Comments filed with the Federal Communications Commission in the Matter of Space Modernization for the 21st Century

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January 2026

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

In Re:	)	
Space Modernization for the	)	SB Docket No. 25-306
21st Century	)	

Comments of

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January 20, 2026

The FCC has published a Notice of Proposed Rulemaking "to modernize the Commission's space and earth station licensing rules."[1] This proposal is part of a year-long effort by the Commission to improve the regulatory environment for the growing space industry. The Commission has also reduced the backlog of pending license applications by half[2] and proposed a major increase in spectrum availability for satellite broadband and other space-based services.[3]

These are welcome developments but more will be needed as the Commission recognizes in its NPRM since we are likely only at the very beginning of a revolution of economic activity that requires access to space, and low earth orbit (LEO) in particular. The FCC received 295 space station and 2,684 earth station applications in 2024, up from 124 and 974, respectively, in 2016.[4] Goldman Sachs Research forecasts as many as 70,000 LEO satellites will be launched within the next five years.[5] This increase in activity presents a major challenge for the satellite licensing system, which a recent report from the International Center for Law and Economics and New America described as "overly slow, bespoke, and burdensome."[6] Technical, spectrum,

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[1] NPRM, para 2.
[2] https://www.advanced-television.com/2025/09/12/fcc-we-are-dominating-space-race-2-0/
[3] https://docs.fcc.gov/public/attachments/DOC-411583A1.pdf
[4] NPRM para 5.
[5] International Center for Law & Economics and New America, Low Earth Orbit Satellites: Policies to Promote Spectrum Sharing, Foster Competition, and Close Digital Divides (ICLE-NA-Report), October 2025, p. 17.
[6] ICLE-NA Report, p. 8.

and orbital debris reviews undertaken by both the FCC and the International Telecommunications Union (ITU) can take anywhere from one to four years.[7]

This increased demand for satellite spectrum highlights the importance of having a system that allocates licenses efficiently and facilitates coordination among competing demands. The FCC's rulemaking has four main goals: "(1) to increase license processing speeds; (2) to provide more predictability to applicants and licensees: (3) to provide more flexibility for innovation and for licensees' operations: and (4) to faithfully meet our responsibilities."[8]

The Commission is right to prioritize speed, predictability, and flexibility. These are binding constraints under the current framework, and the proposed reforms are likely to reduce uncertainty and administrative delay for many applicants in the near term. An important question, however, is not just whether the proposed changes would improve the situation as it is today, but also how the proposal would change applicants' incentives and behavior going forward.

The FCC Proposal

The FCC's proposal is intended to streamline and reduce the regulatory burdens associated with the current licensing process. Reducing regulatory burdens is, all else equal, almost always beneficial. However, all else is not equal. This NPRM streamlines licensing procedures *without* materially revisiting how the Commission chooses among an increased number of mutually constraining submissions, implicitly assuming that existing sharing and coordination mechanisms will continue to function as application volumes rise.[9]

The FCC is proposing a "licensing assembly line" to standardize the applications process and make it faster and more predictable.[10] The standardization includes a "modular" framework to allow applicants to select the application modules relevant to their system's frequency bands, orbital characteristics (e.g., GSO, NGSO) and services (e.g., fixed-satellite service (FSS); mobile satellite service (MSS); telemetry, tracing, and command (TT&C)).[11]

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[7] ICLE-NA Report, pp. 21-22.
[8] NPRM, para 7.
[9] Streamlining rules while moving in a more market-based direction, for example, would mitigate that problem, but markets are not on the table in this proceeding. They should be.
[10] NPRM, para 33-35.
[11] NPRM, para 21.

With its "presumed acceptable criteria," the Commission is proposing to expedite review of applications that meet bright-line performance-based technical and operational standards. Outcome-focused measures would replace prescriptive equipment and design rules. Applicants would be required to certify that their systems meet defined metrics for interference protection, spectrum efficiency, and public safety.[12]

The Commission is proposing to revise the current processing round framework by instituting an annual processing round framework for NGSO FSS applications.[13] When there are multiple applications for NGSO licenses for the same spectrum, the FCC will announce a processing round for the relevant band and consider all applications together to determine how the spectrum can be shared or divided among qualified applicants. No substantive changes are being proposed to the default spectrum-splitting procedure for systems approved in the same processing round.[14] That procedure requires operators to divide the spectrum equally if they cannot reach another coordination agreement.

For GSO systems and some NGSO systems (outside the processing round) the Commission will maintain the current first-come, first-served application system.[15] The Commission is inviting comment on whether to extend first-come, first-served processing to NGSO FSS systems and, if so, how to integrate that approach with the current sharing criteria. It is unclear how that would be done and there is no reason to believe that combining two likely inefficient systems would produce a more efficient system.

