

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554**

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

EX PARTE COMMENTS OF TECHFREEDOM

In response to the Draft Report and Order and Further Notice of Proposed Rulemaking in the above-referenced proceeding,¹ due to be voted upon at the open meeting on July 22, 2026,² TechFreedom files these ex parte comments within the time limit required by the sunshine period.³

I. TechFreedom Supports the Vast Majority of the Proposed Rules Adopted in the Draft R&O

We have long supported a complete overhaul of the satellite licensing rules, which the Draft R&O largely accomplishes.⁴ Creating a licensing “assembly line”⁵ is the only way the

¹ Space Modernization for the 21st Century, Draft Report and Order and Further Notice of Proposed Rulemaking, SB Docket No. 25-306 (released July 1, 2026), <https://docs.fcc.gov/public/attachments/DOC-422740A1.pdf> [hereinafter Draft Space Modernization R&O or Draft R&O].

² Press Release, FCC, FCC Announces Tentative Agenda for July Open Meeting (July 1, 2026), <https://www.fcc.gov/document/fcc-announces-tentative-agenda-july-open-meeting-13>.

³ See 47 C.F.R. § 1.1203.

⁴ See TechFreedom, Comments on Space Modernization for the 21st Century (Jan. 20, 2026), <https://techfreedom.org/wp-content/uploads/2026/01/TechFreedom-Comments-Space-Modernization-1-20-26.pdf>; TechFreedom, Comments on Mitigation of Orbital Debris in the New Space Age & Space Innovation (June 27, 2024), <https://techfreedom.org/wp-content/uploads/2024/06/TechFreedom-Orbital-Debris-Refresh-Comments-6-27-24.pdf>; TechFreedom, Comments on Revising Spectrum Sharing Rules for Non-Geostationary Orbit, Fixed-Satellite Service Systems (Aug. 7, 2023), <https://techfreedom.org/wp-content/uploads/2023/08/Satellite-Spectrum-Sharing-8-7-23-TechFreedom-Comments.pdf>.

⁵ See Draft R&O, *supra* note 1 ¶¶ 2, 7, 15, 17, 34.

Commission can hope to keep up with the hockey stick of growth in commercial space, and the only way to keep the U.S. competitive in this quickly expanding international market.⁶ Replacing a patchwork Part 25 with a cohesive new Part 100 is definitely a major step forward.⁷ But to be effective and truly meet the needs of the commercial space industry, the new rules need to minimize regulatory friction,⁸ and above all else, minimize the ability of competitors or bureaucrats to slow the future of space development. Rules that can be weaponized are antithetical to the very concept of an assembly line.⁹ As we've said before, for the assembly line to work, it must be right-sized for the job, and not breakdown because unforeseen events or unintended consequences are introduced by rule reform.¹⁰

II. Several Proposed Rules in the Draft R&O Would Break the Assembly Line and Should Be Addressed Now or in the Further Notice of Proposed Rulemaking

While the overall structure of the new Part 100 is sound, there are several specific rules which should be removed from the Report and Order or put into the Further Notice of

⁶ See, e.g., Joshua Levine and Prineha Narang, *Laying the foundation for America's space future*, SPACE-NEWS (Oct. 6, 2025), <https://spacenews.com/laying-the-foundation-for-americas-space-future/>.

⁷ Draft R&O, *supra* note 1 ¶ 4.

⁸ See TechFreedom, Comments on Space Innovation and Facilitating Capabilities for In-Space Servicing, Assembly, and Manufacturing (Apr. 29, 2024), <https://techfreedom.org/wp-content/uploads/2024/04/TechFreedom-FCC-ISAM-Comments.pdf>.

⁹ See, e.g., TechFreedom, Comments on Modernizing the Commission's National Environmental Policy Act Rules at 18 (Sept. 18, 2025), <https://techfreedom.org/wp-content/uploads/2025/09/TechFreedom-Comments-NEPA-9-18-25.pdf> (discussing the weaponization of NEPA to slow down outer space development).

¹⁰ JAMES E. DUNSTAN, WHEN THE ASSEMBLY LINE BREAKS DOWN: REASSESSING FCC LICENSING OF NEXT-GENERATION SATELLITE SYSTEMS 1 (TECHFREEDOM, 2026), <https://techfreedom.org/wp-content/uploads/2026/04/TechFreedom-Paper-Assembly-Line-Breaks-Down.pdf> ("But for the [Henry Ford] assembly line to work, all those components had to be ready. If the shipment of left fenders was late, the assembly line shut down. 'Synchronizing the movement of parts and tasks across the line required careful planning and adjustments to avoid bottlenecks and downtime.' Unless everything was perfect, the assembly line stopped, or worse." (Footnote omitted)).

