

Before the
 Federal Communications Commission
 Washington, D.C. 20554

In the Matter of)	
)	
Planet Labs PBC)	ICFS File No. SAT-MOD-20220421-00042
)	Call Sign: S2912
Application for Modification of License)	

ORDER

Adopted: August 31, 2023

Released: August 31, 2023

By the Chief, Satellite Programs and Policy Division, Space Bureau:

I. INTRODUCTION

1. In this Order, we address the request of Space Exploration Technologies Corp. (SpaceX), filed in an *ex parte* letter, that the Commission impose certain conditions on a license modification requested by Planet Labs PBC (Planet Labs).¹ We grant in part SpaceX’s request that we impose conditions on this license, but deny that request insofar as it involves conditions that are not germane to the facts presented in this case.² The grant of Planet Lab’s request for a license modification for additional satellites, as part of what it calls the Pelican system, is contained in the attached grant stamp and includes relevant license conditions.

II. BACKGROUND

2. On January 17, 2023, SpaceX filed a letter requesting that certain conditions that have been imposed on SpaceX’s license to construct, deploy, and operate up to 7,500 satellites in its Second Generation (Gen2) constellation also be imposed on several pending non-geostationary satellite applications and petitions, including the instant Planet Labs modification application.³ In support of its

¹ See *Policy Branch Information, Applications Accepted for Filing*, Public Notice, Report No. SAT-01648 (July 15, 2022). See also Letter from David Goldman, Director of Satellite Policy, SpaceX, to Marlene H. Dortch, Secretary, FCC at 1 (dated Jan. 17, 2023) (SpaceX Letter). This letter was filed nearly six months after the conclusion of the public notice period. Therefore we classify the letter, and SpaceX’s subsequent response letter as an informal objections pursuant to section 25.154(b) of the Commission’s rules. 47 CFR § 25.154(b). We find it is in the public interest in this case to address the relevant issues raised in the informal objections.

² For additional discussion of the deferred portion of the request, see attached grant stamp.

³ See SpaceX Letter at 1; see also *Space Exploration Holdings, LLC, Request for Orbital Deployment and Operating Authority for the SpaceX Gen2 NGSO Satellite System*, Order and Authorization, FCC 22-91 (2022) (SpaceX Gen2 Order). The SpaceX Letter requests that the FCC impose the following license conditions: (1) file semi-annual reports on collision avoidance maneuvers and satellite disposal, including any difficulties or failures related thereto;

request, SpaceX cites concerns raised by the National Aeronautics and Space Administration (NASA) and the National Science Foundation (NSF) in its own licensing proceeding, as well as “space sustainability requirements” from its 7,500 satellite license. SpaceX argues, among other things, that concerns expressed by NASA in connection with the Commission’s orbital debris proceeding suggest that any constellation of 25 or more satellites should be subject to additional debris mitigation requirements.⁴ Planet Labs filed a responsive *ex parte* letter on February 16, 2023,⁵ and SpaceX filed a further consolidated response directed to several of the NGSO applicants on March 31, 2023.⁶

III. DISCUSSION

3. We conclude that some adoption of conditions analogous to the conditions specified in the SpaceX grant, but suited for the specific and distinct factual scenario presented by the Planet Labs Pelican satellites, would serve the public interest.

4. The Pelican satellites are planned to operate at an altitude of 325 km (\pm 25 km). If an issue should arise with a Planet Labs satellite at this altitude, the satellite would decay from orbit in a relatively short amount of time. This particular altitude is in the same general range as the altitude SpaceX’s utilizes for initial deployment its satellites, i.e., below 350 km, and in considering SpaceX’s first generation satellite system we defined a disposal failure as any case in which control of a satellite is lost at an altitude of 350 kilometers or greater.⁷ Similarly, once a Planet Pelican satellite is maneuvered to its operational orbit at 325 km, we would not treat a loss of control of the satellite as a matter of substantial concern with respect to long-term collision risk, given a short expected residual orbital lifetime. Under the circumstances, we adopt a condition that Planet Labs report any loss of control of Pelican satellites at altitudes above 350 km.⁸ Based on the information reported, the license may be subject to additional terms and conditions, including additional reporting obligations, limitations on additional deployments, requirements for early removal of satellites from orbit, or any other appropriate conditions to limit collision risk.⁹ Inclusion of a 100 post-failure object years metric in this instance, as

