Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
APEX TECHNOLOGY, INC.	)	ELS File No. 1370-EX-CN-2023
	)	
Application for Experimental Authority to Launch and Operate a Non-Geostationary Orbit Satellite in the Space Operation Service and Space Research Service	)	

APPLICATION

George V. John
Ashley J. Mills
HOGAN LOVELLS US LLP
555 Thirteenth Street, NW
Washington, DC 20004
george.john@hoganlovells.com
+1 202-637-6989

Ian Cinnamon
APEX TECHNOLOGY, INC.
4940 Sepulveda Boulevard
Culver City, CA 90230

October 15, 2023 (updated)

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Exhibit List

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APPLICATION

Apex Technology, Inc. ("Apex")[1] requests authority to launch and operate one non-geostationary orbit ("NGSO") experimental satellite, Apex Aries 1, for five years under the FCC Part 5 experimental licensing framework.[2] During this mission, Apex will test satellite functionality. The requested licensing issue date is December 15, 2023 given current launch service provider requirements for the Transporter-10 mission.[3]

I. BACKGROUND

Apex is developing a satellite bus platform and introducing it to the market with its first satellite, Apex Aries 1. This platform will help prove the technology and provide customer confidence in its functionality. The Apex Aries 1 mission will demonstrate functionality for each subsystem and validate satellite performance (*e.g.*, communications, data handling, high accuracy pointing control, etc.).

[1] Apex is a Los Angeles, CA-based company incorporated in Delaware.

[2] *See* 47 C.F.R. § 5.1 *et seq.*

[3] Different licensing issue deadlines may appear in Transporter-10 mission applications at the Commission given staggered integration deadlines for each launch aggregator.

I. MISSION DETAILS

A. Space Segment

Apex Aries 1 is a small satellite built by Apex. It will use commercial-off-the-shelf components. Apex Aries 1 carries cameras for solar array deployment and tumbling verification.

B. Ground Segment

The ground station provider has obtained or is in the process of obtaining the necessary authorizations for communications to and from Apex Aries 1. The sites that will service Apex Aries 1 appear in the Technical Annex.

C. Launch Schedule and Orbital Information

Apex Aries 1 will launch on board a SpaceX Falcon 9 rideshare in Q1 2024 between 525 (+/- 20 km) altitude at a 97.6-degree sun-synchronous inclination with a currently estimated MLTAN of 13:00 +60 min.

D. Mission Concept of Operations

The Apex Aries 1 satellite will serve one key mission objective. The goal is to demonstrate the functionality of the Apex-built spacecraft platform, including each subsystem, and validate performance of the satellite (*e.g.*, communications, data handling, high accuracy pointing control, etc.). Communications with the spacecraft are necessary during these demonstrations and functional checkouts. In turn, Apex will collect data to validate its spacecraft design and performance for existing and future customers.

Apex requests a five-year license term because the anticipated operational lifetime of Apex Aries 1 will exceed the standard two-year experimental license term.[4] A 5-year term enables Apex to fully test and collect data that will inform technology development.

Table 1 captures the Apex Aries 1 frequency plan.[5]

Frequency Band (MHz)	Link Direction	Activity
400.15-401; 401-402[6]	space-to-Earth	backup TT&C (LEOP and anomaly resolution)[7]
402-403	Earth-to-space	backup TT&C (LEOP and anomaly resolution)
2025-2110	Earth-to-space	primary TT&C
2200-2290	space-to-Earth	primary data and TT&C (outside the United States only)
8025-8400	space-to-Earth	primary data

Table 1: Frequency Plan

Apex will protect other operations in these frequency bands and immediately cease operations upon becoming aware of harmful interference.[8]

II. OTHER MATTERS

A. NOAA Remote Sensing Licensing

The National Oceanic and Atmospheric Administration ("NOAA") requires a license to operate a remote sensing system.[9] No NOAA approval appears necessary because the cameras only support mission assurance purposes. Apex has submitted the NOAA initial intake form to confirm this conclusion and will revert if any NOAA approval becomes necessary.

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[4] *See* 47 C.F.R. § 5.71(a)(1) (requiring justification for an experimental license term of more than 2 years).

[5] All proposed bands are shared among federal and non-federal entities. Apex commits to completing coordination before commencing operations.

[6] Apex Aries 1 would use only one of the UHF downlink bands based on coordination.

[7] TT&C is telemetry, tracking, and command. LEOP is launch-and-early-orbit phase.

[8] *See* 47 C.F.R. § 5.84.

[9] *See generally* 15 C.F.R. § 960.

B. ITU Requirements

When issuing experimental authority, the Commission submits advance publication information ("API") to the International Telecommunication Union ("ITU"). In concert with this application, Apex submits the ITU API and, in the Attachment, unconditionally accepts all associated cost recovery responsibilities.

III. CONCLUSION

Apex Aries 1 advances satellite design functionality capabilities. Authorizing this mission, therefore, would serve the public interest.

Respectfully submitted,

/s/ Ian Cinnamon

George V. John
Ashley J. Mills
HOGAN LOVELLS US LLP
555 Thirteenth Street, NW
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APEX TECHNOLOGY, INC.
4940 Sepulveda Boulevard
Culver City, CA 90230

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Attachment (ITU Cost Recovery Declaration)

October 15, 2023

Secretary
Office of the Secretary
Federal Communications Commission
45 L Street, NE
Washington, DC 20554

Subject: ITU Cost Recovery Declaration for the Apex Aries 1 Non-Geostationary Orbit Satellite in Non-Planned Frequency Bands

Re: ELS File No. 1370-EX-CN-2023

Dear FCC Secretary,

Apex Technology, Inc. (Apex) is aware that in accordance with Resolution 88 of the International Telecommunication Union (ITU) Plenipotentiary Conference (Marrakech, 2002), and ITU Council Decision 482, as modified, cost-recovery fees will apply to satellite filings received by the Radiocommunications Bureau after November 7, 1998. As a consequence, Commission applicants are responsible for any and all fees charged by the ITU to process their satellite filings. Apex hereby states that it is aware of this requirement and unconditionally accepts all cost recovery responsibilities associated with the ITU filings for the Apex Aries 1 satellite. Please address all cost-recovery inquiries, and ITU correspondence and filings, related to the Apex Aries 1 satellite to the following point of contact. We understand that should there be any change in the point of contact information we will inform the Commission within 30 days of the foreseen event.

Point of Contact Name: Ian Cinnamon

Organization Name: Apex Technology, Inc.

Address: 4940 Sepulveda Boulevard
Culver City, CA 90230
United States of America

E-Mail: ian.cinnamon@apexspace.com

Telephone Number: +1 424-320-2739

Apex understands that it must remit payment of any resultant cost-recovery fee to the ITU by the due date specified in the ITU invoice, unless an appeal filed prior to the due date is pending with the ITU. We fully understand that a license granted in reliance on such a commitment will be

conditioned upon discharge of any such cost-recovery obligation. We also acknowledge that, in accordance with 47 C.F.R. § 25.111, should we have an overdue ITU cost-recovery fee and have no appeal pending with the ITU, the Commission may dismiss any application associated with that satellite network.

Respectfully submitted,

/s/ Ian Cinnamon

Ian Cinnamon