Proposed Rulemaking because they appear arbitrary or unsupported by the record in this proceeding. Consistent with its broader deregulatory agenda, the Commission should delete several antiquated rules that unfortunately were carried forward into the new Part 100. If adopted in the currently proposed form, some of these rules will slow down or break completely the assembly line of satellite licensing. We have often pointed out when we believe the FCC has used the wrong regulatory tool or jumped the gun in moving to rules when substantial questions remain.¹¹

A. The Commission Can't "Default to Yes" when the Exceptions in Section 100.136(b) Eliminate the Bulk of Applications from Being Presumed to Be in the Public Interest—It's a "Default to Meh"

One of the key components of the assembly line concept for satellite licensing is the idea that the Commission should "default to yes": that an application should be presumed to be in the public interest and subject to expedited processing, unless some specific exemptions exist that would indicate that the application warrants additional scrutiny.¹² The Draft R&O does away with the expedited processing approach, while codifying the exemptions, which is really the opposite of where the Commission was—and should be—

¹¹ See, e.g., TechFreedom, Comments on Revising Spectrum Sharing Rules for Non-Geostationary Orbit, Fixed-Satellite Service System (Aug. 7, 2023), <https://techfreedom.org/wp-content/uploads/2023/08/Satellite-Spectrum-Sharing-8-7-23-TechFreedom-Comments.pdf>; TechFreedom & the International Center for Law & Economics, Reply Comments on Modernizing the E-rate Program for Schools and Libraries at 4 n.8 (Nov. 7, 2013), http://docs.techfreedom.org/E_Rate_Reply_Comments.pdf ("Indeed, the FCC should have issued a Notice of Inquiry before issuing this NPRM for precisely this reason—a mistake the FCC all too often makes, frequently putting the Commission in the awkward position of being on the verge of rulemaking without first properly exploring the facts on the ground. This is the worst kind of putting the cart before the horse."); TechFreedom, Comments on Expanding Flexible Use of the 12.2-12.7 GHz Band at 3 (May 7, 2021), <https://techfreedom.org/wp-content/uploads/2021/05/TF-Comments-12-GHz-NPRM-4-7-21.pdf> ("The Commission Should Have Issued a Notice of Inquiry (NOI), not a Notice of Proposed Rulemaking").

¹² Draft R&O, *supra* note 1 ¶ 145. See also NPRM, ¶ 14.

heading. This is because the exemptions effectively swallow the “public interest” rule.¹³ It’s almost as if the rule now reads that all applications filed will be considered in the public interest, except those applications that are filed on a day ending in “y.” Virtually every application will have an exemption applying to it. Many applications request a waiver of at least one rule provision. Given that so many space frequency bands are shared with federal uses, the 100.136(b)(7) exemption will torpedo the “default to yes” status of a vast majority of new satellite applications.¹⁴ And because of the way the “spectral constraints” exemption is worded, we wonder if any application will, indeed, actually “default to yes.”¹⁵

¹³ The exemptions that automatically rebut a presumption of public interest include: (1) Failure to Certify. The application fails to certify compliance with one or more of the required certifications under §§ 100.110, 100.111, 100.112, and 100.113; (2) Waiver Requests. The application requests waiver of one or more of the Commission’s rules; (3) Market Access. The application requests authority to access the U.S. using a non-U.S. licensed space station under § 100.114; (4) Foreign Ownership. The applicant includes reportable foreign ownership disclosures under § 100.101; (5) Processing Round. The application requests consideration in a processing round under § 100.140; (6) Spectral Constraints. The application requests to operate in frequency bands which are subject to limitations prescribed by rule or policy; (7) Federal Coordination. The application requests to operate in frequency bands shared with federal operators in the U.S. Table of Frequency Allocations in § 2.106 of this chapter.

¹⁴ The Commission recognized the frustration of many commenters that the federal coordination exception would knock most applications out from the preferred “default to yes” assembly line: “[C]ommenters were largely concerned that this would remove the majority of applications from that pathway. We agree that a federal coordination exception to expedited processing would capture most applications received by the Commission.” Draft R&O, *supra* note 1 ¶ 154. The draft’s solution to this was disheartening, to say the least. “Since we do not adopt an expedited processing pathway, this is moot.” *Id.* Is the Commission effectively jettisoning “default to yes”?