(2) apply an object-years metric for assessing disposal failures that accounts for both the number of failed satellites and their entire passive decay time; (3) communicate and collaborate with NASA to promote space safety and sustainability; (4) take all possible steps to assess and mitigate collision risk after receiving a conjunction warning from the 19th Space Defense Squadron or other source; and (5) coordinate with NSF to reach a mutually acceptable agreement to mitigate the impact of its satellites on optical ground-based astronomy, with associated annual reporting requirements). *Id.*

⁴ SpaceX Letter at 2.

⁵ See Letter from Danielle Piñeres, Vice President of Regulatory Affairs & Compliance, Planet Labs PBC, to Marlene H. Dortch, Secretary, FCC (filed Apr. 13, 2023) (Planet Response Letter).

⁶ See Letter from David Goldman, Senior Director of Satellite Policy, to Marlene H. Dortch, Secretary, FCC at 2 (filed Mar. 31, 2023) (SpaceX Omnibus Response).

⁷ As the Commission observed in its authorization of the SpaceX Gen2 system, “SpaceX’s practice of testing its satellites at injection altitude, before orbit-raising, allows it to deorbit any non-functional satellites in a matter of days or weeks, helping to ensure that non-maneuverable satellites do not reach operational orbit.” *Request for Orbital Deployment and Operating Authority for SpaceX Gen2 NGSO Satellite System*, Order and Authorization, FCC 22-91, at 91 (Nov. 29, 2022).

⁸ See attached grant stamp at condition 19.

⁹ There are potentially material differences between the Planet Labs constellation and the Starlink constellation that may warrant differing treatment of the two constellations. These include smaller satellite size, and consequent lower collision risk when comparing non-maneuverable satellites and a smaller number of satellites. There is also no

with SpaceX's Second Generation grant, identifies a relevant metric where additional Commission action would be necessary before deployment of additional Planet Pelican satellite following a certain level of failure.

5. We also condition Planet Labs to provide information regarding potential conjunction events during the reporting period for its satellites, particularly with respect to any difficulties encountered in the collision avoidance process. We believe that such information can help identify potential issues in operator-to-operator coordination.

6. There have been no concerns raised in this proceeding by NASA, NSF, or any other party except SpaceX regarding the instant application. While Planet Labs has indicated that it coordinates with the NASA CARA,¹⁰ we are including conditions requiring continued coordination with NASA, including operator-to-operator coordination of physical operations. Additionally, we note that Planet Labs has not provided any information regarding whether it has coordinated with NSF, we condition this grant to require Planet Labs to coordinate with NSF as well.¹¹ We conclude that it is in the public interest for Planet Labs to bear the responsibility of ensuring that these coordinations, which are separate from coordination of spectrum use, have been completed with these potentially interested federal agencies.

IV. ORDERING CLAUSES

7. Accordingly, IT IS ORDERED that the Planet Labs PBC request for license modification is GRANTED-IN-PART and DEFERRED-IN-PART,¹² pursuant to section 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. § 303(r), and sections 0.51 and 0.261 of the Federal Communication Commission's rules, 47 CFR §§ 0.51 and 0.261).

8. IT IS FURTHER ORDERED that petitions for reconsideration under section 1.106 or applications for review under section 1.115 of the Commission's Rules, 47 CFR §§ 1.106 and 1.115, may be filed within 30 days of the date of the public notice of this action taken.

FEDERAL COMMUNICATIONS COMMISSION

Merissa L. Velez
Chief, Satellite Programs and Policy Division
Space Bureau


indication that the Planet Pelican satellites will be "checked out" at lower altitudes, so immediate identification of any issues with effective maneuverability, rather than periodic reporting, is warranted.

¹⁰ Letter from Danielle Piñeres, Vice President of Regulatory Affairs & Compliance, Planet Labs PBC, to Marlene H. Dortch, Secretary, FCC (filed Aug. 11, 2023).

¹¹ See condition 21 in the attached grant stamp.

¹² See conditions in the attached grant stamp.

