

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 2 and 25

[IB Docket No. 22–273, FCC 20–63; FR ID 107238]

Enable Non-Geostationary Orbit Fixed-Satellite Service (Space-to-Earth) Operations in the 17.3–17.8 GHz Band

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: In this document, the Federal Communications Commission (FCC) seeks comment through a Notice of Proposed Rulemaking adopted on August 3, 2022, on amending its rules to enable non-geostationary (NGSO) fixed-satellite service (FSS) (space-to-Earth) operations in the 17.3–17.8 GHz frequency band, and on what technical rules would be necessary and appropriate to prevent harmful interference between NGSO FSS operations and other authorized operations in the band.

DATES: Comments are due December 27, 2022. Reply comments are due January 24, 2023.

ADDRESSES: You may submit comments, identified by IB Docket No. 22–273, by any of the following methods:

- *Federal Communications Commission's Website:* <http://apps.fcc.gov/ecfs/>. Follow the instructions for submitting comments.
- *People with Disabilities:* Contact the FCC to request reasonable accommodations (accessible format documents, sign language interpreters, CART, etc.) by email: FCC504@fcc.gov or phone: 202–418–0530 or TTY: 202–418–0432.

For detailed instructions for submitting comments and additional information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT:

Sean O'More, International Bureau, Satellite Division, 202–418–2453, sean.omore@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rulemaking, IB Docket No. 22–273, FCC 22–63, adopted August 3, 2022, and released August 3, 2022. The full text of the Notice of Proposed Rulemaking is available at <https://www.fcc.gov/edocs/search-results?t=quick&fccdaNo=22-63>. To request materials in accessible formats for people with disabilities, send an email to FCC504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202–418–0530 (voice), 202–418–0432 (TTY).

Comment Filing Requirements

Interested parties may file comments and reply comments on or before the dates indicated in the **DATES** section above. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS).

- *Electronic Filers.* Comments may be filed electronically using the internet by accessing the ECFS, <http://apps.fcc.gov/ecfs>.
- *Paper Filers.* Parties who choose to file by paper must file an original and one copy of each filing.

Filings can be sent by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701. U.S. Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street NE, Washington, DC 20554.
- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID–19. See FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy, Public Notice, DA 20–304 (March 19, 2020). <https://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy>.

- *Persons with Disabilities.* To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an email to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202–418–0530 (voice) or 202–418–0432 (TTY).

Ex Parte Presentations

The Commission will treat this proceeding as a “permit-but-disclose” proceeding in accordance with the Commission's *ex parte* rules. Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in

the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

Paperwork Reduction Act

This document contains proposed new and modified information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, we specifically seek comment on how we might further reduce the information collection burden for small business concerns with fewer than 25 employees.

Initial Regulatory Flexibility Analysis. As required by the Regulatory Flexibility Act of 1980 (RFA) the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) relating to this Notice of Proposed Rulemaking.

Synopsis

Notice of Proposed Rulemaking

In this Notice of Proposed Rulemaking, we seek comment on whether to allow operations of non-

geostationary satellite orbit (NGSO) in the FSS (space-to-Earth) in the 17.3–17.8 GHz band, similar to our action with regard to GSO FSS operations in these bands. We seek comment on whether such an action would serve the public interest, and, if adopted, what technical rules and standards we would need to prevent harmful interference between authorized services in these bands while increasing efficient and effective use of the spectrum.

Some commenters advocate allocating the 17.3–17.8 GHz band to both GSO and NGSO FSS (space-to-Earth) operations. Commenters point out that the demand for NGSO FSS (space-to-Earth) spectrum is growing, and that there is currently an imbalance between NGSO FSS (Earth-to-space) and NGSO FSS (space-to-Earth) spectrum in the Ka-band, which allocating the band to NGSO FSS would help to redress. Further, these commenters note that an NGSO FSS (space-to-Earth) allocation would align with the preparatory studies for the ITU 2023 World Radiocommunications Conference (WRC–23).

In the *17 GHz FSS Notice*, the Commission observed that the interference-mitigation regime it established for BSS and DBS feeder links in the 17.3–17.7 GHz band presupposed only GSO satellites. Further, the Commission noted that Article 22 of the ITU Radio Regulations does not include equivalent power flux density limits at the Earth's surface for the 17.3–17.8 GHz band that are necessary to protect earth stations receiving GSO transmissions from harmful interference from NGSO operations. Since the release of the *17 GHz FSS Notice*, some sharing and compatibility studies and preparatory work have been started by interested parties on FSS use of 17 GHz band and these studies are aiming to be completed in time for the next World Radio Conference in 2023 for any needed changes to the ITU Radio Regulations. These studies are expected to address certain sharing issues and the potential of the 17 GHz band for use by NGSO FSS satellites, including ESIMs.

