BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of **SPACE EXPLORATION HOLDINGS, LLC** for Authority to Launch and Operate the SpaceX Orbital Data Center System	ICFS File No. SAT-LOA-20260108-00016 Call Sign: S00798

CONSOLIDATED OPPOSITION TO PETITIONS AND RESPONSE TO COMMENTS OF SPACE EXPLORATION HOLDINGS, LLC

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EXECUTIVE SUMMARY

Artificial intelligence promises revolutionary capabilities for American consumers, enterprises, and billions of users worldwide. To meet the surging demand for AI computing capacity, SpaceX seeks authority for its Orbital Data Center system, composed of up to one million satellites harnessing abundant solar energy and radiative cooling to deliver unprecedented computing power in orbit. Through the development of fully reusable launch vehicles like Starship that can deploy millions of tons of mass per year to orbit when launching at rate, on-orbit processing capacity can reach unprecedented scale and speed compared to terrestrial buildouts, with significantly reduced environmental impact.

SpaceX appreciates the many thoughtful comments submitted by the public—including members of the astronomy community, amateur observers, environmental advocates, and other stakeholders—and takes their concerns very seriously.[1] SpaceX shares a deep commitment to scientific discovery, exploration, and space sustainability, and has invested heavily in industry-leading technologies and techniques to mitigate risks to astronomy, orbital resources, and the Earth environment.

Brightness mitigation is a core design criterion for the Orbital Data Center system to mitigate risks to optical astronomy. Just as with SpaceX's communications satellites, SpaceX will develop and implement advanced brightness mitigation techniques for its proposed system, with the goal of achieving the visual magnitude 7 threshold advocated by the National Science Foundation ("NSF"), the Vera C. Rubin Observatory, the International Astronomical Union, and

[1] The record of this proceeding includes a large number of informal comments submitted by members of the public. While SpaceX cannot respond to each of these submissions individually, it does respond to the issues collectively in addition to the petitions submitted on the record.

other astronomical organizations. SpaceX has also initiated coordination with NSF, the National Aeronautics and Space Administration ("NASA"), and the Vera C. Rubin Observatory to develop predictive models and avoidance strategies for infrared and optical inter-satellite links to safeguard ground- and space-based instruments. Similarly, to protect radio astronomy operations, SpaceX will continue its partnership with NSF and the National Radio Astronomy Observatory ("NRAO") to minimize any potential impact due to SpaceX's limited Ka-band use.

And while orbital data centers represent the most environmentally responsible choice to meet surging AI demand, SpaceX understands commenters' concerns regarding frequent launches and satellite re-entries potentially impacting Earth's atmosphere. To ensure comprehensive evaluation of these potential effects and enhance the accuracy and predictive capability of atmospheric impact models, SpaceX will coordinate proactively with relevant federal agencies and stakeholders to study how the Orbital Data Center system interacts with Earth's atmosphere. Consistent with SpaceX's commitment to environmental stewardship and data-driven decision-making, SpaceX also plans a phased deployment approach for this system to monitor actual atmospheric effects, validate models with real-world data, and implement any necessary adjustments as it scales. SpaceX welcomes continued engagement with the scientific community, regulators, and stakeholders to advance our shared understanding and mitigation of atmospheric impacts.

Yet the Commission must once again reject misplaced calls to monopolize Commission resources by attempting to force regulation of satellites in space under the National Environmental Policy Act ("NEPA").[2] The statute clearly does not apply to extraterritorial activities or decisions,

[2] For SpaceX's detailed response supporting the FCC's proposal that "space-based operations be excluded from NEPA because they are 'extraterritorial activities' with effects located entirely outside of the jurisdiction of the United States," *Modernizing the Commission's National Environmental Policy Act Rules*, 40 FCC Rcd. 6377, ¶ ¶ 33 (2025), *see* SpaceX's comments and reply comments in WT Docket No. 25-217.

with effects located outside the United States, including operations solely in space. Furthermore, launch related activities that impact the Earth are carefully evaluated under NEPA by a variety of federal agencies including the FAA, NASA, and the Department of Airforce/Space Force, obviating the need for a redundant Commission review. Consistent with conclusions reached in prior cases and affirmed by the D.C. Circuit, the Commission should find that NEPA does not apply here.

With respect to space sustainability considerations, SpaceX appreciates NASA's input on key issues including end-of-life disposal, orbital debris and collision risks, and coordination for launch and space operations. SpaceX is actively engaging with NASA through direct coordination to address these concerns, building on SpaceX's ongoing collaborations under its Space Act Agreements. SpaceX welcomes NASA's constructive input and will collaborate with NASA under existing agreements to protect inhabited spacecraft, science missions, and launch window availabilities, ensuring the Orbital Data Center system can operate alongside existing and future low-Earth orbit activities.

In stark contrast to NASA's productive suggestions, would-be SpaceX competitors like Viasat and Amazon recycle the same tired arguments about spectrum interference, in-line events, and exaggerated space sustainability risks that the Commission has repeatedly rejected in prior proceedings. But their purported concerns are fully resolved by SpaceX's application itself, which seeks no exclusive use of any spectrum or orbital resources and reflects years of engineering dedicated to ensuring responsible stewardship of shared resources.

For example, baseless claims about harmful interference from Amazon, Viasat, and WISPA reflect a fundamental failure of reading comprehension. SpaceX's Orbital Data Center system will rely almost entirely on optical inter-satellite links—which present no interference

risk—and will use only NGSO-primary Ka-band spectrum for limited backup communications capable of conducting telemetry, tracking, and command ("TT&C") operations on a non-interference, unprotected basis with respect to primary users. This limited, off-nominal use of spectrum combined with the flexibility and redundancy built into the optical inter-satellite links ensures that the system will not cause harmful interference and by definition does not preclude future entry or otherwise enable warehousing. The Commission should quickly reject the anticompetitive arguments that claim otherwise.

Similarly, Amazon/Blue Origin's and Viasat's fearmongering about orbital congestion and launch preclusion is meritless. Specifically, in contrast to Amazon that repeatedly demands monopolies over certain orbits to protect its fragile system, SpaceX never sought to exclude others from any orbits and has successfully coordinated its deployment of thousands of satellites and demonstrated its ability to coexist with other satellite systems in and around the same altitude range. Moreover, even at full deployment, SpaceX's Orbital Data Center system—confined to narrow 50 km altitude bands—will occupy a tiny fraction of the available volume across 500-2,000 km orbits in space, leaving capacity for multiple competing similarly-sized systems. SpaceX will apply and build upon its industry-leading collision avoidance, debris mitigation, and end-of-life disposal capabilities to ensure that the Orbital Data Center system operates in a manner that promotes space sustainability and accommodates future innovation. Lastly, SpaceX will coordinate launches with NASA and other launch providers, ensuring no material launch window impacts and will further enhance these practices as commercial launch rates accelerate.