ATTACHMENT TO GRANT
Planet Labs Inc.
ICFS File No. SAT-MOD-20220421-00042

ICFS File No(s):	SAT-MOD-20220421-00042	<p>GRANT IN PART / DEFER IN PART – With Conditions</p>  <p>Satellite Programs and Policy Division Space Bureau</p>
Licensee/Grantee:	Planet Labs PBC	
Call Sign:	S2912 ¹	
Satellite Name:	Flock/SkySat/Pelican constellation	
Orbital Location: (required station- keeping tolerance)	Non-geostationary satellite orbit (NGSO) at altitudes between 350 km and 720 km (Flock); NGSO at altitudes between 400 km and 630 km and inclinations between 85 and 100 degrees (SkySat 1 and 2); 97.0 and 97.9 degrees (SkySat 3-21); approximately 400 km to 420 km between 40.0 and 60.0 degrees (SkySat 16-21 alternative orbit); NGSO deployed to and commissioning at altitudes between 250 km and 550 km, with operations in sun-synchronous orbits at altitudes of 325 km (\pm 25 km), and inclinations of 96.7 degrees (Pelican).	
Administration:	United States of America	
Nature of Service:	Earth Exploration Satellite Service	
Scope of Grant:	Authority to deploy, and operate up to 7 technically-identical, ² NGSO satellites to be known as the Pelican satellites. ³	
Previous Grant(s):	<p>Authority to construct, deploy, and operate a constellation of up to 544 technically identical non-geostationary satellites as follows:⁴</p> <ul style="list-style-type: none"> • 12 Flock 2p satellites deployed at 505 km with an inclination of 97.51° by the PSLV launch vehicle; • 529 Flock satellites initially deployed to orbital apogee altitudes of no greater than 660 kilometers, including up to 3 satellites with an Automatic Identification System (AIS) receiver system to demonstrate the capability of the satellites receive AIS 1 (161.9625 MHz-161.9875 MHz) and AIS 2 (162.0125-162.0375 MHz) channels; 	

¹ See *Policy Branch Information, Applications Accepted for Filing, Public Notice, Report No. SAT-01648* (July 15, 2022).

² Planet's modification application is deferred with respect to the requests for an additional 25 Pelican satellites and replacement satellites, and with respect to certain operations in the 6225-6425 MHz band. See conditions 8 and 14.

³ On January 17, 2023, Space Exploration Technologies Corp. (SpaceX) filed an *ex parte* letter. Letter from David Goldman, Director of Satellite Policy, SpaceX, to Marlene H. Dortch, Secretary, FCC at 1 (dated Jan. 17, 2023) (*SpaceX Letter*). These issues are fully addressed in the accompanying Order.

⁴ See ICFS File Nos. SAT-MOD-20170713-00103 (granted in part, deferred in part May 24, 2018); SAT-AMD-20171106-00151 (granted May 24, 2018); SAT-AMD-20171025-a00144 (granted Dec. 8, 2017); SAT-MOD-20150802-00053 (granted in part, deferred in part Sept. 15, 2016; granted in part, deferred in part Dec. 8, 2017); SAT-MOD-20140912-00100 (granted Oct. 23, 2014); SAT-MOD-20140321-00032 (granted June 18, 2014); SAT-LOA-20130626-00087 (granted Dec. 3, 2013); ICFS File No. SAT-MOD-20170713-00103 (granted Jul. 19, 2018).

ATTACHMENT TO GRANT

Planet Labs Inc.