We seek comment on commenters request to allocate the 17.3–17.7 GHz band to NGSO FSS (space-to-Earth), as well as on permitting unprotected NGSO FSS (space-to-Earth) operations in the 17.7–17.8 GHz band, similar to our action with regard to GSO FSS operations in these bands in the *Report and Order*. Kuiper, Mangata, SES and Telesat, SpaceX and OneWeb support an allocation to NGSO FSS in the band. Specifically, Kuiper observes that demand for internet services is growing,

particularly with more people working from home, and that at the same time, there is a 300-megahertz imbalance in spectrum available to NGSO providers, with 2,500 megahertz in 27.5–30.0 GHz of Earth-to-space spectrum and only 2,200 megahertz in 17.8–18.6 and 18.8–20.2 GHz in the Ka-band. Kuiper points out that in several recent rulemakings, the Commission has made spectrum available for both GSO and NGSO operations. Kuiper also states that nothing in the United States' positions for WRC–23 distinguishes between GSO and NGSO FSS satellite services, nor recommends any band for GSO only. SpaceX agrees with Kuiper, and states that timely access to the 17 GHz band is critical to enable satellite operators to meet the growing demand of American consumers for next-generation broadband connectivity wherever they are. SpaceX also states that because NGSO FSS operators such as SpaceX must share the spectrum allocated to their service, limited access to Ka-band spectrum presents a potential bottleneck that could reduce these operators' ability to provide high-capacity, low latency broadband services to underserved and unserved Americans—especially for critical downlink spectrum, where NGSO systems have access to 300 MHz less spectrum than on the uplink. SpaceX also states that the “lack of equivalent power flux-density (“EPFD”) limits in the band should not serve as a barrier to successful coexistence between NGSO and GSO operators in the 17 GHz band.” OneWeb adds that we have recognized the value of NGSO constellations in providing broadband services to the public, and that allowing NGSO FSS use would provide the same benefits of more spectrum, and particularly contiguous spectrum, to NGSO constellations as to GSO satellites and constellations.

Opposing the idea, AT&T points out that neither the Commission nor international bodies have studied the technical feasibility of NGSO operations in the 17.3–17.7 GHz band. AT&T reminds that the current interference prevention regime in the band and the technical rules proposed in the *17 GHz FSS Notice* are based on GSO systems sharing the band, and do not consider the technical characteristics nor interference potential of NGSO systems. Similarly, Hughes asserts that NGSO operations, if allowed at all, should be on a secondary basis, and SES and Telesat state only that we should provide an opportunity for NGSO proponents to demonstrate that they can share the band successfully with GSO

FSS (space-to-Earth) services. The FWCC agrees with AT&T that “the Commission should reject proposals to include non-geostationary satellite orbit (NGSO) FSS downlinks in this proceeding until technical studies can be produced demonstrating that NGSO FSS operations can share the 17.7–17.8 GHz band without causing harmful interference to incumbent services.”

We seek comment on NGSO FSS spectrum needs and permitting NGSO FSS (space-to-Earth) operations in the band, and ask commenters to support their views with technical data and studies to help us determine whether and how an allocation to NGSO FSS in the space-to-Earth direction in the band would serve the public interest while protecting incumbent users. If we were to allocate this spectrum for NGSO FSS, what are the appropriate technical rules vis-à-vis DBS/BSS, GSO FSS, or terrestrial services? What rules need to be adopted or modified to enable effective sharing while protecting the incumbent users? Are the EPFD limits in the adjacent bands sufficient to protect DBS/BSS stations and GSO FSS stations? Are there methods of protection other than EPFD limits that would be applicable? Would the addition of an NGSO allocation further degrade the reference situation for the DBS stations operating in accordance with the ITU Radio Regulations Appendix 30 plan? Are there any domestic and international coordination issues and/or other technical challenges that we need to address? All parties, whether advocating for an NGSO FSS (space-to-Earth) allocation in the band or against it, should support their views and requests with technical studies and data with quantitative and qualitative analyses.

Digital Equity and Inclusion. The Commission, as part of its continuing effort to advance digital equity for all, including people of color, persons with disabilities, persons who live in rural or Tribal areas, and others who are or have been historically underserved, marginalized, or adversely affected by persistent poverty or inequality, invites comment on any equity-related considerations and benefits (if any) that may be associated with the proposals and issues discussed herein. Specifically, we seek comment on how our proposals may promote or inhibit advances in diversity, equity, inclusion, and accessibility, as well the scope of the Commission's relevant legal authority.