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DISCUSSION

SpaceX's Orbital Data Center system will support the exponential growth in AI-driven applications and services by providing revolutionary space-based computing capacity for billions of users worldwide.[3] By harnessing the Sun's abundant, clean energy in orbit—cutting emissions, minimizing land disruption, and reducing the overall environmental costs of grid expansion—SpaceX's proposed system will enable AI advancement that supports global innovation while preserving planetary resources. Deploying this computing capacity in orbit delivers cost efficiencies and capabilities long championed by the Commission and policymakers to maintain U.S. leadership in AI and space technology yet remain unrealized today.

I. THE ORBITAL DATA CENTER SYSTEM WILL DELIVER REVOLUTIONARY AI COMPUTING POWER WHILE EFFICIENTLY SHARING ORBITAL RESOURCES WITH OTHER OPERATIONS

SpaceX shares the reasonable concerns from the astronomical community, NASA, other satellite operators, and members of the public about how operators can ensure space remains

[3] *See* Application for Launch and Operating Authority for the SpaceX Orbital Data Center System, ICFS File No. SAT-LOA-20260108-00016 (filed Jan. 30, 2026) ("SpaceX Orbital Data Center Application").

sustainable, which is why it invested massive resources to responsibly deploy and operate the world's largest satellite constellation. SpaceX's iterative approach to reliable satellite design and collision avoidance consistently sets and exceeds the industry standard for best practices. Among other measures, SpaceX uses an extremely low threshold for collision avoidance maneuvers, transparent sharing of high-accuracy ephemerides with realistic covariance at approximately one-hour intervals from shortly after deployment through end-of-life, and continuous monitoring to ensure reliable orbital predictions for all interested parties. With over 20,000 satellite-years of experience, today SpaceX has only one inactive satellite in orbit and an industry-leading deorbit success rate, far exceeding NASA and Commission guidelines. SpaceX strongly urges all satellite operators—including those that choose to license overseas—to follow this model and help protect these valuable shared orbits for generations to come. And to those ends, SpaceX will apply the same approach to space sustainability for its Orbital Data Center system, serving the public interest by powering next-generation infrastructure while responsibly sharing and preserving orbital resources over the long term.

A. The Orbital Data Center System Will Efficiently and Sustainably Share Orbital Shells with Other Systems in Low-Earth Orbit

As the primary launch provider for transporting private and government astronauts to space and an operator of over 10,000 satellites serving millions of people around the world, SpaceX is deeply committed to sustainable, scalable operations that preserve access to space for all. Some petitioners—primarily would-be competitors such as Amazon/Blue Origin and Viasat—advance their standard anticompetitive tropes trying to fearmonger about orbital congestion, operational

preclusion, and potential collision risk in opposing SpaceX's application.[4] These arguments are not only baseless, they also reflect (possibly intentionally) a deep and fundamental lack of understanding of operations in low-Earth orbit. The Commission should reject these attempts to stifle competition and deny the petitions.

For example, Amazon simultaneously claims that SpaceX's application is speculative and unlikely to be deployed, yet confusingly demands the Commission deny the application for somehow also being anticompetitive. Putting aside the inherent contradictions in Amazon's arguments and the irony of Amazon—which failed even its most basic deployment requirements[5]—criticizing the operator of the largest constellation in history for not deploying fast enough, Amazon is simply wrong. Amazon attempts to mislead the Commission and the public into overestimating how much volume SpaceX's constellation will inhabit.[6] If Amazon had employed even basic math, it would realize that SpaceX's proposed system would inhabit only 0.005% of the 1.1 trillion cubic kilometers of space across the 500–2,000 km orbits.[7] And SpaceX proposes to maximize the space available for competitors by deploying its system in narrow 50 km bands to minimize local density. Of course, Amazon may have missed this point because it assumes responsible operation in shared orbits, which is a goal that seems to have eluded Amazon.[8]

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4 *See* Petition to Deny of Amazon Leo at 5-8 ("Amazon Petition"); Petition to Deny of Viasat, Inc. at 7-10 ("Viasat Petition"); Comments of Blue Origin at 2-3 ("Blue Origin Comments"). Unless otherwise indicated, all comments and petitions cited herein were filed in ICFS File No. SAT-LOA-20260108-00016 on March 6, 2026.

5 *See* Brendan Carr (@BrendanCarrFCC), X (Mar. 11, 2026 at 10:59 AM ET) ("Amazon should focus on the fact that it will fall roughly 1,000 satellites short of meeting its upcoming deployment milestone, rather than spending their time and resources filing petitions against companies that are putting thousands of satellites in orbit."), https://x.com/BrendanCarrFCC/status/2031746827645562940.

6 Amazon Petition at 11-12.

7 This calculation models the volume occupied by the constellation using a 1 km diameter torus for each representative orbit plane within each altitude/inclination shell, which yields a conservative estimate.

8 *See, e.g., Space Exploration Holdings, LLC*, 37 FCC Rcd. 14882, ¶ 81 (2022) ("*Gen2 Order*") (discussing Amazon's request "that the Commission require SpaceX to operate all Gen2 Starlink satellites at or below 580

While Amazon's sister company, Blue Origin, concedes that multiple operators can efficiently and effectively share low-Earth orbit can be effectively shared among multiple operators, it nevertheless urges the Commission to state on SpaceX's license—and *only* on SpaceX's license—the truism that a license does not convey rights to specific orbital shells.[9] Of course, SpaceX never claimed exclusive access over specific orbital shells or priority over future systems. But if monopolizing orbits is such a concern for Blue Origin, it is curious that it remained silent while Amazon begged the Commission for years to block all others from sharing altitudes because Amazon pleaded that its system was too fragile to co-exist with others.

While Blue Origin is at least a new participant in these proceedings, Viasat's petition does nothing more than march out the exhausted, debunked tropes about congestion and monopoly that the Commission has rejected for years. Viasat offers no new evidence to support its frivolous arguments here, and as such the Commission should reject them yet again.

