



Federal Communications Commission
Washington, D.C. 20554

December 4, 2025

VIA ELECTRONIC MAIL

Jodi A. Goldberg
Pillsbury Winthrop Shaw Pittman LLP
Counsel for Reflect Orbital
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Washington, DC 20036
Email: jodi.goldberg@pillsburylaw.com

Re: Reflect Orbital Inc.; ICFS File No.: SAT-LOA-20250701-00129; Call Sign: S00711

Dear Ms. Goldberg:

On July 31, 2025, Reflect Orbital Inc. (Reflect Orbital) filed the above-referenced application requesting to launch and operate one non-geostationary orbit (NGSO) satellite, the EARENDIL-1. The application proposes operations in the space operations service (SOS) and space research service (SRS). In order to render this application suitable for further processing, please provide the following information or documentation:

1. Please provide the following clarifications and demonstrations regarding the DAS logs submitted for the EARENDIL-1:¹
 - a. For the small object collision risk calculations, the DAS logs for the EARENDIL-1 provided that “Final Area-to-Mass = 0.0108 (m²/kg).”² Please clarify whether this value represents the EARENDIL-1’s configuration in operational or tumbling mode.
 - b. Similarly, please clarify what the input “Area-to-Mass Ratio = 0.864945 (m²/kg)” represents.³
2. What is the spacecraft expected stability and pointing accuracy during mission operations? What measures are going to be taken to enhance location certainty for the spacecraft during disposal, if any.⁴
3. Please provide a statement detailing the quantity of fuel, if any, that will be reserved for disposal maneuvers, including the quantity of fuel that will be reserved for post mission disposal efforts to lower the satellite to an altitude below inhabitable space stations.⁵
4. Please provide the large object collision risk at 650 km altitude for the passive disposal reentry.⁶

¹ See 47 CFR §§ 25.114(d)(14)(ii), 25.114(d)(14)(vii).

² Reflect Orbital Inc., ICFS File No. SAT-LOA-20250701-00129, ODAR at 17, 19.

³ *Id.* at 20.

⁴ 47 CFR § 25.114(d)(14)(iv)(A)(4), (v), (vii).

⁵ 47 CFR § 25.114(d)(14)(vii).

⁶ See 47 CFR § 25.114(d)(14)(iv)(A); Reflect Orbital Inc., ICFS File No. SAT-LOA-20250701-00129, ODAR at 11.

5. Please provide a statement that Reflect Orbital has assessed and limited the probability, during and after completion of mission operations, of the release of liquids that will persist in the space environment in droplet form.⁷
6. Please provide a statement identifying the characteristics of the spacecraft's orbits that may present a collision risk, including any planned and/or operational space stations in those orbits, and indicate what steps, if any, have been taken to coordinate with the other spacecraft or system, or what other measures Reflect Orbital plans to use to avoid collision.⁸
7. If the EARENDIL-1 fails to deploy the reflector and solar panels at an altitude of 510 kilometers, please indicate how long the satellite in this "stowed" position would take to re-enter the atmosphere.⁹
8. The DAS analysis provided by Reflect Orbital indicates that a titanium propellant tank may survive re-entry.¹⁰ We note that the U.S. Government's Orbital Debris Mitigation Standard Practices (ODMSP) suggests that for instances where there may be surviving debris, the preferred disposal options are a direct reentry through a reentry trajectory or moving to a heliocentric, Earth-escape orbit.¹¹ Reflect Orbital states that the EARENDIL-1 will be disposed of via uncontrolled re-entry.¹² To what extent were the preferred disposal options of the ODMSP considered in order to further reduce human casualty risk?¹³ Why were any of these options not selected, or what changes would be required, to effect a controlled direct reentry?¹⁴
9. Please provide a demonstration that reflected sunlight from EARENDIL-1 directed toward the Earth's surface will not cause interference to satellite systems operating at lower altitudes with communications using optical intersatellite links (OISLs).¹⁵ [This demonstration may include an evaluation of the likelihood, duration, and frequency of potential interference events with lower-altitude satellites communicating with OISLs; a description of any design features, operational procedures, or attitude control strategies intended to mitigate the risk of optical interference; quantitative analysis of irradiance levels at altitudes where OISL communications operate, compared against any known interference thresholds for optical receivers; and simulations or

⁷ See 47 CFR § 25.114(d)(14)(iii).