ICFS File No. SAT-MOD-20220421-00042

	<ul style="list-style-type: none"> • 3 satellites for purposes of a propulsion demonstration, deployed to orbital apogee altitudes of approximately 550 kilometers. <p>Authority to allow no more than 120 Flock satellites to be deployed to orbits that exceed an apogee altitude of 550 kilometers, rather than 500 kilometers.⁵</p> <p>Authority to construct, deploy and operate two satellites, SkySat-1 and SkySat-2, in high-inclination circular orbits.⁶</p> <p>Authority to construct, deploy, and operate SkySat-3.⁷</p> <p>Authority to construct, deploy and operate 12 additional satellites, SkySat-4 through SkySat-15, in circular orbits with altitudes from 400 to 630 km, depending on the launch vehicle used, and with inclination ranging between 97 and 97.9 degrees.⁸</p> <p>Authorization to deploy and operate up to six additional non-geostationary orbit remote-sensing satellites, SkySat-16 through SkySat-21, in circular orbits with altitudes from 400 to 630 km, depending on the launch vehicle used, and with inclination ranging between 97 and 97.9 degrees.⁹</p> <p>Modification of the specified operational orbital altitude range for SkySat-16 and SkySat-21 satellites to include the inclination range of 40.0 to 60.0 degrees in addition to the inclination range of 97.0 degrees and 97.9 degrees. Modification of the specified operational orbital range for SkySat-3 to include altitudes down to 400 km.¹⁰</p> <p>Consolidation of the SkySat satellites (Call Sign S2862) and the Flock satellites (Call Sign S2912) under one call sign (Call Sign S2912).¹¹</p>
Service Area(s):	Global. <i>See</i> Schedule S Tech Report at Item S6 (SAT-MOD-20170713-00103); Schedule S Tech Report and Exhibit 43 at 39-74 (SAT-MOD-20191217-00148).
Frequencies:	<p>8025-8400 (space-to-Earth) (remote sensing data and telemetry)</p> <p>2025-2110 MHz (Earth-to-space) (command)</p> <p>25.5-27.0 GHz (space-to-Earth) (data downlink) (Pelican satellites only)</p> <p>401-402 MHz (space-to-Earth) and 449.75-450.25 MHz (Earth-to-space) (early-phase and emergency-backup, as well as ranging and orbit determination on a non-emergency basis) (Flock satellites only)</p>

⁵ *See* ICFS File No. SAT-MOD-20170713-00103 (granted in part, deferred in part May 24, 2018) (noting also that the total number of simultaneously operational satellites refers specifically to those satellites providing EESS and does not include non-operational satellites that continue to operate in TT&C frequency bands as part of approved post-mission disposal plans).

⁶ *See* ICFS File No. SAT-LOA-20120322-00058 (granted Sept. 20, 2012).

⁷ *See* ICFS File No. SAT-MOD-20150408-00019 (granted in part and deferred in part June 10, 2016).

⁸ *See* ICFS File No. SAT-MOD-20150408-00019 (granted Aug. 31, 2016).

⁹ *See* ICFS File No. SAT-MOD-20170317-00053 (granted June 29, 2017).

¹⁰ *See* ICFS File No. SAT-MOD-20191217-00148 (granted March 16, 2020).

¹¹ *See* ICFS File No. SAT-MOD-20200615-00076 (granted March 18, 2021).

ATTACHMENT TO GRANT

Planet Labs Inc.

ICFS File No. SAT-MOD-20220421-00042

	<p>161.9625-161.9875 MHz (AIS 1) and 162.0125-162.0375 MHz (AIS 2) (up to 3 demonstration satellites) (Flock satellites only)</p> <p><u>Inter-satellite links:</u>¹² 4000-4200 MHz (space-to-space) (inter-satellite link) (reception by Pelican satellites only) 6225-6425 MHz (space-to-space) (inter-satellite link) (transmission by one Pelican satellite)¹³</p>
<p>Unless otherwise specified herein, operations under this grant must comport with the legal and technical specifications set forth by the applicant or petitioner and with the Federal Communications Commission's rules not waived herein. This grant is also subject to the following conditions:</p> <ol style="list-style-type: none"> Planet Labs must prepare the necessary information, as may be required, for submission to the International Telecommunication Union (ITU) to initiate and complete the advance publication, coordination, due diligence, and notification process for these space stations, in accordance with the ITU Radio Regulations. Planet Labs shall be held responsible for all cost-recovery fees associated with ITU filings. No protection from interference caused by radio stations authorized by other administrations is guaranteed unless coordination and notification procedures are timely completed or, with respect to individual administrations, by successfully completing coordination agreements. Any radio station authorization for which coordination has not been completed may be subject to additional terms and conditions as required to effect coordination with the frequency assignments of other administrations. <i>See</i> 47 CFR § 25.111(b). Operations pursuant to this authorization must be in compliance with the terms of the Memoranda of Agreement between Planet Labs and the National Aeronautics and Space Administration (NASA) pertaining to operations in the frequency band 8025-8400 MHz.¹⁴ Transmissions of remote-sensing and telemetry data in the 8025-8400 MHz frequency band may only be made to earth stations coordinated with the National Aeronautics 	