But the Commission should not even consider any further arguments from Viasat until the Commission enforces its rules and cancels Viasat's licenses. For over seven years, Viasat brazenly operated GSO systems in NGSO-first spectrum bands without authorization and without regard for the harm it causes to Americans.[10] The Commission should put Viasat's disregard for American consumers to an end and cancel its licenses.

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km," the lowest altitude used by Amazon); *Space Exploration Holdings, LLC*, 36 FCC Rcd. 122, ¶ 11 (IB 2021) (same for Gen1 satellites).

9 *See* Blue Origin Comments at 3.

10 *See, e.g.,* Request for Order to Show Cause, IBFS File Nos. SES-LIC-20170401-00357, SES-LIC-20190411-00503, and SES-MOD-20191216-01737 (Sept. 18, 2020) ; Letter from Michael J. Carlson to Marlene H. Dortch, ICFS File No. SAT-PPL-20211207-00172 (Nov. 21, 2025) (Amazon opposing authorization of Viasat-3 F2 satellite in the NGSO Ka-band and asking the Commission to "swiftly act to ensure that any existing use of the NGSO Primary Bands with Viasat's other satellites ceases until and unless Viasat satisfies its license conditions). SpaceX has also filed a complaint with the Enforcement Bureau related to Viasat's ongoing violation of its licenses. *See* Letter from William M. Wiltshire to Elizabeth Mumaw & Jeffrey Gee (June 25, 2021), *as attached to* Letter from William M. Wiltshire to Marlene H. Dortch, IBFS File Nos. SES-LIC-20170401-00357, SES-LIC-20190411-00503, and SES-MOD-20191216-01737 (June 25, 2021).

In contrast to the gamesmanship from Amazon/Blue Origin and Viasat, SpaceX appreciates the constructive input from NASA and values its collaborative partnership to ensure sustainable access to space. NASA reasonably asks that SpaceX consider the effects its new constellation will have on NASA's missions.[11] SpaceX will coordinate its Orbital Data Center operations with NASA, including pre-operational sharing of detailed deployment schedules, phased orbital insertions, and station-keeping parameters pursuant to existing Space Act Agreements. These types of measures have proven effective to safeguard critical missions, including the International Space Station ("ISS"). By coordinating closely with NASA, SpaceX will be sure to mitigate any effect to current and future missions, as well as to long-term safety and sustainability of space for all.

SpaceX will continue working collaboratively with all operators, including NASA, and the Commission to ensure the Orbital Data Center system integrates safely and efficiently with existing and future activities in low-Earth orbit. SpaceX plans to operate the system using orbital shells limited to several tight 50 km altitude bands between 500 km and 2,000 km designed to optimize sustainability and sharing. This structured approach, illustrated in the representative shell table included in the application, reduces local density, reduces impact to astronomy, and helps maintain safe separation. Furthermore, SpaceX is limiting the number of orbital planes within each shell, which creates sufficient launch windows for both new deployments and transiting vehicles. For reference, SpaceX provides a representative orbital configuration for its system in Table 1:

[11] Letter from Lauren E. Morgan to Marlene Dortch ("NASA Comments").

Group	Altitude Range (km)	Inclination Range (deg)	Number of Shells	Planes Per Shell	Sats Per Plane	Total Sats per Stack
1	686 - 718	29.32 - 30.5	25	30	333	249750
3	707 - 744	97.13 - 98.22	22	1	11131	244882
2	946 - 978	29.36 - 30.5	25	30	333	249750
4	967 - 1002	99.36 - 99.45	22	1	11539	253858
					TOTAL:	998240

Table 1. Representative Orbital Configuration

B. SpaceX Will Coordinate Launch Operations to Minimize Impact on Launch Windows and Inhabited Spacecraft

Contrary to the disingenuous claims and behavior of Amazon/Blue Origin, SpaceX has always coordinated its launch operations with commercial operators and government agencies. As the world's leading launch provider, SpaceX routinely executes complex orbital insertions with minimal disruption to other missions, including crewed flights. While Amazon/Blue Origin claim to aspire to deploy constellations in the distant future, their lack of experience thus far shows in their simplistic arguments. Amazon/Blue Origin do nothing more than throw out naïve speculative claims that ignore reality.

For example, Amazon's notion of a "wall of satellites" that would inhibit launches by other operators is absurd.[12] To date, SpaceX has launched over 10,000 Starlink satellites and over 1,000 rideshare satellites without a significant launch window constraint. SpaceX publishes accurate ephemerides and covariance data for all satellites via Space-Track.org, allowing other operators—including NASA and Amazon/Blue Origin—to screen trajectories effectively. Furthermore, SpaceX's shell stacking architecture and use of frozen orbits further supports launch opportunities by creating repeating windows for transiting through or launching into operational regimes.

[12] *See* Amazon Petition at 11-12.

SpaceX has even preemptively maneuvered satellites for Amazon's launches to reduce launch conjunction risks and will coordinate with any launch provider or satellite operator to mitigate launch window outages due to launch collision avoidance risks.

NASA notes that further information "on the orbital parameters and deployment schedule for the proposed system" will be required to formulate strategies for further launch availabilities.[13] Such information is a standard part of SpaceX's collaboration with NASA and its public disclosures available to other launch providers. SpaceX also optimizes the timeline between deployment and the start of orbit-raising to balance thorough satellite checkout (typically 1–3 days for Starlink-class vehicles) with minimal time spent in insertion altitudes, followed by an approximately 15–17 day raise to operational altitudes above the ISS. In addition, SpaceX has successfully coordinated with NASA to date and will continue to do so to minimize impacts to ISS operations and visiting vehicles. SpaceX also works collaboratively with other satellite operators and launch providers, including by sharing high-frequency ephemerides to reduce screening dependencies on the government.

Such measures ensure the proposed Orbital Data Center system poses no significant risks to launch operations or inhabited spacecraft while supporting a competitive and innovative space sector.

C. The Orbital Data Center System Will Implement Industry-Leading Collision Avoidance and Debris Mitigation Capabilities

SpaceX takes space sustainability concerns very seriously—as preserving sustainable and reliable access to space is central to SpaceX's mission. As evidenced by its track record of reliability and safety with only one inactive satellite in space and a deorbit success rate that far

[13] NASA Comments at 3.

exceeds NASA and Commission guidelines, SpaceX is deeply committed to minimizing any potential for debris generation and collision risk. Unfortunately, the familiar cast of competitors apply unreasonable orbital configuration and satellite failure rate assumptions that are inconsistent with SpaceX's filing and operational experience to artificially inflate their risk analyses.[14] Consistent with its prior decisions, the Commission can reject this baseless fearmongering.