Procedural Matters

Initial Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act (RFA), the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this Notice of Proposed Rulemaking (NPRM). We request written public comments on this IRFA. Commenters must identify their comments as responses to the IRFA and must file the comments by the deadlines for comments on the NPRM provided above in section IV.B. The Commission will send a copy of the NPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration. In addition, summaries of the NPRM and IRFA will be published in the **Federal Register**.

A. Need for, and Objectives of, the Proposed Rules

The NPRM seeks comment on several proposals relating to the Commission's allocation of frequency bands for use by the Fixed-Satellite Service (FSS) and technical rules and policies for preventing harmful interference between stations operating in the Fixed-Satellite Service and stations operating in the Digital Broadcasting Satellite (DBS) Service and the Broadcasting-Satellite Service (BSS). Adoption of the proposed changes would, among other things, permit the use of the 17.3–17.8 GHz band in the space-to-Earth direction by stations in the Fixed-Satellite Service.

B. Legal Basis

The proposed action is authorized under sections 4(i), 7(a), 303(c), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 157(a), 303(c), 303(f), 303(g), 303(r).

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules May Apply

The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by adoption of proposed rules. The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.” In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act. A small business concern is one which: (1) is independently owned and operated; (2)

is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA). Below, we describe and estimate the number of small entity licensees that may be affected by adoption of the proposed rules.

Satellite Telecommunications. This category comprises firms “primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications.” Satellite telecommunications service providers include satellite and earth station operators. The category has a small business size standard of \$35 million or less in average annual receipts, under SBA rules. For this category, U.S. Census Bureau data for 2012 show that there were a total of 333 firms that operated for the entire year. Of this total, 299 firms had annual receipts of less than \$25 million. Consequently, we estimate that the majority of satellite telecommunications providers are small entities.

All Other Telecommunications. The “All Other Telecommunications” category is comprised of establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Establishments providing internet services or voice over internet protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry. The SBA has developed a small business size standard for “All Other Telecommunications”, which consists of all such firms with annual receipts of \$35 million or less. For this category, U.S. Census Bureau data for 2012 show that there were 1,442 firms that operated for the entire year. Of those firms, a total of 1,400 had annual receipts less than \$25 million and 15 firms had annual receipts of \$25 million to \$49,999,999. Thus, the Commission estimates that the majority of “All Other Telecommunications” firms potentially affected by our action can be considered small.

We anticipate that our proposed rule changes may have an impact on earth station and space station applicants and licensees. Space station applicants and licensees, however, rarely qualify under the definition of a small entity. Generally, space stations cost hundreds of millions of dollars to construct, launch, and operate. Consequently, we do not anticipate that any space station operators are small entities that would be affected by our proposed actions.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

The NPRM proposes and seeks comment on several rule changes that would affect compliance requirements for space station operators. As noted above, these parties rarely qualify as small entities.

For example, we propose to allow additional uses of the 17.3–17.8 GHz band, subject to compliance with technical limits designed to protect other users of the bands.

In total, the proposals and questions in the NPRM are designed to achieve the Commission's mandate to regulate in the public interest while imposing the lowest necessary burden on all affected parties, including small entities.

E. Steps Taken To Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rules for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.”0000000

The NPRM seeks comment from all interested parties. The Commission is aware that some of the proposals under consideration may impact small entities. Small entities are encouraged to bring to the Commission's attention any specific concerns they may have with the proposals outlined in the NPRM.

The Commission expects to consider the economic impact on small entities, as identified in comments filed in response to the NPRM, in reaching its final conclusions and taking action in this proceeding.

In this NPRM, the Commission invites comment on adding an allocation in the 17.3–17.8 GHz band to permit the use of the band by the Fixed-Satellite Service in the space-to-Earth direction, along with technical rules to prevent harmful interference between the FSS, DBS, and BSS. Overall, the proposals in the NPRM seek to increase the use of the 17.3–17.8 GHz band by satellite services while maintaining adequate protections against interference.

F. Federal Rules That May Duplicate, Overlap, or Conflict With the Proposed Rules

None.

Ordering Clauses

It is further ordered that, pursuant to Sections 4(i), 7(a), 303(c), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 157(a), 303(c), 303(f), 303(g), 303(r), this Notice of Proposed Rulemaking IS HEREBY ADOPTED.

It is further ordered that the Commission's Consumer and

Governmental Affairs Bureau, Reference Information Center will send a copy of this Report and Order and this Notice of Proposed Rulemaking, including the final and initial regulatory flexibility analyses, to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with Section 603(a) of the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.* Federal Communications Commission.

Marlene Dortch,
Secretary.

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