¹² Planet's Pelican satellites would communicate with certain non-U.S. licensed SES satellites operating in geostationary satellite orbit (GSO). *See* Letter from Daniel C.H. Mah, Vice President, Legal & Regulatory Affairs, New Skies Satellites B.V. (SES), to Marlene H. Dortch, Secretary, FCC (filed Feb. 1, 2023) in ICFS File No. SAT-MOD-20220421-00042). SES states that it has made arrangements with Planet for its Pelican constellation to communicate with the following SES C-band satellites, all of which are Netherlands licensed and have been granted U.S. market access: (1) NSS-9 at 177° W.L. (Call Sign S2756); (2) SES-4 at 22° W.L. (Call Sign S2828); and (3) SES-6 at 40.5° W.L. (Call Sign S2870). *Id.* Pelican will also communicate with another Netherlands-licensed SES spacecraft, NSS-12 at 57° E.L. *Id.*

¹³ Operations in this frequency band are limited to one Pelican satellite for certain time-limited demonstration operations. Planet's request to transmit inter-satellite links in the direction of the geostationary arc using the 6225-6425 MHz band using additional Pelican satellites is deferred. *See* condition 14.

¹⁴ This includes, for the Flock satellites, transmissions in the 8025-8400 MHz band to the Maddock, ND, and Keflavik, Iceland, earth stations. *See* ICFS File No. SAT-MOD-20170713-00103, grant in part May 24, 2018, at para. 8.

ATTACHMENT TO GRANT

Planet Labs Inc.

ICFS File No. SAT-MOD-20220421-00042

and Space Administration (NASA).¹⁵ Planet shall provide the FCC with a list of coordinated earth stations, and shall provide the FCC with an updated list within ten business days following any changes to the list.

3. Power flux-density from operation in the 8025-8400 MHz band must not exceed the limits in No. 22.5 and Table 21-4 of the International Telecommunication Union's Radio Regulations, the limits/protection criteria in Recommendation ITU-R SA.1157-1 must be met, and the guidelines in Recommendation ITU-R SA.1810 must be followed.

4. Operations pursuant to this authorization must not cause harmful interference to stations operating in the 2025-2110 MHz band in accordance with the U.S. Table of Frequency Allocations. *See* 47 CFR § 2.106, Footnote US347. Additionally, use of the 2025-2110 MHz band (Earth-to-space) will be limited to 3.12% duty cycle per satellite, per earth station and no emissions on 2086.1 MHz when the NASA International Space Station (ISS), NORAD ID 25544, is within 5° of any active Pelican ground station antenna boresight.

5. Planet Labs shall tune Flock satellite TT&C UHF links to an agreed frequency range with NOAA as soon as possible to minimize interference to NOAA GOES Data Collection System (DCS), and radiosonde operations and continue to work closely with NOAA to identify and implement any further measures needed to avoid RFI to the systems mentioned earlier. This initial tuning would be an interim frequency range for Planet Labs to use for upcoming launches. For future mission planning, transition out of 401-406 MHz to avoid interference to DCS and radiosondes is recommended. Planet Labs and NOAA shall work jointly to explore future mitigation strategies to avoid interference to NOAA missions.

6. Upon receipt of a conjunction warning from the 18th Space Control Squadron or other sources, Planet Labs must review and take all possible steps to assess the collision risk, and mitigate collision risk if necessary. As appropriate, steps to assess and mitigate should include, but are not limited to: contacting the operator of any active spacecraft involved in such warning; sharing ephemeris data and other appropriate operational information with any such operator; and modifying spacecraft attitude and/or operations.

7. Planet must coordinate physical operations of spacecraft with any operator using similar orbits, for the purpose of eliminating collision risk and minimizing operational impacts. The orbital parameters specified in this grant are subject to change based on such coordination.

8. Planet Labs is authorized to deploy up to seven Pelican satellites. We defer action with respect to the additional Pelican satellites, pending filing and approval by the Commission of a modification to the application with an updated orbital debris mitigation demonstration addressing the re-entry casualty risk associated with the deployment of future Pelican satellites.