To ensure the long-term sustainability of space, SpaceX will leverage its extensive technical and operational expertise and invest in additional measures as core design criteria. As an initial step, SpaceX will deploy satellites at low altitudes to reduce the risk of satellites having systemic issues at higher altitudes. SpaceX will also provision its satellites with robust and reliable propulsion systems with enough delta-V to raise to operational altitudes in a spiral/circular manner, station-keep, and transit for disposal while maintaining SpaceX's proven ability to perform conjunction risk mitigation maneuvers using the most conservative thresholds of any satellite operator. Furthermore, SpaceX will maintain high satellite reliability and is developing satellite design and technology options to mitigate the collision risk associated with passively decaying objects. SpaceX is conducting detailed analyses—including passive decay probability calculations—to ensure individual collision risks remain extremely low and considering additional strategies to drive those risks down still further. As the satellite design matures and operational altitudes are selected, SpaceX will conduct detailed analyses—including collision probability assessments for passively decaying objects—to ensure individual and system level collision risks remain extremely low.

SpaceX will also incorporate mitigations into its Orbital Data Center satellite design to address concerns about its proposed end-of-life disposal strategy, re-entry scalability, high-orbit

[14] *See* Viasat Petition at 7-9; Amazon Petition at 6-8.

collisions, and degradation debris from arrays.[15] For example, SpaceX will work closely with NSF and the broader scientific community to ensure re-entries do not unacceptably impact Earth's atmosphere. SpaceX will also maintain the highest standards for passivation, reliability, and responsible disposal, including measures to limit small debris generation and minimize the generation of non-trackable objects. SpaceX has already initiated coordination discussions with NASA to address its concerns and will ensure that its proposed system delivers significant public benefits in orbital computing while upholding rigorous standards for space sustainability.

II. THE ORBITAL DATA CENTER SYSTEM WILL ALLOW FOR RAPID DEPLOYMENT OF AI COMPUTING CAPACITY WITHOUT CAUSING HARMFUL INTERFERENCE TO OTHER SYSTEMS

SpaceX designed its Orbital Data Center system to enable groundbreaking space-based computing capabilities while relying almost exclusively on optical inter-satellite links. SpaceX's system will use Ka-band only for backup communications capable of conducting TT&C and will operate only in the NGSO-primary portion of the band on a non-interference, unprotected basis with respect to primary users. SpaceX will use these radiofrequency links only temporarily and sporadically for troubleshooting its optical inter-satellite links. As such, any claims of harmful interference raised by SpaceX competitors are entirely meritless.[16]

A. SpaceX Will Efficiently Share Spectrum and Protect Co-Primary Operations

To ensure the highest quality service for the American people, SpaceX designed its system to rely nearly exclusively on high-bandwidth optical inter-satellite links to route traffic within the network and to the Starlink constellation. To provide additional redundancy, SpaceX also

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[15] *See, e.g.,* NASA Comments at 2-3; DarkSky Comments at 7-8; Comments of the Secure World Foundation at 3 ("SWF Comments").

[16] *See, e.g.,* Viasat Petition at 4-7; Amazon Petition at 5; Comments of Orion Space Solutions at 1-3 (filed Mar. 5, 2026) ("Orion Comments").

requested to operate radiofrequency space stations in Ka-band. But SpaceX clarified it would operate these links only for backup communications, only in the NGSO-primary portion of the Ka-band, and only on a non-interference, unprotected basis with respect to other co-primary operations. Moreover, SpaceX provided technical information in its application demonstrating its operations will align with Commission precedent and comply with all relevant technical rules. Nevertheless, competitors Viasat, WISPA, and Cambium *still* raise claims of harmful interference.

Viasat, which has never deployed an NGSO satellite system, raises alarmist claims based on the false assumption that SpaceX will operate all of its Orbital Data Center satellites simultaneously and continuously in the Ka-band for its nominal operations.[17] But as SpaceX explained repeatedly in its application, the Orbital Data Center system will not rely on Ka-band for nominal operations at all. Instead, the Ka-band TT&C and communication capability is strictly backup and will be activated only to troubleshoot optical links on a specific satellite and only for the limited duration required for recovery. Of course, the Commission can easily resolve Viasat's speculative concerns by cancelling its licenses to operate GSO systems in the NGSO-primary Ka-band, where Viasat has illegally operated for years.

Fixed Service operators meanwhile speculate about the potential for unacceptable interference to their licensed point-to-point microwave links in the 18.8–19.3 GHz band.[18] As an initial matter, the use of this band by terrestrial operators is currently limited to grandfathered systems that were licensed or applied for as of June 2000 "subject to the overriding right of satellite

[17] *See* Viasat Petition at 4-6.

[18] *See* Comments of WISPA—The Association for Broadband Without Boundaries at 2-3; Comments of Cambium Networks, Inc. at 5-9 ("Cambium Comments").

providers to require them to relocate."[19] Even still, SpaceX's proposed operations in the band fully comply with Commission and ITU power flux-density ("PFD") limits specifically designed to protect terrestrial systems,[20] which the Commission has incorporated by reference in Section 25.146(a)(1) of its rules. And while Cambium raises concerns about aggregate PFD levels, the Commission has recently rejected such concerns and found "that the PFD limits are effective in protecting terrestrial fixed services from interference, considering that satellite and terrestrial services have long co-existed in these bands using PFD limits without issue."[21] These terrestrial links, which typically operate at near-horizontal elevation angles, also enjoy protection from Commission rules requiring satellite earth stations to maintain minimum elevation angles above five degrees, creating natural angular discrimination that limits the risk of interference. Accordingly, SpaceX's operations pose no meaningful risk of harmful interference to terrestrial wireless carriers.

B. SpaceX's Orbital Data Center System Will Protect Radio Astronomy

SpaceX supports the critical importance of radio astronomy to scientific discovery and advancement, and shares the interests of the scientific community in safeguarding these essential operations.[22] SpaceX is proud of its extensive partnerships with the radio astronomy community and has a proven history of proactive coordination with NSF, NASA, NRAO, and other entities to

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[19] *See Redesignation of the 17.7-19.7 GHz Frequency Band*, 15 FCC Rcd. 13430, ¶ 63 (2000); 47 C.F.R. §§ 101.85(b), 101.95(a), 101.147(r). FSS licensees may require incumbent terrestrial licensees in the band within interference range to cease operations with six months' notice. 47 C.F.R. § 101.95(a).