¹⁵ As the Draft R&O states: “Commenters were generally confused by the spectral constraints exception and requested examples or further explanation which we provide here.” *Id.* ¶ 153. Yet the explanation that follows in that paragraph does nothing to ease the confusion. For example, paragraph 153 states: “In both processing round and non-processing round situations, the Commission’s rules that clearly govern the sharing and use of spectrum [sic].” *Id.* This is not even a sentence, let alone one that sheds any light on the limiting principles of this very broad exemption. The final sentence plunges readers into even more ambiguity: “Instead, this category covers a narrower set of circumstances where proposed operations cannot be presumed to be in the public interest because of a

TechFreedom therefore suggests that the FCC revisit this section of the Draft R&O and retain only those exceptions where the presumption obviously does not apply—including load-bearing, threshold elements of the application such as foreign ownership or market access requests from adversarial administration. As proposed, Section 100.136 isn’t a “default to yes,” regime, it’s “default to meh”—the presumption, in practice, means almost nothing.

Further, there should be some mechanism whereby an applicant can rebut the exemption—*i.e.*, prove why the exception to the public interest presumption should not apply to their application. Without a “safety valve,” the exceptions no doubt will be weaponized by incumbents, especially government users, first movers and moat builders, seeking competitive advantage or to defend their own turf.

At the heart of all of this should be the Commission’s 2023 Spectrum Management Policy Statement, and its demands that systems must become more spectrally efficient, on both the transmitter and receiver sides.¹⁶ It also sets a clear expectation that claims of harmful interference will be “fact- and evidence-based, sufficiently robust, transparent, and reproducible.”¹⁷ The Commission can no longer protect outdated and outmoded system designs or grind the assembly line to a halt spending staff time on analyzing isolated,

previously identified constraint with the requested spectrum that goes beyond established sharing and use rules.” *Id.* “Previously identified” where? The writing and thought process of this section of the Draft R&O clearly are incomplete.

¹⁶ FED. COMM’NS COMM’N, POLICY STATEMENT ON PRINCIPLES FOR PROMOTING EFFICIENT USE OF SPECTRUM AND OPPORTUNITIES FOR NEW SERVICES & PROMOTING EFFICIENT USE OF SPECTRUM THROUGH IMPROVED RECEIVER INTERFERENCE IMMUNITY PERFORMANCE ¶ 2 (2023), <https://docs.fcc.gov/public/attachments/FCC-23-27A1.pdf> (“Technological advances in receiver resiliency, however, can also unleash new services without unnecessarily restricting transmitters in neighboring bands. As such, the properties of receivers, and their immunity to out-of-band interference in particular, offer an increasingly promising pathway to manage spectrum needs in a balanced and comprehensive way.”).

¹⁷ *Id.* ¶ 41.

theoretical worst-case scenarios that won't actually occur in the real world.¹⁸ The bands are just too congested, and with the cost of deploying satellite systems reduced by almost an order of magnitude, incumbent users cannot expect to have their legacy systems protected forever. Similarly, any claims of "spectral constraint" must factor in the spectral efficiency of the systems involved and cut in favor of operators who innovate and deploy more spectrally efficient systems.

B. The Earth Station Pre-Coordination Process Retained in Sections 100.120, 100.121, and 100.275 Remains Cumbersome and Rooted in the Past

With the breakup of the AT&T monopoly in the 1980s came an explosion of competition, including the construction of multiple, massive, long-haul microwave networks.¹⁹ Comsearch managed the majority of all the coordination efforts with extensive databases that were able to clear routes quickly, at a time when computer processing speeds were one-ten-thousandth (1/10,000) of computers today.²⁰ Yes, those were simpler times with fewer users, but engineers still knew how to use data-driven mechanics to coordinate systems. The current state of earth station coordination is broken, and unfortunately, the Draft R&O does not fix it. While it purports to move to a "primarily certification-based

¹⁸ As discussed in the next section, there was a time where engineers worked together to clear coordination as quickly as possible as carriers raced to build innovative microwave systems. Today's engineers appear to be spending their times with shovels, building moats to stop the next generation of innovative services.

¹⁹ See GEORGE KIZER, A BRIEF HISTORY OF MICROWAVE RADIO FIXED POINT-TO-POINT (RELAY) COMMUNICATION SYSTEMS (2013), <https://catalogimages.wiley.com/images/db/pdf/9780470125342.excerpt.pdf>.

