public interest, convenience, and necessity.

III. CONCLUSION

Astranis seeks authority for the Arcturus satellite to conduct TT&C operations on a two megahertz emission on new center frequencies, including 28.352 GHz (RHCP) and 28.355 GHz (LHCP) (uplink), and 19.702 GHz (RHCP) and 19.705 GHz (LHCP) (downlink). These frequencies have been authorized to support transfer orbit TT&C for the Arcturus satellite and

have been coordinated with the U.S. government. Grant of long-term authority to conduct TT&C operations on these bands also would strongly serve the public interest. Astranis therefore respectfully requests the Commission modify the Arcturus License to reflect the updated TT&C frequencies at the earliest practicable time.