[20] *See* SpaceX Orbital Data Center Application, Technical Attachment at A3.

[21] *Amendment of Parts 2 and 25 of the Commission's Rules to Enable NGSO Fixed-Satellite Service (Space-to-Earth) Operations in the 17.3-17.8 GHz Band,* 39 FCC Rcd. 11156, ¶ 33 (2024).

[22] *See, e.g.,* Petition to Deny of the American Astronomical Society at 6-8 ("AAS Petition"); Comments of the International Astronomical Union at 2 (Mar. 3, 2026) ("IAU Comments"); Objection from the Royal Astronomical Society at 2 (Mar. 3, 2026) ("RAS Comments"); Comments of the European Organization for Astronomical Research in the Southern Hemisphere at 1-2 ("ESO Comments").

protect radio astronomy operations.[23] For instance, SpaceX's coordination agreement with NSF and NRAO incorporates real-time data sharing and boresight avoidance techniques to prevent satellite transmissions from impacting key observatories like the Very Large Array ("VLA") and Green Bank Telescope during sensitive observations. These measures have successfully mitigated interference in bands adjacent to or overlapping with radio astronomy allocations, with zero reported harmful incidents across SpaceX's Starlink systems.

While the American Astronomical Society ("AAS") raises concerns that SpaceX's proposed system will cause aggregate harmonic emissions, its concerns are based on a misunderstanding of how the system will work. As explained in the previous section, the Orbital Data Center system will only use Ka-band on a limited basis for backup communications such as TT&C. During these very limited operations, SpaceX will comply with the Commission's established out-of-band limits and spurious emission limits, including by incorporating filtering at the transmitter output to suppress the harmonics. For the reasons explained above and the fact that the Ka-band links are only operational during failure of intersatellite optical links, the aggregate out-of-band emission will not scale with the full size of the constellation as AAS has claimed. Notably, no allocation exists for radio astronomy services adjacent to the Ka-bands for which SpaceX requests authorization.

III. SPACEX IS DESIGNING ITS SATELLITES TO MITIGATE ANY POTENTIAL IMPACT OF ITS SYSTEM ON OPTICAL ASTRONOMY AND SCIENCE MISSIONS

SpaceX appreciates the thoughtful comments from members of the astronomy community, amateur observers, and other stakeholders regarding potential impacts to the night sky and astronomical observations from SpaceX's proposed Orbital Data Center system. SpaceX takes

[23] *See, e.g.,* Letter from David Goldman to Marlene H. Dortch, ICFS File No. SAT-LOA-20200526-00055 and SAT-AMD-20210818-00105 (Jan. 17, 2023) (notifying Commission of coordination agreement with NSF).

concerns about satellite brightness, light pollution, and impacts on astronomy very seriously—both during satellite transit periods and steady-state operations. Some commenters also raised potential secondary effects such as human circadian rhythms and wildlife ecosystem disruption, which will be addressed by SpaceX's brightness mitigations.[24]

While the Commission has not adopted requirements governing satellite brightness mitigation—nor would it have jurisdiction to do so—SpaceX has nonetheless invested immense resources in developing and implementing mitigation techniques. To further enhance the understanding of how to mitigate satellites' effects on astronomy, SpaceX voluntarily coordinated with both NSF and NASA and will continue to work closely with these critical partners. In fact, SpaceX already initiated coordination with NSF, the Vera C. Rubin Observatory, and NASA for its Orbital Data Center system. SpaceX encourages all satellite operators to coordinate with both NSF and NASA before commencing operations.

SpaceX includes brightness mitigation as a core design criterion for the Orbital Data Center system—meaning these requirements are incorporated directly into the satellite's architecture from the very beginning of the design process. The company is actively evaluating and testing multiple approaches, including shading and off-pointing of satellite buses, radiators, and solar arrays; optimizing constellation deployment by limiting the number of orbital planes within each altitude shell; and employing RAAN-locking inclinations. RAAN-locking uses specially chosen orbital inclinations to stabilize the relative geometry between different orbital shells over time, maintaining predictable spacing and helping minimize long-term collision risks. Additionally, SpaceX is refining advanced computer models (known as Bidirectional Reflectance Distribution

[24] *See, e.g.,* DarkSky Comments at 5-7; AAS Petition at 2-5, 9-10; IAU Comments at 1-2; RAS Comments at 1-2; ESO Comments at 1-2; Petition to Deny of William Stewart (filed Feb. 12, 2026).

Function ("BRDF") models) that accurately predict satellite brightness as seen from Earth. The target is to keep operational brightness below visual magnitude 7 ("VM7")—faint enough to be barely visible even in the darkest skies. SpaceX will develop and implement advanced brightness mitigation techniques for its proposed system, with the goal of achieving the VM7 threshold advocated by NSF, the Vera C. Rubin Observatory, the International Astronomical Union ("IAU"), and other astronomical organizations.

To address concerns about potential impacts on ground- and space-based infrared telescopes from radiated heat emissions, SpaceX is coordinating with NSF to fully characterize relevant wavelengths and flux levels. These emissions arise from the satellites' need to radiate onboard waste heat—which infrared telescopes can detect—and no widely accepted standards currently exist. SpaceX is therefore developing predictive models to evaluate and minimize these effects. Consistent with its approach to visible light mitigation, SpaceX will collaborate with NSF to establish appropriate infrared guidelines, modeled on the successful VM7 framework for optical astronomy.

Regarding NASA's specific concerns about the potential for optical inter-satellite links to potentially interfere with highly sensitive space-based instruments and star trackers,[25] SpaceX appreciates the agency's feedback and will coordinate with NASA to prevent such interference. SpaceX initiated discussions with NASA's Space Operations Mission Directorate to share detailed technical parameters and develop joint mitigation and avoidance strategies, building on successful collaborations for SpaceX's Starlink systems. These measures, combined with the sharing of accurate ephemerides, will safeguard civil space assets while enabling the system's capabilities.

SpaceX remains dedicated to responsible innovation that balances the public interest

[25] *See* NASA Comments at 3.

benefits of orbital computing capabilities with the protection of scientific, cultural, and orbital resources. SpaceX welcomes continued dialogue with the astronomical community and regulatory stakeholders as it advances these mitigation efforts.