²⁰ See Adobe Acrobat Team, *Fast-forward — comparing a 1980s supercomputer to the modern smartphone*, ADOBE BLOG (Nov. 8, 2022), <https://blog.adobe.com/en/publish/2022/11/08/fast-forward-comparing-1980s-supercomputer-to-modern-smartphone>.

approach,”²¹ by porting the coordination report requirements of the old Section 25.203 into new Section 100.275, earth station applicants will still be saddled with onerous coordination requirements that make little sense and are wildly overbroad. These coordination reports also provide an avenue for incumbents and competitors to slow down or block earth station licensing for purely competitive, not interference-related, reasons. Finally, these coordination reports tax limited Commission staff resources. The assembly line breaks down.

There must be a better way of ensuring that new earth stations do not interfere with existing users. TechFreedom encourages the Commission to work with industry to explore more data-driven alternatives, like nationwide databases, to streamline the coordination process. Lessons can be learned from the CBRS service.²² More reliance should be placed on applicant certification, as the Draft R&O purports to do, and less on clearly outmoded coordination standards with incumbent veto rights, particularly where a proposed site presents no real-world risk of harmful interference.

C. The Draft R&O Is Correct to Allow ITU Filings Prior to Filing an FCC Application but the Limit of Five Such Filings Is Arbitrary

Our comments supported allowing interested parties to make ITU filings without having a full space station license on file. But we also suggested that any would-be licensee

²¹ Draft R&O, *supra* note 1 ¶ 103.

²² *Compare* THE STATE OF CBRS 2026, SPECTRUM FOR THE FUTURE, <https://spectrumfuture.com/wp-content/uploads/2026/02/State-of-CBRS-2026.pdf> (noting that over 430,000 base stations have been deployed in the CBRS service spawning \$14 billion in investment) *with* Sarah Oh Lam & Scott Wallsten, *CBRS in 2026: What Have We Learned? Panel Recap*, TECHNOLOGY POLICY INSTITUTE (Feb. 11, 2026), <https://techpolicyinstitute.org/publications/broadband/spectrum-and-wireless/cbbs-in-2026-what-have-we-learned-panel-recap/> (“nobody agrees on what success looks like”).

put the FCC on formal notice that it is working toward such a license application.²³ The Draft R&O adopts our suggestion.²⁴ However, it also limits each party to no more than five ITU filings without an underlying space station application.²⁵ The Draft R&O fails to explain how it arrived at this limit. Given that a satellite system’s engineering architecture can change over time and given that next-generation systems will often require multiple frequency bands to operate, many parties might be hamstrung by the five-filing limit. If the Commission does retain that limit, it should clarify whether such filings can be amended to specify different frequencies, or if any such change constitutes a new filing counting against the five-filing limit. This issue appears ripe for specific industry input, and TechFreedom therefore suggests that this be addressed in the FNPRM.

D. The Commission Should Not Require Prior Notification Before Changing Satellite “Microelectronics”

In the Draft R&O, the Commission states: “Space station operators may also change an antenna, sensor, or microelectronics, so long as doing so would not result in a major modification, provided they notify the Commission within 30 days of the change.”²⁶ While the NPRM proposed a new Section 100.143(d)(2)(i) which included the word “microelectronics,”²⁷ that term is used nowhere else in the NPRM, nor is there a discussion

²³ TechFreedom, Comments on Space Modernization for the 21st Century at 42 (Jan. 20, 2026), <https://techfreedom.org/wp-content/uploads/2026/01/TechFreedom-Comments-Space-Modernization-1-20-26.pdf>. See also Draft R&O, *supra* note 1 ¶ 38 n.635, referencing our suggestion that in order to be able to submit ITU filings, a party should at least have an FCC Form 312 on file.

²⁴ Draft R&O, *supra* note 1 ¶ 219.

²⁵ *Id.*

²⁶ *Id.* ¶ 209.

²⁷ NPRM, Appendix A, § 100.143(d)(2)(i). We find no use of the term “microelectronics” in the current Part 25 rules.

of the term in the text of the Draft R&O. Traditionally, Commission staff have not reviewed the specific microelectronics components of proposed satellite systems. Requiring a new notification requirement for every change in any microelectronics used in a satellite would be a cumbersome and useless exercise. TechFreedom requests that the Commission delete the term “microelectronics” from the rule or at least limit the use of the term to apply to microelectronics that specifically are part of the antenna or sensor systems of the satellite which might act to increase the potential for interference with other satellite systems.

III. Conclusion

TechFreedom strongly supports the Commission’s efforts in this docket. We suggest the changes above only to help the Commission achieve the modernization efforts everyone wants and needs, and as a better way to stand up the assembly line and “default to yes.”

Respectfully submitted,

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