



*Filed electronically via IBFS*

International Bureau Satellite Division  
Federal Communications Commission  
445 12<sup>th</sup> Street SW  
Washington, DC 20554

March 13, 2020

Regarding: Planet Labs Inc. SkySat Applications  
SAT-MOD-20191217-00148; SES-MOD-20200117-00047; SAT-STA-20200115-00010

By this letter Planet Labs Inc. (“Planet”) provides additional information to supplement the above-referenced applications. Planet respectfully requests Federal Communications Commission (“FCC”) action by March 16, 2020 to ensure that it is able to meet launch and other operational deadlines.

In the satellite special temporary authority (“STA”) application, File No. SAT-STA-20200115-00010, Planet seeks authority for a period of six months to transmit on the requested telemetry, tracking and command (“TT&C”) frequencies for SkySat-16 to SkySat-21. A six-month period is necessary because the satellites will be launched on two separate launches scheduled two months apart during this period. Operationally, however, Planet will use the requested TT&C frequencies only during the periods immediately after the two deployments until the satellites reach their nominal, operational orbit at the 400 km orbital altitude. In each case, Planet expects to use the requested TT&C frequencies for no more than 60 days. Once the satellites reach the target 400 km orbit, Planet will transition the TT&C frequencies to those authorized in the Part 25 license.<sup>1</sup>

Planet has assessed and limited the possibility that satellite operations at the 400 km orbital altitude and proposed new inclination range, 40° to 60°, could become a source of debris as a result of collision with large debris or other operational spacecraft. Planet has verified that the SkySat constellation, as modified pursuant to SAT-MOD-20191217-00148, complies with NASA STD 8719.14 Section 4.5.2.2, which provides that “the probability of accidental collision with space objects larger than 10 cm in diameter is less than 0.001.” Further, each of the SkySat-16 to SkySat-21 satellites has a propulsion system, and Planet will engage in active maneuvers, when necessary, to avoid potential collisions.<sup>2</sup> Planet has reviewed the satellites and other space objects in orbit at the

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<sup>1</sup> Prior to the arrival of the satellites at the 400 km orbit, Planet will maintain the satellites’ power flux density (“PFD”) levels, during nominal operations, within the applicable International Telecommunication Union (“ITU”) limits by operating with a sufficiently low satellite transmitter power. *See* Application of Terra Bella Technologies Inc., File No. SAT-MOD-20170317-00053, Exhibit 43 at 16 (granted June 28, 2017) (“Application”) (“At all altitudes down to the reentry altitude, Terra Bella will maintain the satellites’ PFD at levels within the applicable ITU limits by reducing satellite transmitter power on a graduated basis as the satellite nears the Earth.”).

<sup>2</sup> *See Space Exploration Holdings, LLC Request for Modification of the Authorization for the SpaceX NGSO Satellite System*, Order and Authorization, 34 FCC Rcd 2526 ¶ 22 (2019) (“[C]onsistent with current licensing

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nominal 400 km orbital altitude, including the International Space Station, and will work closely with the 18<sup>th</sup> Space Control Squadron and the Space Data Association to share ephemeris data and facilitate the safe use of low-Earth orbital resources.

With respect to nominal operations, Planet is targeting an operational orbit of 400 km but will maintain the satellites within a 400 km to 420 km orbital altitude range. For SkySat-16 to SkySat-21, Planet will maintain a propellant budget for each satellite that ensures the satellite can be lowered to an orbital altitude at or below 400 km at end-of-life. At a 400 km orbital altitude, each of the satellites is expected to deorbit in less than 0.85 years.<sup>3</sup>

The SkySat satellites are subject to regulation by the National Oceanic and Atmospheric Administration (“NOAA”) under Title 51 of the U.S. Code.<sup>4</sup> Pursuant to those licensing requirements, Planet submitted end-of-life disposal plans for its SkySat constellation. NOAA has approved the SkySat application, as well as the proposed modification to the inclination range. Accordingly, FCC review and approval of Planet’s post-mission disposal plans is not necessary.<sup>5</sup> Nonetheless, for completeness, Planet notes that it has assessed the risk of human casualty for post-mission disposal of its satellite, including with respect to the revised inclination range, and the SkySat satellites meet the relevant National Aeronautics and Space Administration standard.<sup>6</sup>

Sincerely,  
**Planet Labs Inc.**

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practice, the collision risk is considered to be zero, or near zero, during the time in which the satellite is maneuverable, absent contrary information[.]”).

<sup>3</sup> See Application, Exhibit 43 at 3.

<sup>4</sup> See 51 U.S.C. § 60122(b).

<sup>5</sup> The Commission has previously determined that “[t]o the extent that a remote sensing satellite applicant has submitted its post-mission disposal plans to NOAA for review and approval, [it] will not require submission of such information” as part of its examination of the debris mitigation disclosures of remote sensing satellites. See, e.g., *Mitigation of Orbital Debris*, Second Report and Order, 19 FCC Rcd 11567 ¶ 104 (2004).

<sup>6</sup> See NASA-STD-8719.14 Section 4.7.