9. The number of simultaneously operational Flock satellites must not exceed 200.¹⁶

10. No more than 120 Flock satellites may be deployed to orbits that exceed an apogee altitude of 550

¹⁵ Planet Labs has executed written coordination agreements with NASA, which include identification of the earth stations with which Planet Labs may communicate in the 8025-8400 MHz band and specification of a process by which to remove and add earth stations. *See* ICFS File No. SAT-MOD-20170713-00103, Narrative Exhibit 43 at 1. Planet Labs has filed a list of coordinated earth stations for the Flock satellites with the Commission in accordance with a condition on the Flock satellite authorization. *See* Letter from Craig Scheffler, Spectrum Manager, Planet Labs, Inc. to Marlene H. Dortch, Secretary, FCC (filed Aug. 1, 2018 in ICFS File No. SAT-MOD-20170713-00103); *see also* ICFS File No. SAT-MOD-20170713-00103, Narrative Exhibit 43 at 1.

¹⁶ The total number of simultaneously operational Flock satellites refers specifically to those satellites providing EESS and does not include satellites that continue to operate in TT&C frequency bands as part of an approved post-mission disposal plan.

ATTACHMENT TO GRANT
Planet Labs Inc.
ICFS File No. SAT-MOD-20220421-00042

kilometers.

11. Deployment of a Flock satellite into an orbit with an inclination of 51.6 degrees, plus or minus 0.1 degree, at an altitude above the ISS, is not authorized by this grant.

12. This authorization includes the previously-granted waiver of the U.S. Table of Frequency Allocations, 47 CFR § 2.106, to allow non-conforming use of the 2025-2110 MHz band and the 8025-8400 MHz band in support of Planet Labs' limited demonstration of propulsion technology, subject to the condition that Planet Labs accepts any interference from authorized services in these bands in connection with its limited propulsion demonstration and that transmissions in the 8025-8400 MHz band are subject to the agreement regarding the Flock satellites reached between Planet Labs and NASA in this band.¹⁷

13. Planet was previously granted waiver of the modified processing round requirements of 47 CFR §§ 25.156 and 25.157. Given the opportunity for additional entrants to operate in the 25.5-27.0 GHz band, we also grant Planet Lab's request for waiver of the modified processing round requirements with respect to this additional frequency band for its Pelican satellites. *See DigitalGlobe, Inc.*, Order and Authorization, 20 FCC Red 15696 (Sat. Div., Int'l Bur. 2005), at paragraph 8. For the same reasons, we waive the modified processing round requirements for Planet Lab's requested inter-satellite operations with its Pelican satellites in the 4000-4200 MHz (space-to-space) and 6225-6425 MHz (space-to-space) frequency bands, specifically, we grant waiver with respect to reception on an unprotected basis of signals from certain GSO satellites and with respect to the inter-satellite link transmissions from a single satellite to certain GSO satellites for limited periods of time. *See* condition 14.

14. Planet Lab's request for waiver of the U.S. Table of Frequency Allocations, 47 CFR § 2.106, for communications between its Pelican satellites and certain satellites operating in the GSO arc (i.e., communications in the space-to-space direction) is GRANTED IN PART. As the 4000-4200 MHz and 6225-6425 MHz bands are not allocated internationally for operations in the space-to-space direction, we also GRANT IN PART waiver of section 25.112(a)(3) of the Commission's rules, 47 CFR § 25.112(a)(3) for Planet's Pelican satellites.¹⁸ While the C-band frequencies are not allocated for inter-satellite operations, in this particular case, given the nature of Planet Lab's operations, and Planet Lab's willingness to accept a frequency assignment on a non-interference, unprotected basis, we conclude that grant of waiver in part to permit these operations is in the public interest. Planet plans to utilize the C-band to improve the image tasking responsiveness of the Pelican satellites.¹⁹ In making this determination, we note that the signals that would be received in low-Earth orbit by the Planet Lab's satellites from the GSO satellites in the 4000-4200 MHz band would normally be received by earth stations on the surface of the Earth in any case, and Planet's reception of the signals would not change or increase the potential for interference of those operations. With respect to the transmissions from the Planet Pelican satellite(s) in the 6225-6425 MHz band, we grant waiver in part at this time to permit limited duration operations using a single Pelican satellite for one period of up to 60 days to demonstrate the C-band hardware, and for up to four additional periods of up to 60 days each using a single Pelican satellite for demonstration testing to support the NASA Communications Service Project.²⁰ We conclude at this time that authorizing the

¹⁷ *See* Condition 2. *See also* ICFS File No. SAT-MOD-20200615-00076 (granted March 18, 2021).