IV. THE COMMISSION SHOULD EXPEDITIOUSLY APPROVE THE APPLICATION TO ENSURE AN ENVIRONMENTALLY SUSTAINABLE EXPANSION OF AI COMPUTING POWER

While many commenters raised concerns about the potential environmental impact of SpaceX's Orbital Data Center system, SpaceX has conducted extensive study to ensure that its proposal is the most sustainable way to meet the surging demand for AI-enabled goods and services. In fact, SpaceX's proposal will significantly reduce the strain on the Earth's resources by moving away from the terrestrial environment and harnessing near-constant solar power in space rather than tapping terrestrial power grids. Solar-powered orbital data centers leverage the Sun's abundant, clean energy in the radiatively-cooling vacuum of space, making them the most cost-effective, energy-efficient, and ecologically sustainable way to build critical computing infrastructure. By eliminating the need for vast land-based facilities, SpaceX's proposed system achieves significantly greater environmental efficiency than terrestrial data centers. Deploying AI computing capabilities in space not only minimizes the carbon footprint associated with grid expansion and fossil fuel-dependent electricity but also reduces localized pollution, conserves precious Earth-based water supplies used for cooling in traditional centers, and enables AI advancements that benefit society without compromising our planet's ecosystems.

A. SpaceX Is Coordinating with Federal Agencies to Minimize Any Potential Impact on Earth's Atmosphere

Commenters reasonably ask about the effects of frequent launches and satellite re-entries on Earth's atmosphere, especially considering the current gaps in scientific understanding of

satellite demise processes.[26] SpaceX is committed to responsible operations grounded in science, best practices, and regulatory compliance.

To ensure comprehensive evaluation of any potential impact on Earth's atmosphere, SpaceX will coordinate closely with NASA, NSF, and other agencies. A key advantage of SpaceX's approach is its use of fully reusable launch vehicles, including Starship, which dramatically reduces the environmental footprint per launch compared to expendable rockets by reducing carbon emissions per metric ton launched, minimizing manufacturing demands, and eliminating the need for disposal of upper stages.[27]

SpaceX is actively collaborating with NSF and the broader scientific community to improve models of satellite re-entry and demise. To refine SpaceX's understanding of re-entry chemistry and significantly improve satellite demise models, SpaceX is advancing targeted re-entry algorithms to enable SpaceX to manage scheduling of specific re-entries to coincide with scientific data collection campaigns. SpaceX will continue working closely with NSF, NASA, the European Space Agency, and other satellite operators to enhance the accuracy and predictive capability of atmospheric impact models. Furthermore, SpaceX is also exploring novel experiments and assessment methods to better characterize the effects of re-entering satellites on Earth's atmosphere.

Consistent with SpaceX's commitment to environmental stewardship and data-driven decision-making, SpaceX plans a phased deployment approach for this system. Initial operations under this license will be limited to a significantly smaller number of satellites and re-entries than the maximum authorized, providing time to monitor actual effects, validate models with real-world

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[26] *See, e.g.,* DarkSky Comments at 7-8; SWF Comments at 4; IAU Comments at 3; Orion Comments at 3.

[27] All SpaceX launches are overseen by the FAA, which licenses launch activities.

data, and implement any necessary adjustments before scaling.

SpaceX welcomes continued engagement with the scientific community, regulators, and stakeholders to advance our shared understanding and mitigation of atmospheric impacts.

B. The Commission Should Continue to Reject Inapposite NEPA Arguments

Despite NEPA not applying to space operations, some commenters insist that the Commission is required to conduct an environmental review under NEPA when considering SpaceX's proposal. But these commenters do not even maintain a façade of seeking an actual review and have already demanded that the Commission deny the application after it wastes its limited resources on a review.[28] Such assertions are misguided for at least two reasons.

First, NEPA plainly does not apply to operations in space. The statute excludes "extraterritorial activities or decisions, which means agency activities or decisions with effects located entirely outside of the jurisdiction of the United States" from the definition of "major federal action" covered by NEPA.[29] The operations of satellites in orbit (including deorbit) are inarguably extraterritorial to the United States.[30] If anything, recent legislative and executive actions further clarified the inapplicability of NEPA in this context,[31] leading the Commission to

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[28] *See, e.g.,* DarkSky Comments at 8-9; AAS Comments at 9-10; Petition for Environmental Review and Supplemental Informal Objection of Nickolai G. Bakken (Mar. 9, 2026); Comment of Public Employees for Environmental Responsibility (PEER); Comment of MCCI Corporation, SAT-LOA-20260108-00016 (filed February 13, 2026); Comment of DashAstro Astronomical Society, SAT-LOA-20260108-00016 (filed March 04, 2026).

[29] 42 U.S.C. § 4336e(10)(b)(vi).

[30] *See*, *e.g.*, Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Oct. 10, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 ("Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.").

[31] *See, e.g., Unleashing American Energy,* Exec. Order No. 14154, 90 Fed. Reg. 8353, 8355 (Jan. 29, 2025) (calling upon "all agencies [to] prioritize efficiency and certainty over any other objectives" in revising agency regulations implementing NEPA); Fiscal Responsibility Act of 2023, Pub. L. No. 118-5, 137 Stat. 10 (2023) (clarifying that NEPA excludes "extraterritorial activities or decisions, which means agency activities or decisions with effects located entirely outside of the jurisdiction of the United States" from the MFA definition").

propose that space-based operations be entirely excluded from NEPA review by rule.[32] Accordingly, no NEPA review is required.

Second, even if the statute were applicable, the concerns raised in this proceeding are not sufficient to require an environmental assessment under NEPA. Under the Commission's current rules, satellite-licensing activities are categorically excluded from case-specific environmental review based on the conclusion that these activities "individually and cumulatively [will] have no significant effect on the quality of the human environment."[33] A party can overcome that finding only by demonstrating not just "that the action may have a significant environmental impact," but also that "extraordinary circumstances" justify further environmental processing of that categorically excluded action.[34]

Commenters have re-raised arguments about the environmental effects of (1) sunlight reflecting off satellites, resulting in "skyglow," (2) the by-products produced by satellites demising upon deorbit, (3) the potential for collisions in space, and (4) rocket launches. But the Commission and courts have consistently rejected these exact arguments—including in the Commission's recent grant of SpaceX's Gen2 Upgrade application.[35] As discussed below, the same conclusion should apply here.