⁸ See 47 CFR § 25.114(d)(14)(iv)(A)(2).

⁹ See 47 CFR § 25.114(d)(14)(iv)(A)(4).

¹⁰ Reflect Orbital Inc., ICFS File No. SAT-LOA-20250701-00129, ODAR at 13.

¹¹ See U.S. Government Orbital Debris Mitigation Standard Practices, 4-1(a) (Nov. 2019), https://orbitaldebris.jsc.nasa.gov/library/usg_orbital_debris_mitigation_standard_practices_november_2019.pdf.

¹² Reflect Orbital Inc., ICFS File No. SAT-LOA-20250701-00129, ODAR at 13.

¹³ See 47 CFR § 25.114(d)(14)(vii)(D)(2)(ii).

¹⁴ 47 CFR § 25.114(d)(14)(vii)(D)(2).

¹⁵ See 47 USC §§ 151-152, 301. While the Commission does not currently regulate optical communications in space, we note that Commission licensees, including but not limited to SpaceX Starlink, use OISLs to enhance their authorized communication service to the benefit of American consumers. Given the potential for interference into these consumer services and mitigations for such potential interference, including but not limited to coordination, we request this information as information of public significance that should be placed on public notice as part of this application. See *e.g.* 47 CFR §§ 25.111(a), 25.114(d)(6), 25.151(a)(7).

calculations showing the directionality, intensity, and spread of reflected sunlight from EARENDIL-1, including surface reflectivity characteristics and scattering effects.^{16]}

10. Reflect Orbital lists the voting and equity interest of Sequoia Capital as 17.18 percent and lists the voting and equity ownership interest of SC US (TGGP), Ltd. as approximately 17.8 percent.¹⁷ Please clarify whether these percentages are accurate for both entities or otherwise provide an explanation for the 17.8 and 17.18 percent ownership held by the Sequoia Capital and SC GP.
11. Reflect Orbital's Ownership Information describes SC US/E Venture Fund XVIII Management, L.P. and SC US/E Seed Fund V Management, L.P. as "nominees."¹⁸ Please define the use of the term "nominee" with respect to these entities.
12. The Ownership Information also states that SC US (TTGP), Ltd. ("SC GP"), a Cayman Islands entity and general partner of the entities SC US/E Venture Fund XVIII Management, L.P., SC US/E Seed Fund V Management, L.P., and SC US/E Ecosystem Fund I Management L.P., all Cayman Islands entities, holds an indirect ownership interest (voting/equity) of 10% or more in Reflect Orbital.¹⁹ Please provide additional information regarding the ownership of each of these four entities, for example by identifying the name and citizenship of all individuals who hold a 10 percent or greater direct or indirect voting or equity interest in Reflect Orbital through their ownership and/or voting interest in these entities, limited partners, and individuals holding such interest in any intermediate entities.

Please submit the requested information by **January 5, 2026**, in order to avoid the risk of dismissal of the application. See 47 CFR § 25.112(c).

Sincerely,

Jonathan R. Markman

Jonathan R. Markman
Acting Division Chief, Satellite Programs and Policy Division
Space Bureau

¹⁶ Please describe what steps Reflect Orbital has taken to coordinate with the Federal Aviation Administration (FAA) and Department of Defense/Air Force to mitigate impacts on commercial and military aircraft operations, including potential impacts to aircraft pilots' vision at night, from reflected sunlight directed at the Earth's surface. See 47 CFR § 25.114(d)(6).

¹⁷ Reflect Orbital Inc., ICFS File No. SAT-LOA-20250701-00129, Legal Narrative, Attachment (Ownership Information) at i.

¹⁸ *Id.*

¹⁹ *Id.*