¹⁸ *See* Letter from Tony Lin, Counsel to Planet Labs PBC, to Marlene H. Dortch, Secretary, FCC (Sept. 16, 2022) (requesting waiver of 47 CFR § 25.112(a)(3)).

¹⁹ *See* Letter from Danielle Piñeres, Planet Labs PBC, to Marlene H. Dortch, Secretary, FCC, at 1 (Dec. 12, 2022).

²⁰ *See id.* at 2. Planet Labs clarified the scope of the demonstration and testing operations in a subsequent letter. *See* Letter from Danielle Piñeres, Vice President of Regulatory Affairs & Compliance, Planet Labs PBC, to Marlene H. Dortch, Secretary, FCC (filed Jan. 31, 2023).

ATTACHMENT TO GRANT

Planet Labs Inc.

ICFS File No. SAT-MOD-20220421-00042

non-conforming operations with one satellite on a non-interference basis, for a limited period of time is in the public interest. This grant is without prejudice to any determination we may make in the future regarding Planet Lab's request to operate with its full Pelican system using the 6225-6425 MHz band, which is DEFERRED at this time.

15. In the 25.25-27.5 GHz band, power flux density operations must not exceed limits from 47 CFR § 25.208, ITU Radio Regulations, Article 21, Table 21-4, and the limits and guidelines in Recommendation ITU-R SA.1862 must be followed.

16. Because Planet Labs must comply with technical requirements in Part 2 of the Commission's rules and the above-referenced power flux-density limits, which should prevent harmful interference to other operations in the relevant frequency bands, we continue to grant Planet Lab's request for a waiver of the default service rules in 47 CFR § 25.217(b), including for the additional operations authorized here for its Pelican satellites. See *DigitalGlobe, Inc., supra*, at paragraph 13.

17. In connection with the provision of service in any particular country, Planet Labs is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country.

18. Planet Lab's request for a limited waiver of section 25.114(c) of the Commission's rules, which requires certain information to be filed in the Form 312, Schedule S, is GRANTED. Planet Labs notes that it has provided placeholder data in the form in some places, since some of the categories (e.g., max/min saturation flux density, antenna pointing error, and antenna rotational error) are inapplicable and/or do not permit the entry of correct values. We grant waiver on the basis that Planet Labs has implemented workarounds where necessary to provide the information to the Commission necessary to evaluate the application.

19. Planet Labs must provide a semi-annual report, by January 1 and July 1 each year, covering the preceding six month period, respectively, from June 1 to November 30 and December 1 to May 31. The report should include the following:

- a. number of conjunction events identified for Planet Labs satellites during the reporting period, and the number of events that resulted in an action (maneuver or coordination with another operator), as well as any difficulties encountered in connection with the collision avoidance process and any measures taken to address those difficulties.
- b. Any loss of control of Pelican satellites at altitudes above 350 km.²¹

Based on the information reported, the license may be subject to additional terms and conditions, including additional reporting obligations, limitations on additional deployments, requirements for early removal of satellites from orbit, or any other appropriate conditions to limit collision risk. In the event of Pelican satellite failures resulting in more than 100 post-failure object years, Planet Labs may not deploy any additional Pelican satellites until the Commission has approved a license modification that includes an updated orbital debris mitigation plan addressing reduction in the failure rate or mitigation of the risk of satellite failures.

20. Planet Labs must communicate and collaborate with NASA to support safety of both Planet Labs and NASA assets and to preserve long-term sustainable space-based communications services. Planet Labs must report

²¹ The first Pelican satellite will operate in SSO at an inclination of 96.7 degrees, with an expected commissioning altitude of 525 km +/- 25 km, and then enter its operational altitude of 325 km +/- 25 km, within approximately six to twelve months; and the next six Pelican satellites, with an expected commissioning altitude between 250 km and 550 km, and then an approximately three-month transfer to their final operational altitude of 325 km +/- 25 km. See Planet Tech. App. at 1-2.