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[32] *Modernizing the Commission's National Environmental Policy Act Rules*, 40 FCC Rcd. 6377, ¶ 33 (2025).

[33] 47 C.F.R. § 1.1306(a); *Amendment of Environmental Rules in Response to New Regulations Issued by the Council on Environmental Quality*, 60 Rad. Reg. 2d (P&F) 13, ¶ 3 (1986). As the D.C. Circuit has emphasized, "[c]ategorical exclusions are not exemptions or waivers of NEPA review; they are simply one type of NEPA review." *United Keetoowah Band of Cherokee Indians in Okla. v. FCC*, 933 F.3d 728, 735 (D.C. Cir. 2019).

[34] 47 C.F.R. § 1.1307(c); 40 C.F.R. § 1501.4(b). *See National Tr. for Historic Pres. v. Dole,* 828 F.2d 776, 781 (D.C. Cir. 1987) (*per curiam*) ("By definition, [categorical exclusions] are categories of actions that have been predetermined not to involve significant environmental impacts, and therefore require no further agency analysis absent extraordinary circumstances.").

[35] *See Int'l Dark-Sky Ass'n, Inc. v. FCC*, 106 F.4th 1206, 1218-20 (D.C. Cir. 2024) ("*Dark-Sky*").; *Viasat, Inc. v. FCC*, 47 F.4th 769 (D.C. Cir. 2022) ("*Viasat*"); *Space Exploration Holdings, LLC,* 36 FCC Rcd 7995, ¶¶ 72–92 (2021) ("*SpaceX 2021 Gen1 Order*"); *Space Exploration Holdings, LLC,* 37 FCC Rcd 14882, ¶¶ 113–125 (2022) ("*SpaceX Gen2 Order*"); *SpaceX Gen2 Upgrade Order* ¶¶ 26-27.

The Commission has questioned whether reflection of natural sunlight off satellites can even be considered an environmental impact under NEPA.[36] Moreover, in considering the effects of this phenomenon, the Commission has in the past taken into consideration the efforts SpaceX made in cooperation with affected communities and agencies to develop strategies to reduce such reflections and their impact on astronomical observation. As discussed above, those efforts are significant and ongoing—and SpaceX has made many of its advances available to other satellite operators so that the industry as a whole can work to reduce the impact of reflected sunlight. The D.C. Circuit has endorsed the Commission's conclusion that SpaceX's efforts such as these were sufficient to avoid significant environmental effects.[37]

Similarly, the production of by-products such as alumina in the atmosphere from demised satellites has been found not to have a significant environmental impact.[38] In reaching this conclusion, the Commission relied in part on the fact that "the European Space Agency (ESA) initiated two studies, looking into specifically the atmospheric impact of spacecraft demise upon reentry and concluding that the impact was negligible compared to other anthropogenic activities."[39] Upon review, the D.C. Circuit upheld the Commission's conclusion.[40] The Commission recently reaffirmed this decision, noting that "[t]hree years later, petitioners have not presented any new information on the record."[41] The Commission appropriately held (and courts have affirmed) that such effects can be evaluated and mitigated without an environmental

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36 *See SpaceX 2021 Gen1 Order* ¶ 77.

37 40 C.F.R. § 1501.4(b)(1); *Dark-Sky*, 106 F.4th at 1219.

38 *See SpaceX Gen2 Order* ¶ 118.

39 *Id.* ¶ 117.

40 *See Dark-Sky*, 106 F.4th at 1219.

assessment under NEPA.[41]

Concerns about the potential for satellite collisions resulting in orbital debris in space have also been considered and rejected. The Commission concluded that it had not been given sufficient reasons justifying or circumstances necessitating environmental consideration of these issues under its rules. The Commission also noted that it already considers orbital debris mitigation as a standard part of space station licensing independent of NEPA.[42] On review, the D.C. Circuit concluded that the appellant did not have standing because its "theory of space-debris collision does not cross the line from speculative to certainly impending."[43]

Lastly, the environmental effects of rocket launches are already fully addressed by the FAA and that analysis should not be duplicated by the Commission.[44] The Commission unambiguously—and reasonably—concluded in the *2021 SpaceX Gen1 Order* that pursuant to its rules, when the FAA has conducted its own environmental assessment, "no additional consideration of potential impacts associated with those launches is required,"[45] and reached the same conclusion in its order authorizing 7,500 additional satellites for SpaceX's Gen2 system earlier this year.[46] To require otherwise would undermine decades of federal rules and best

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41 *See SpaceX 2021 Gen1 Order* ¶¶ 82, 87. *See also Dark-Sky*, 106 F.4th at 1218-1220 (affirming Commission's determination that NEPA review is not warranted).

42 *See 2021 SpaceX Gen1 Order* ¶ 89.

43 *Viasat*, 47 F.4th at 779.

44 *See* 47 C.F.R. § 1.1311(e) ("An EA need not be submitted to the Commission if another agency of the Federal Government has assumed responsibility for determining whether of the facilities in question will have a significant effect on the quality of the human environment and, if it will, for invoking the environmental impact statement process.").

45 *See SpaceX 2021 Gen1 Order* ¶ 82*; See also Dark-Sky*, 106 F.4th at 1220 (holding that the Commission's reliance on FAA's environmental review of launch operations is reasonable and consistent with NEPA).

46 *See SpaceX Gen2 Upgrade Order* ¶ 27 ("We reiterate that the FAA conducts environmental review of the environmental effects of rocket launches and has thus reviewed or is reviewing any potential impacts from SpaceX's launches. Under NEPA, an agency need not undertake environmental review that is already conducted by another agency.").

practices, miring agencies in duplicative environmental reviews outside the scope of their expertise.[47]

Thus, the Commission can and should once again reject calls for a lengthy environmental review under NEPA. NEPA does not apply to this application and even if it did, commenters did not demonstrate "extraordinary circumstances" sufficient to justify further environmental processing of categorically excluded action.

V. THE WAIVERS SPACEX REQUESTED ARE FULLY JUSTIFIED AND POSE NO SUBSTANTIVE ISSUES

In its application, SpaceX requested waivers of the Commission's rules requiring processing rounds and imposing a bond and deployment milestones for the Orbital Data Center system. The Commission may waive its rules for good cause.[48] "Waiver is appropriate if special circumstances warrant a deviation from the general rule and such deviation would better serve the public interest than would strict adherence to the general rule," including "more effective implementation of overall policy."[49] In making its determination, the Commission should "take into account considerations of hardship, equity, or more effective implementation of overall policy."[50] As discussed below, application of these principles demonstrates that waiver is fully justified in this case.