The Potential Paradox: When Streamlined Regulations Create Gridlock

The FCC faces significant challenges operating within the constraints of the current licensing system. Making it cheaper and faster to file applications without modifying the procedures for choosing among them is an invitation for applicants to behave strategically and raise the costs to competitors. When application costs fall but the system is designed to accept all qualified applicants under sharing arrangements, we should expect strategic over-filing and increased coordination costs. This concern is particularly noteworthy given that the proposal

[12] NPRM, para 14.
[13] NPRM, para 132 et seq.
[14] NPRM, para 141.
[15] NPRM, para 145-146.

doesn't appear to include a method of choosing among applicants, since both the processing round and first-come, first-served procedures apparently assume that all applications meeting minimum requirements will be accepted and there is no need for a better rationing system.

The Commission's proposal to delete the mutual exclusivity rule reflects a view that sharing has become the dominant operational reality. That may be descriptively accurate in many bands. But the NPRM does not explain why ubiquitous sharing should be the default allocation mechanism as congestion increases, nor does it analyze the conditions under which sharing ceases to be efficient and begins to impede use. The Commission states that "our proposed rules account for the compatible operations of different licensees through first-come, first-served application processing, processing rounds, and various technical requirements on space station and earth station operation."[16] In the limited cases where the rule might be applicable and the Commission has needed to decide among applicants, it reverts to *comparative hearings* – a tool that has been rejected in the world of terrestrial spectrum.

The potential for a flood of new applications raises serious concerns about how the Commission will allocate spectrum under the proposed procedures. Neither processing rounds nor first-come, first-served procedures scale well. As applications increase, spectrum-splitting will produce smaller allocations and more complex coordination problems, with greater opportunities for strategic holdout behavior. First-come, first-served processing rewards *speed* of filing rather than *value of use*. Both approaches will raise transactions costs. And secondary markets for satellite spectrum may not be sufficiently developed to correct the initial misallocations that will inevitably result.

In many respects, this situation resembles the tragedy of the anticommons, "in which too many people can block each other from creating or using a scarce resource."[17] The difficulty of coordinating leads to wasteful underuse of the resource, in this case, the satellite spectrum. This risk is not inevitable, but it becomes more likely as the number of operators increases and spectrum rights are fragmented through default sharing arrangements.

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[16] NPRM, para 143.

[17] *See* Michael Heller, *The Tragedy of the Anticommons: A Concise Introduction and Lexicon*, available at https://scholarship.law.columbia.edu/faculty_scholarship/1778, p. 9.

Even if coordination doesn't break down, the Commission should explain why an ad hoc sharing regime as the default is efficient relative to alternative allocation mechanisms under congestion conditions. Basic economics suggests that a system of exclusive (and tradeable) rights would be superior. However, the FCC's proposal would delete the rule on mutual exclusivity without any analysis showing that ubiquitous sharing is the best system.

This is not to suggest that the high transaction costs imposed by the existing system are efficient. Far from it. Abstracting from the practical problems that need solving, a market mechanism to allocate rights would be far more efficient and should be the objective. But that, apparently, is not on the table. The fundamental problem is trying to make the proposed system work with more participants (licensees and applicants) but without "property" rights and a market mechanism to allocate those rights.

Incomplete Benefits and Costs

The NPRM includes a section on benefits and costs, as it should.[18] However, this section is incomplete. It estimates the annual benefits and costs of complying with the rules: $165,000 and $90,000 annually. It "therefore conclude[s] that the cost savings alone will fully offset the associated costs, such that the proposed rules are in the public interest."[19] Those estimates are likely orders of magnitudes different from the real benefits and costs. The NPRM hints at that point when it says, "These cost savings are in addition to other benefits that are more difficult to quantify, but nevertheless important, such as reduced harmful interference, increased spectrum efficiency, and space safety."[20] Perhaps more serious, the NPRM does not seem to acknowledge even the possibility of new transaction costs created by the proposal, such as strategic use of filings as discussed here. It is therefore impossible to draw any conclusions about the net public interest with the information presented in the NPRM.

A meaningful evaluation would at least attempt to address first-order economic effects such as increased congestion, coordination delays, strategic filings, and the potential for underutilization arising from fragmented spectrum access. Even qualitative discussion of these

[18] NPRM, para 243-247.
[19] NPRM, para 243.
[20] NPRM, para 243.

effects would materially improve the Commission's ability to assess whether the proposal advances the public interest.

Conclusion

Transforming the legacy satellite licensing system for the space age is a major challenge that requires making fundamental changes to the system. The Commission's Space Modernization proposal does well to suggest ways to modernize the process but does not fully meet the challenge. Indeed, making it easier to apply for a satellite license, as the FCC is proposing, might make the system work less well by creating too many fragmented rights for the reasons explained in these comments.

As the demands for satellite spectrum increase, complex coordination and congestion problems will remain despite the FCC's efforts to streamline the system. These problems will be difficult to address without market mechanisms, which provide market participants more reliable expectations of property or usage rights than comparative hearings.

If the Commission's objective is a licensing system that remains workable as space activity scales, it should at least seek further comment on market mechanisms or more clearly defined, transferable usage rights as potential complements to the proposed streamlining reforms.