ATTACHMENT TO GRANT

Planet Labs Inc.

ICFS File No. SAT-MOD-20220421-00042

on the progress of its communications and collaboration efforts to the Commission in its regular reports specified in condition 19, above. Planet Labs must coordinate and collaborate with NASA to promote a mutually beneficial space environment that would minimize impacts to NASA's science missions involving astronomy.

21. Planet Labs must coordinate with NSF to achieve a mutually acceptable agreement to mitigate the impact of its satellites (call sign S2912) on optical ground-based astronomy. Planet Labs must submit an annual report to the Commission, by January 1st each year covering the preceding year (1) describing whether it has reached a coordination agreement with NSF addressing optical astronomy. and (2) any steps Planet Labs has taken to reduce the impact of its satellites on optical astronomy. If Planet Labs provides a statement in the record that NSF has no concerns within 45 days following arrival of the Pelican satellites at 325 km, no further reporting will be required.

22. This authorization will become null and void regarding Flock satellites if, at any time during the license term, there are no Flock satellites operating; with regard to SkySat satellites, if there are no SkySat satellites operating; and with regard to the Pelican satellites, if there are no Pelican satellites operating. This authorization may be subject to additional conditions, or a reduction in the number of authorized Flock satellites, in the event future deployment rates do not justify an authorization for 200 operational satellites.

23. Planet Labs has fulfilled milestone and bond obligations imposed as conditions to a previous grant of authority to operate up to 28 NGSO Flock satellites in the 8025-8400 MHz band. See ICFS File No. SAT-MOD-20140321-00032 (grant stamp dated June 18, 2014), as well as a previous grant of authority for SkySat to operate the SkySat-3 satellite in the 2020-2025 MHz band (see ICFS File No. SAT-MOD-20150408-00019). However, as this license is for Planet Labs' Pelican constellation, we will need to impose additional milestones or bond conditions in connection with this license modification.²²

24. This grant is subject to the following requirements:

- a. Planet Labs must post a surety bond in satisfaction of 47 CFR §§ 25.165(a)(1) & (b) no later than **October 1, 2023**, and thereafter maintain on file a surety bond requiring payment in the event of a default in an amount, at minimum, determined according to the formula set forth in 47 CFR § 25.165(a)(1); and
- b. Planet Labs must launch 50 percent of the maximum number of proposed Pelican space stations, place them in the assigned orbits, and operate them in accordance with this grant no later than **August 31, 2029**, and must launch the remaining Pelican space stations necessary to complete its authorized service constellation, place them in their assigned orbits, and operate them in accordance with the authorization no later than **August 31, 2032**. 47 CFR § 25.164(b).

Failure to post and maintain a surety bond will render this grant null and void automatically, without further Commission action. Failure to meet the milestone requirements of 47 CFR § 25.164(b) may result in Planet Labs's authorization being reduced to the number of satellites in use at the milestone date. Failure to comply with the milestone requirements of 47 CFR § 25.164(b) will also result in forfeiture of Planet Labs's surety bond. By **August 21, 2029**, Planet Labs must either demonstrate compliance with this milestone requirement or notify the Commission in writing that the requirement was not met. 47 CFR § 25.164(f).

25. Within 30 days after deployment of each satellite pursuant to this authorization, Planet Labs must file a notification with the Commission specifying its apogee and perigee altitudes and orbital inclination.

²² We note that several of the milestone conditions extend beyond the current license term. Such milestone dates would become applicable in the event of a license extension.

ATTACHMENT TO GRANT
Planet Labs Inc.
ICFS File No. SAT-MOD-20220421-00042

26. This modification does not alter the term of this license, which ends February 28, 2029.

Licensee/grantee is afforded thirty (30) days from the date of release of this action to decline the grant as conditioned. Failure to respond within this period will constitute formal acceptance of the grant as conditioned.

This action is taken pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective upon release.

Station licenses are subject to the conditions specified in Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(h).

Action Date:	August 31, 2023
---------------------	-----------------

Term Dates	From: August 31, 2023	To: February 28, 2029
-------------------	------------------------------	------------------------------

Approved:

Merissa L. Velez
Chief, Satellite Programs and Policy Division