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47 Even if this were not the case, a recent GAO report on large satellite constellations found that "rocket launches presently have a small effect on total stratospheric ozone (much less than 0.1%)." Large Constellations of Satellites: Mitigating Environmental and Other Effects, U.S. Gov't Accountability Off. 13 (Sept. 29, 2022), https://www.gao.gov/products/gao-22-105166.

48 *See* 47 C.F.R. § 1.3. *See also WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969); *Ne. Cellular Tel. Co. v. FCC*, 897 F.2d 1164 (D.C. Cir. 1990).

49 *GE American Communications, Inc.*, 16 FCC Rcd. 11038, ¶ 9 (IB 2001) (quoting *WAIT Radio*, 418 F.2d at 1159). *See also NetworkIP, LLC v. FCC,* 548 F.3d 116, 125-128 (D.C. Cir. 2008).

50 *WAIT Radio*, 418 F.2d at 1159.

The primary purpose of the Commission's processing round regime is to prevent one applicant from unreasonably precluding additional entry by other satellite operators in the requested frequency band.[51] Given SpaceX's proposal to make limited use of the NGSO-primary portion of the Ka-band for communications with previously authorized SpaceX earth stations on a non-interference, non-protected basis, its operations would not interfere with existing systems or preclude others from sharing the band. The Commission has previously waived the processing round requirement where SpaceX demonstrated that it "could coexist with existing users of the band and would not preclude other operators' use of the band in the future."[52] Similarly, seeing no reason to impose "the cost of a bond to systems for which no particular priority is provided and for which there is likely to be no material preclusion of other systems in terms of resources," the Commission has proposed that a system licensed outside a processing round "would not be required to post a surety bond."[53]

SpaceX's request for spectrum—limited to back-up operations—falls squarely within this line of precedent and the Commission's intended direction. SpaceX seeks authority to operate on a non-interference, non-protected basis with respect to primary systems operating in the band, and consequently could not preclude other operators that want to use it. SpaceX's Orbital Data Center system will have the ability to reroute beams and traffic to prevent interference to other operators through the combination of beam steering, optical links, and a uniquely flexible on-orbit network

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[51] *See Streamlining Licensing Procedures for Small Satellites*, 33 FCC Rcd. 4152, ¶ 41 (2018) ("The Commission adopted this [processing round] approach for NGSO-like satellite systems because of the possibility of otherwise unreasonably limiting additional market entry if licenses were granted on a first-come, first-served basis."); *see also Amendment of the Commission's Space Station Licensing Rules and Policies*, 18 FCC Rcd. 10760, ¶ 25 (2003); *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, 32 FCC Rcd. 7829, ¶ 61 (2017).

[52] *SpaceX Gen2 Upgrade Order* ¶ 13. *See also Space Exploration Holdings, LLC*, 39 FCC Rcd. 2159, ¶ 13 (SB 2024) ("we find that SpaceX's limited gateway operations in the E-band will not preclude other operators from entering the band in the future").

[53] *Space Modernization for the 21st Century*, FCC 25-69, ¶ 177 (rel. Oct. 29, 2025).

architecture. SpaceX will use these capabilities to protect each NGSO system authorized in an earlier processing round and those that may be licensed in any later processing round the Commission may initiate in NGSO-primary bands, as well as those GSO satellites authorized to operate in the band.

In addition, waiver will serve the public interest by accelerating deployment of groundbreaking orbital data centers delivering sustainable AI compute capacity to meet surging global demand, harnessing near-constant solar power with minimal environmental impact and offloading spectrum use via primary reliance on high-bandwidth optical inter-satellite links. By contrast, denying a waiver would hobble U.S. leadership in the AI and satellite fields, needlessly ceding advantages to foreign competitors. The Commission should swiftly grant the waivers, as in prior proceedings, to unlock orbital innovation without harm to competition.

Nonetheless, a single SpaceX competitor—Amazon—opposes SpaceX's processing round and bond waiver requests.[54] This opposition is particularly ironic, given that the Commission recently granted Amazon a waiver of the processing round rules for its own second-generation NGSO system—even though Amazon never requested a waiver, undertook to operate on a non-interference, non-protected basis, or attempted to show that its operations would not preclude future entry.[55] With respect to SpaceX's waiver request, Amazon recycles unsubstantiated claims of "speculative warehousing" that ignore the Commission's longstanding practice of granting such waivers where operations advance the public interest without precluding future entry. Amazon focuses on the potential preclusive effect of a large constellation on orbital resources—but unlike

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[54] *See* Amazon Comments at 9.

[55] *See* Stamp Grant, Kuiper Systems, LLC, ICFS File Nos. SAT-LOA-20211104-00145 and SAT-AMD-20250311-00068, Condition 9 and n.31 (SB rel. Feb. 10, 2026) ("We also waive section 25.157 of the Commission's processing round rules on our own motion for certain new frequencies in the Ku-, Ka-, and V-bands.").

Amazon, SpaceX has never argued that other systems should not be able to operate at the same altitudes it is authorized to use. Moreover, allegations of warehousing are particularly odd coming from an operator that secured a license for 3,236 satellites yet has launched only 180 satellites after years of delays and is currently seeking a milestone extension because it cannot meet deployment requirements.[56] By contrast, SpaceX has engaged in an unprecedented buildout of over 10,000 operational Starlink satellites, demonstrating real-world capacity to deploy responsibly at scale without precluding others. Amazon's claims ignore SpaceX's strict non-interference, non-protected operations in narrow shells up to 50 km, leaving vast orbital capacity under NGSO sharing rules, and waiver is essential for this complexity where rigid milestones would stifle iteration amid surging AI demand. The Commission should not be swayed by anticompetitive arguments but should instead proceed expeditiously to grant the requested waivers and thereby deliver substantial public interest benefits through the promotion of U.S.-led orbital data centers.

CONCLUSION

For the foregoing reasons, SpaceX requests that the Commission find that authorizing SpaceX to deploy its Orbital Data Center system would serve the public interest and grant the application expeditiously.

[56] *See* Application of Kuiper Systems LLC for Extension or Waiver of the Milestone Deadline, ICFS File Nos. SAT-MOD-20210806-00095 and SAT-MOD-20260129-00065 (Jan. 30, 2026).

Respectfully submitted,

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